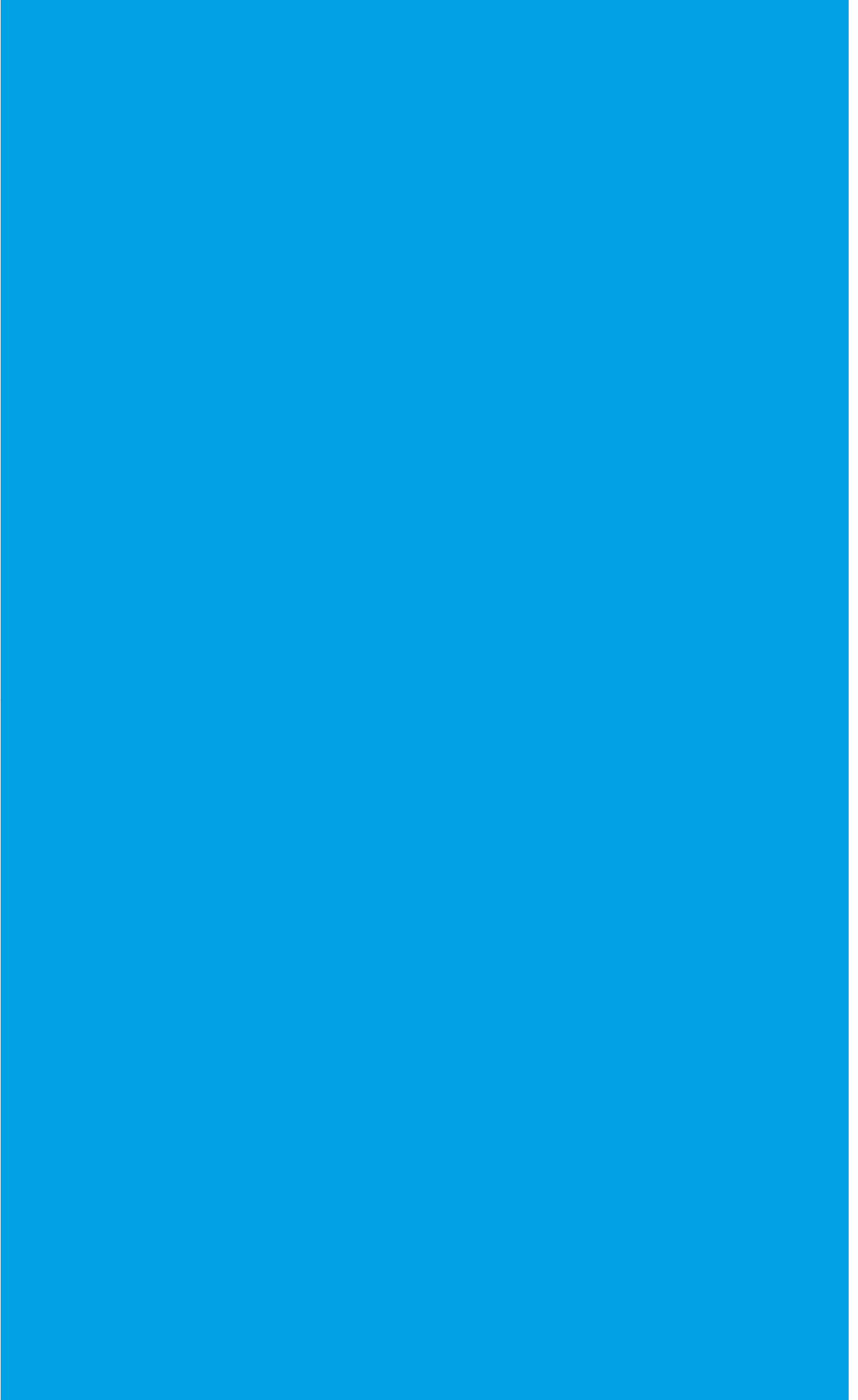




See Change

Learning
and education
for sustainability





See Change

Learning
and education
for sustainability



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How to use this report

This report looks at learning across society (well beyond what happens in schools). It has been written for a very broad audience, so you will probably find some sections more relevant to you than others. The report can easily be read from cover to cover. You can also read it bit by bit, or focus on the sections that interest you most.

Following the preface, an overview provides a snapshot of what each chapter is about. The Contents page identifies specific sections that you can skip to at any time. Summaries and key points are also included at the end of each chapter (except the first and last ones, as these are very short).

If you do not have much time, we recommend you read:

- Chapter 1 (a brief introduction)
- Summaries and key points at the end of each chapter
- Chapter 7 (areas for focus, action and future research).

We hope you can use this report to help other people and organisations see change.

Sea change

a profound or notable transformation.¹

See change

a shift in perception and understanding that is needed among many people and organisations in society, in the ways they look at issues and search for solutions, to enable a sea change for the better.

Preface

This century may well be one of relearning on a grand scale – relearning how we *Homo sapiens* can sustain ourselves on a planet that has limits. Why relearning? Indigenous communities, through the millennia of human civilisation, and in some cases still today, developed a good understanding of the carrying capacities of their environment. They had to learn to live within the ebbs and flows of the ecological systems of which they were part. I'm not suggesting that New Zealanders should deconstruct our twenty-first century society to pursue some hunter-gatherer model. However, along with many others, I *am* suggesting that we need a much deeper understanding of the demands and pressures of our current society and its economic systems on the health and long-term sustainability of our natural resources. Many of our needs and wants are being maintained by using nature's capital. We are living beyond nature's income, as many of us do with our personal finances.

There is a huge opportunity for New Zealand, a tiny nation of four million innovative people enjoying stunning landscapes and a benign climate, to learn along a better pathway. We could, and should, be the first in the world to become a truly environmentally sustainable nation. To do this, we need learning that is focused on quality of life, and on the opportunities to design and craft more sustainable ways of achieving it. We need to learn why it is important to live within nature's limits and to understand the many factors that contribute to unsustainable practices and lifestyles. This learning needs to be deeply embedded in all our formal and informal streams of education. In fact, it needs to be a core part of learning across society, necessitating a metamorphosis of many of our current education and learning constructs.

Is such a 'sea change' in learning likely? Yes, because the first lappings of the turning tide are already with us, as outlined in this report. There will be heated debate, because this learning will increasingly challenge deeply held beliefs about our social and economic systems and the sustainability of our lifestyles. Such debate is inevitable, and there will be strong resistance in some sections of society, governance and business. However, as with the fall of communism in Eastern Europe and the former Soviet Republic, or, on a more local scale, the decline in social acceptance of drink-driving or smoking, when a wave of change begins to swell, the quantum and speed of transformation can be dramatic.

This report is a think-piece to contribute to New Zealand's sustainability challenges. It's a story of the great things that individuals, communities, local and central government, businesses, schools and universities are doing in the field of education for sustainability. It's also a story about where we need to step up our efforts. While it is clear that our documentation of unsustainable practices has increased in recent years, changes to resolve these practices have been

remarkably slow. As the United Nations Economic and Social Council commented in 2002:

No major changes have occurred since UNCED [the 1992 Earth Summit] in the unsustainable patterns of consumption and production which are putting the natural life-support systems at peril. The value systems reflected in these patterns are among the main driving forces which determine the use of natural resources.²

Our dominant value systems are at the very heart of unsustainable practices. Making progress towards better ways of living therefore needs to be a deeply social, cultural, philosophical and political process – not simply a technical or economic one. Technical and economic mechanisms will certainly be key parts of the process. However, they will not come into play unless we, as a society, are prepared to openly and honestly debate the ways that our desired qualities of life can be met. That is why there must be a vastly expanded focus on education for sustainability.

By now I'm certain that some readers of this preface will be thinking the Commissioner is running some covert anti-growth, interventionist or similar agenda. Absolutely not! What I am arguing, with passion, is that New Zealanders need to take much more seriously the opportunities that lie in reshaping the whole way we provide for ourselves and future generations. This will require a long-term process to build up knowledge and understanding across our society – a society that in many areas really does not know what it does not know. In turn, that understanding needs to build up our capacity to redesign many of our institutional, economic and business systems, so we can improve our quality of life without ever-expanding demands for resources and ever-intensifying pressure on the environment to assimilate our wastes. As a signatory to the United Nations Decade of Education for Sustainable Development that begins in 2005, New Zealand has a huge opportunity to show global leadership in this area.

This report concludes by suggesting key areas for focus and action on education for sustainability. These are not meant to be exhaustive, but the next steps on a long and challenging journey. We welcome any comments you may have on these suggestions, and your ideas to add to the 'to-do' lists. Let's keep the dialogue going on education for sustainability in New Zealand.



Dr J Morgan Williams
Parliamentary Commissioner for the Environment

Overview of the report

1. Introduction

The first chapter identifies who wrote this report and why it was written. It describes the purpose of this document and the methods that we used. It also defines key terms such as 'learning', 'education' and 'sustainability'.

2. People, places and pressures on sustainability

Chapter 2 sets the scene for the rest of the report. It highlights pressures that New Zealand's population is placing on the environment, and why education for sustainability is needed. It also looks at environmental awareness, understanding and values in New Zealand today.

3. Explaining education for sustainability

What is education for sustainability, and what does it seek to achieve? This chapter explains the origins of this concept and its connections with environmental education. Values and principles that are essential to education for sustainability are also discussed.

4. Educating people for tomorrow, today

How are people and organisations currently being educated for sustainability? This chapter examines existing efforts in New Zealand, with a focus on the environmental dimensions of sustainability. It looks at central and local government, the formal education system, and initiatives by community organisations and businesses.

5. Further shapers in society

Efforts to educate New Zealanders always take place within a wider social context. This chapter briefly examines some other major influences that are shaping the ways people think, feel and act. It looks at families, peers, religions, the mass media, marketing, art, literature, language, technology and globalisation.

6. Waste not, want not

To bring together many of the ideas in this report, a case study is used. This chapter examines how education for sustainability could look at the issue of waste in New Zealand today, and the rise of a consumer society.

7. Future directions

The final chapter highlights areas for focus and action to enable learning and education for sustainability in New Zealand *now*.

Real stories

Throughout this report there are pages written by people we spoke with during our research. These are their stories. There are many more stories that could have been told, as many people shared their experiences with us. The people who wrote these stories have very different perspectives on sustainability, and their views often differ from those of the Parliamentary Commissioner for the Environment. Nonetheless, there is a huge amount of goodwill to keep the dialogue open on education for sustainability in New Zealand.

Background papers

There is much more material on education for sustainability than we were able to squeeze into one report. Background papers have been produced to provide more detail in some areas. A list of these papers is included at the end of this document.

Glossary – Nga kupu

A glossary of terms, abbreviations and Maori words can be found at the end of the report.

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CHAPTER

1

Introduction



Many small people,
who do many small
things in many small
places, can change the
face of the world.

– Writing on the Berlin Wall

This report looks at how people and societies can learn to live in sustainable ways. Its focus is on Aotearoa New Zealand. It is about the quality of life that New Zealanders enjoy and what people cherish about living in the ‘land of the long white cloud’. It is concerned with the environmental impacts that people (often inadvertently) leave in their wakes, and the need for social justice and economic concerns to be included in sustainability debates. It highlights how education, in its broadest sense, needs to bring about some fundamental changes in the world today.

1.1 Background to this report

Education for sustainability was first highlighted as a priority for the Parliamentary Commissioner for the Environment (PCE) in 1997. The PCE’s first strategic plan raised concerns about the adequacy of environmental education in New Zealand (which, as chapter 3 will explain, is a vital part of education for sustainability). The Commissioner therefore decided to monitor progress in this area. Many significant developments have occurred since 1997, but in 2002 the Commissioner decided to look at this area in more detail. This followed the release of *Creating our future*¹ – a PCE review of progress on sustainable development in New Zealand. Many people interviewed during that investigation highlighted a need for better education for sustainability.² The review also noted that progress in implementing education for sustainability had been slow.

The Commissioner therefore decided to begin an investigation into education for sustainability in New Zealand. Shortly after the investigation began, participants at the PCE's strategic planning workshops endorsed the need to examine education to "capture the heads, hearts and hands" of New Zealanders for sustainability.³ More recently, countries from around the world (including New Zealand) declared a Decade of Education for Sustainable Development from 2005 onwards. As this decade approaches, New Zealanders need to reflect on changes that need to be made to ensure that people can learn to live in sustainable ways. This report represents the PCE's contribution to that debate.

1.2 The language of learning, education and sustainability

Subtle shifts in language often conceal more fundamental shifts in meaning and understanding. It is therefore important to consider how words are used and why. This report often uses the terms 'learning', 'education' and 'sustainability'. It also uses the phrase 'education for sustainability'. A brief discussion is included here to make it clear what these terms mean in the context of this report.

Learning and education

Learning is a process that influences the ways people think, feel and act. People learn through experiences over their entire lives. Learning can occur at both a conscious level (e.g. through critically thinking and reflecting on issues) or subconsciously (e.g. by following the actions of others without questioning why). People often learn by interacting with other people and their environment.

Education is closely connected to learning. It comes from the Latin words *educare*, meaning to rear or foster, and *educere*, meaning to draw out or develop. Over time the meaning of the word has changed significantly. Today it is usually associated with the formal education system where teaching and instruction occur.⁴ Many people we (the Commissioner and his staff) spoke with during research for this report automatically assumed that education for sustainability was just concerned with schooling. But because people always learn throughout their lives, it is very important to look beyond education in schools. This report uses both words – learning and education – in its title to emphasise this point.

Confused? A useful distinction between learning and education is to think of them in this way:

- **Learning** is more of a psychological phenomenon. It is a process in which people develop ways to see and interact with the world around them.

- **Education** is more of a sociological phenomenon. It is more focused on what educators (such as parents and teachers) do to facilitate learning in others.

It is also important to point out that people do not just learn as isolated individuals. Learning and education always take place within social contexts, and organisations (groups of people) are also involved in learning. The phrase ‘education for sustainability’ is used in this report to refer to how people and groups in society can learn to live in sustainable ways.



Sustainability

The word ‘sustainability’ is often used in very different ways to mean vastly different things.

Sustainability in this report is the goal of sustainable development – an unending quest to improve the quality of people’s lives and surroundings, and to prosper without destroying the life-supporting systems that current and future generations of humans (and all other species on Earth) depend on. Like other important concepts such as equity and justice, sustainability can be thought of as both a

destination (something worth aiming for) and a journey (that has no pre-ordained route). A detailed discussion on sustainability and sustainable development can be found in *Creating our future*.⁵

The focus in this report is on the *environmental* dimensions of sustainability. Environmental sustainability aims to enhance and maintain:

- The life-supporting processes (ecological systems) that provide people with good quality air, water, soil and marine life, and a viable climate. This is essential for sustaining a world that humans and other species can survive and flourish in.
- Other environmental factors that contribute to people’s quality of life. What people value about the environment is always changing, but most people in New Zealand today enjoy living in a good quality environment (see chapter 2).

The Commissioner often uses the model of ‘strong sustainability’ to communicate some thinking in this area (see figure 1.1).⁶

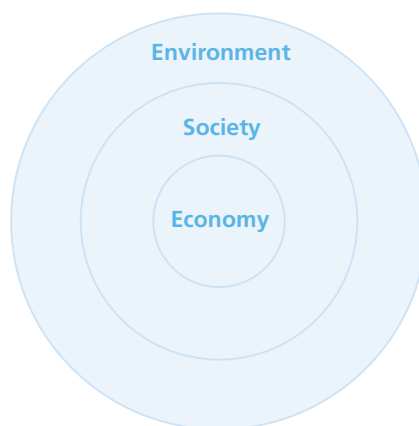


Figure 1.1: Strong sustainability

This model recognises that economic systems always exist within a social context and many important aspects of society do not involve economic activity. Similarly, human societies (and the economic activities that are conducted within them) are totally constrained by the ecological systems of Earth. Economies may expand or contract, and societies' expectations and values may change over time, but, to function in a sustainable way, human societies must not exceed the capacity of the biosphere to provide them with resources or to absorb the effects of their activities.

The environmental focus that is taken in this report is consistent with the role and functions of the Commissioner.⁷ However, as this report often stresses, the environments in which people live, work and play cannot be separated from broader systems in society. Environmental sustainability cannot be maintained without resolving the social, cultural and economic reasons behind unsustainable practices and inequalities that contribute to exploitation of the environment in unsustainable ways. It is therefore essential to look at these issues as well.

Education for sustainability

Education for sustainability examines how people and groups in society can learn to live in sustainable ways. It is not simply education 'about' sustainability. As chapter 3 explains, education *for* sustainability has a strong purpose. It aims to empower people of all ages and different backgrounds to contribute to a better future. It encourages people to ask lots of questions, challenge underlying assumptions, and to think for themselves. It looks at individual and systemic changes that are needed to resolve unsustainable practices. Education for sustainability will require people and organisations to see that changes for the better can be made, and that there will need to be a transformation (a redesign of many systems and established ways of doing things) to achieve a good quality of life for people far into the future.

1.3 Purpose of this report

This report is a think-piece – an expression of thoughts and ideas supported by rigorous analysis. Its purpose is to raise the level of debate about education for sustainability, and to stimulate effective action so that New Zealanders can learn to live in sustainable ways.

Terms of reference

This report was carried out pursuant to s 16(1), parts (f) and (g) of the Environment Act 1986. These state that:

16. (1) The functions of the Commissioner shall be ...

(f) To undertake and encourage the collection and dissemination of information relating to the environment.

(g) To encourage preventive measures and remedial actions for the protection of the environment.

This is reflected in the purpose above. The objectives were to examine:

- whether there is a robust foundation to justify education for sustainability
- different facets of education and learning
- differences and tensions between environmental education and education for sustainability
- tensions between education for sustainability and current governance and economic systems
- how changes in behaviour may be encouraged and fostered to achieve environmentally sustainable outcomes
- possible future directions for education for sustainability in New Zealand.

Our focus

Education for sustainability is an enormous area for investigation. We spoke with a wide range of people to develop an appropriate focus for this report.⁸ Instead of looking at just one sector in society, such as the formal education system, we took a broader perspective. As noted above, this was because people learn throughout their lives. It is therefore important to examine education for sustainability in an appropriate context.

Although we have taken a broad approach, a major focus is on government. This is because government plays a significant role in shaping the formal education system. The government has also developed various strategies and programmes to influence sustainable development in New Zealand. The

Commissioner's mandate under the Environment Act 1986 enables him to review the actions of the government that affect the environment.⁹

To bring together some of the thinking in this document we looked at the issue of waste (see chapter 6). We chose this topic due to the large size of New Zealand's ecological footprint and the huge volumes of waste that are generated in this country (see section 2.3). Concerns about waste are also closely connected with the development of a consumer society in New Zealand. As noted in a previous report:

There is a need to have some more information and debate about the serious issues facing the world including New Zealand. This extends across the 'too hard' issues such as the huge impact of 'consumerism', the alleviation of poverty, through to the many ways in which a household impacts upon the environment around it.¹⁰

Many people interviewed for both *Creating our future* and this report suggested that a culture of consumerism is acting as a major barrier to getting people to think about, and to act on, sustainability issues.¹¹

What this report does NOT cover

There is often a tension between breadth and depth of coverage in an investigation. By looking across society we did not attempt to examine all areas in depth. For example we did not investigate the content of all school courses related to education for sustainability throughout New Zealand. Instead, we focused on the broader systems in which education efforts take place. To provide more in-depth analysis we sometimes refer to other recent studies. We also highlight areas of future research that may be necessary to advance education for sustainability in New Zealand.

Furthermore, this report does not attempt to analyse the *techniques* of education for sustainability, such as methods to develop critical thinking. Our focus has been on over-arching messages important to education for sustainability in New Zealand. We believe it is more appropriate for people to develop techniques that fit the context of more specific issues and situations.

Education for sustainability needs to be implemented in locally relevant and culturally appropriate ways.¹² The focus of this report is on New Zealand. However it is also important to point out that we have not examined Maori perspectives on education for sustainability in close detail. This is not because these issues are unimportant, as it is essential to build a better dialogue between Maori and non-Maori over sustainability concerns. The PCE believes that this sort of research needs to be conducted by Maori in a culturally appropriate way,¹³ so further research is needed in this area.

1.4 Methodology

As noted above, the PCE has been monitoring education for sustainability for many years. When this investigation began we (the Commissioner and his staff) developed our thinking in this area through further reading and attendance at environmental education conferences in New Zealand and Australia. To determine an appropriate focus for the investigation we spoke with people in the environmental education community, and people with an interest in this area, throughout New Zealand. This included teachers and students in primary and secondary schools, academics, business people, staff in local and central government agencies and Maori individuals. Participants were contacted through networks in the environmental education community and via word of mouth. Key themes from these discussions are summarised in a background paper to this report.¹⁴

Terms of reference were then drawn up to focus our reading, analysis and writing. Articles and books from academic sources and the popular press continued to inform our thinking and research. Throughout this process we maintained an ongoing dialogue with people interested in education for sustainability. We also held a reference group meeting to discuss key issues. Two rounds of peer review were used to provide additional scrutiny. A wide variety of people with in-depth knowledge of education and/or sustainability issues provided feedback on an early draft. A smaller group of people provided more detailed scrutiny before the final report was completed.

This report is not the end of our involvement in this area. We will continue to monitor education for sustainability in New Zealand. In 2006-07 the Commissioner will formally re-examine efforts to educate people for sustainability. This will form part of a wider review of sustainable development in New Zealand (see chapter 7).



CHAPTER

2

People, places and pressures on sustainability



This chapter sets the scene for the rest of this document. It discusses the people of this country and the pressures that New Zealand's population is placing on sustainability. Although many people value living in a 'clean and green' environment, there are ongoing threats to the quality of this environment. On a global scale New Zealanders are also contributing to increasingly unsustainable practices. Education is highlighted as a key response for dealing with some of these pressures and as a way to work towards a better future.

If you would like a better understanding of what education for sustainability is before you read this chapter, you may wish to jump to chapter 3.

2.1 People in Aotearoa New Zealand

Enormous changes have occurred in Aotearoa New Zealand since humans landed on its shores around a thousand years ago. From the arrival of the first Polynesians, through to European colonisation and the immigration of many other ethnic groups, people have significantly altered the shape of this land. Places within this country have also shaped people and the ways they interact with their environment.

Shifting relationships between people and their environments

The first people to settle in Aotearoa came from central Polynesia.¹ They would have encountered a land teeming with birdlife and marine mammals such as seals and sea lions. These provided people with an abundant source of food and enabled the population to grow rapidly. Over time, however, hunting and harvesting contributed to the decline of many food sources. The most vulnerable animals became extinct from hunting and the loss of habitat due to fires. Many irreversible changes were made to the environment.

Like other people encountering a new land, the early settlers had to learn how to sustain themselves in the world around them. Gradually they began to adapt. Through the accumulated experiences of each generation, iwi and hapu developed many different mechanisms for protecting food sources and significant sites. For example, some sites such as burial grounds were rendered tapu, while various species and gathering sites were subject to rahui. This contributed to a more stable relationship between people and their environment. Over time, "environmental learning brought about the sort of adaptive change that is today often taken – by Maori and non-Maori alike – as somehow inherent to Maori culture".²

During this process tangata whenua began to weave a rich tapestry of narratives to teach and pass on their accumulated knowledge. These often embod-

ied ecological messages and environmental ethics.³ They explained the interconnectedness of people with Ranginui and Papatuanuku and all the elements of the world. Identity became tied to whakapapa and a worldview developed with a strong sense of custodial occupation (kaitiakitanga) – a belief that the environment should be maintained in a fit state for future generations.⁴ By the time the next wave of human settlers began to break, tangata whenua had therefore developed a close affinity with their environments in the different regions where they lived.

Europeans, predominantly British, began arriving at the end of the eighteenth century. They brought with them their own cultural values and assumptions and different kinds of knowledge. Early sealers and whalers plundered what was left of the marine mammal populations. They were followed by more permanent colonists, enticed by advertisements in England that emphasised the beauty and fertility of the natural environment and its ability to sustain English land use practices.⁵ Upon their arrival, however, these people had to wrestle meaning from an ‘alien’ landscape that they had no connection with.⁶ As Samuel Butler wrote in 1863, “A mountain here is only beautiful if it has good grass on it, if it is good for sheep”.⁷

These settlers altered the environment to establish the same agricultural systems that were developed over many centuries in Europe. Sometimes they also wanted to make the landscapes look more like the ones that they had left behind. Phrases such as ‘breaking in the land’ surfaced, signifying a sense of aggression towards an environment that was regarded as an adversary that the settlers pitted themselves against.⁸

Forests were often seen as an obstacle to agriculture or as an inexhaustible source of timber, while ‘swamps’ were drained for pastures. Acclimatisation societies also introduced plants and animals as a source of game and to make the place more like home, leaving a legacy of pests for future generations to deal with. Many more species soon became extinct. Although some settlers raised concerns about the need to protect New Zealand’s environment, their voices were often not heard.⁹ Like the first people in the land, they began to leave a scene of environmental damage in their wake – although the impact from the second wave of migrants was much more substantial than that from the first.

Gradually, however, the new colonists began to develop a closer relationship with their environment. As Eggleton suggests:

By the end of the nineteenth century ... the eye of the settler’s descendant began to



contemplate the landscape around about with a certain intimacy and affection, as delicately as a gecko sipping nectar from a pohutukawa blossom.¹⁰

The umbilical cord between Britain and New Zealand also began to be severed. In the words of one writer in the 1930s:

... it's just dawned on me that I'm a New Zealander, and surely, surely the legends of the mountains, rivers and people that we see about us should mean more to us than the legends of any country on earth.¹¹

These trends have continued until the present day. For example, Belich refers to the “modern populist engagement with the landscape”, including the “the boat, the bach, the beach and the barbecue”, that are symbolic of the enjoyment many New Zealanders have in the ‘great outdoors’.¹² A sense of identity for many Pakeha/European New Zealanders today is not tied to British roots.¹³ The landscapes of New Zealand and its unique flora and fauna have played a dominant part in the construction of national identity.¹⁴ This is often reinforced by tourism branding, which conjures up images of a ‘100 percent pure’ environment.

The lesson from this story is that throughout history, people have always engaged with their environments and learned from their experiences. They have developed different forms of knowledge, different ways of seeing their place in the world and various cultural, social and economic systems for supporting and sustaining their well-being. The environments in which people live are inseparable from human cultures – and these cultures have changed significantly over time.¹⁵ The past is part of the present, and the future, while open, is tied to today.

New Zealand's population today

Over four million people live in New Zealand today. The mix of this population, and the locations where they live, have changed a lot over the last century. Two key trends include:

- a change in cultural mix
- a shift to urban centres.

The dominant narrative in the history of New Zealand usually focuses on the early Polynesian arrivals, followed by European (mainly British) colonists. Nonetheless, people from a variety of different countries and cultures have settled in New Zealand. The ethnic mix of this country is therefore diverse. According to the most recent census, almost one in five people living in New Zealand in 2001 was born overseas, although Pakeha New Zealanders make up the majority of the current population (see table 2.1).

Ethnic Group	Proportion of population
Pakeha/NZ European	75%
Maori	14.7%
Asian	6.6%
Pacific	6.5%
Other European	5%
Other	0.7% ¹⁶

Table 2.1: Ethnic mix of New Zealand
Source: 2001 Census

The vast majority of New Zealanders now live in urban centres. This is very different from the situation a century ago. In 1901 over half the population lived in rural areas. By 2001 this had declined to 14 percent.¹⁷ This shift to urban life has created different challenges for sustainability.¹⁸ Urban dwellers can often be very isolated from the impacts their actions have on the environment and sustainability. For example, turning on a tap in Auckland may drain water from a complex system of costly underground pipes that carry water from the Waikato River, weaving its way from Lake Taupo and the central North Island mountains (where clouds once lingered and left their load). Compare this to a system that simply harnesses water directly from a roof-top. Many of the people we spoke with during this investigation highlighted the challenges of educating people for sustainability in an urban context.¹⁹

Future population trends

Looking to the future, how is New Zealand's population changing? Although future estimates are always uncertain, New Zealand's population is predicted to peak at 4.6 million people over the next 30 years. New Zealand will continue to have a mostly urban population, although the increase in population will not be distributed evenly around the country.²⁰ Key trends are that the population is ageing, people are becoming more mobile (i.e. they are leaving New Zealand and are being replaced by new migrants and other people returning home) and ethnic diversity is increasing.²¹ For example, those who identify as European/Pakeha or 'other European' are likely to make up 69 percent of the population in 2021 – down from 79 percent in 2001.²² Although the Maori and Pacific populations will continue to grow, migrants are continuing to arrive from an increasing range of countries.

The population is projected to grow to a peak of 4.6 million people over the next 30 years. It is then predicted to level out to 4.2 million by 2101.²³ Although a small population can place less pressure on sustainability than a larger population, the size of New Zealand's existing ecological footprint demon-

strates that population numbers are only one factor that needs to be taken into consideration (see section 2.3).

2.2 Valuing the environment and quality of life in New Zealand

As noted above, New Zealanders have gradually developed a sense of intimacy towards the rest of the natural world in this country. This is often evident in the art, literature and narratives of people who have lived here (see section 5.5). Different people in different cultures will always value the environment in vastly different ways. Yet recent reports suggest that a majority of New Zealanders today have a growing desire to maintain the quality of the environment they live in.

The Royal Commission on Genetic Modification during 2000-01, for example, highlighted seven values that they believed were common to a majority of New Zealanders today. Two of these were:

- **The uniqueness of Aotearoa New Zealand:** recognising features such as its relatively low population density and its ecosystems, flora and fauna.
- **Sustainability:** recognising the need to sustain our unique but fragile environment for generations yet to come, and that an environment that is cherished and cared for is not just a survival mechanism; it is also for many a source of spiritual and cultural hope.²⁴

Consultation for development of an Oceans Policy²⁵ suggested that New Zealanders value such things as:

- the natural character of New Zealand's oceans, including their beauty, power and tranquillity
- opportunities provided by the ocean for enjoyment and to support the needs of present and future generations
- the cultural and historical connections people have with the ocean as a source of national identity.

A strong conservation movement in New Zealand has also contributed to the establishment of many national parks and reserves that make up almost a third of the country, although a lot of this land was unsuitable for converting into agricultural uses. Sometimes New Zealanders have mobilised at a national level to voice their concerns about environmental issues as well. In the 1970s there were protests about the flooding of lakes for hydropower, in the 1980s people campaigned on the safety of nuclear ships, and in the 1990s there were conflicts over logging native forests. More recently, genetic modification has been a major political issue. These issues have often revolved around a sense of



concern people have about what makes living in New Zealand special and, in the case of genetic modification, about the relationship between human health and the environment. In other words, people have focused on the quality of life that many New Zealanders enjoy.

People often use the phrase 'quality of life'. It also features regularly in this report. It is difficult to define what a good quality of life is, as individuals and communities are in the best position to determine what contributes most to their well-being.²⁶ Nonetheless, it is important for people to discuss and debate what is most important for them in their lives. For example, increasing material affluence does not necessarily lead to a better quality of life if it damages the environment and erodes social relationships. Despite this, prosperity and progress in New Zealand are regularly defined in material terms and measured by gross domestic product (GDP). Although GDP per person has risen by over 60 percent in New Zealand since 1960, one survey suggests that the overall perception of quality of life has decreased by 40 percent during this period.²⁷ These issues are explored in more detail in chapter 6.

Discussions about quality of life in New Zealand are often linked to a 'clean and green' environmental image. A growing concern about the importance of this image is reflected in the way this phrase is so frequently used. People up and down the islands of this country, and even around the globe, now utter this phrase on a daily basis. It captures the heads and hearts of people who believe this image to be true, and others who wish it would be so. But to show how times have changed, it is interesting to note that this phrase did not enter circulation until after the 1960s.²⁸

This discussion suggests that New Zealanders do have a reasonably strong and growing appreciation for the quality of the environment they live, work and play in. Throughout New Zealand's history, tangata whenua have also called for greater recognition of environmental values that are linked to their cultural identities.²⁹ As noted above, New Zealand's environment is also connected with a sense of national identity for many people in this country. Yet how deep do these values go? How high would the environment rank in most New Zealanders' list of priorities? Further research is needed in this area, but it is interesting to note that many claim they would choose to protect the environment over economic growth. Almost one in four Aucklanders in a recent survey claimed that environmental protection is more important to them than economic growth, with 70 percent saying that they are equally important.³⁰ Environmental concern tends to be higher in economically buoyant times. Health, education and employment appear to hold more weight during adverse economic conditions.³¹ This emphasises the importance of examining environmental, social and economic issues together.

People are likely to value the quality of an environment that is close to where they live. Yet how far does this sense of concern stretch? The everyday actions of people can affect the environment and the lives of other people at local, regional, national and global levels. For example, the average ecological footprint of New Zealanders is very large by international standards (see section 2.3). Even if New Zealanders are concerned about the places where they live, it is important not to lose this global context. The challenges of sustainability are not just national by nature.

Regardless of whether people have strong environmental values, it is also important to highlight how they value other things that rely on environmental quality. For example, clean air and access to clean water, food and shelter and a secure supply of energy are all linked to the health of the environment. People who care about the lives of their children, and their children's children, are also likely to be concerned about the future world that they will live in. There is also a growing appreciation of the economic value of New Zealand's environmental image. This image, which could be worth billions of dollars a year³², is particularly important for the primary production and tourism sectors that market 'Brand New Zealand' to the world. Many businesspeople are becoming increasingly concerned that this image, and the quality of the environment on which it is based, needs to be maintained.

Nonetheless, just because people value something does not mean that they will always take good care of it. In the case of the environment this is often true, as the impact of a person's actions can affect the quality of the environment in a distant time or place far from view. Sometimes other priorities simply take over. For example, a recent study suggested that there had been a slight overall decline in how far people are willing to go to protect the environment.³³ This may suggest that many people are not prepared to live in a way that is consistent with what they truly value. Alternatively, environmental values in New Zealand may not be as deep as many people think. It is also likely that many people lack an understanding of the pressures their society is placing on sustainability.

2.3 Pressures on sustainability

Problems with the quality of New Zealand's environment have been well documented elsewhere.³⁴ As noted above, successive waves of people have already left a significant environmental legacy. Many resources have been 'quarried' out of existence (depleted from over-exploitation or because they were non-renewable).³⁵ Farming activities that rely on healthy soil and water have often proved unsustainable because of the excessive pressures they have placed on the environment.³⁶ Pollutants from human activities have also taken their toll on the health of the environment and people within it.³⁷ It is possible to identify many ways that New Zealanders treat the environment in a non-

sustainable manner. This report looks at the theme of waste in chapter 6, so some recent trends in solid waste and energy usage are highlighted here as examples.³⁸ Both these issues can be examined in local and global contexts.

Over the last two decades New Zealand's population grew by almost 20 percent. During the same period, however, solid waste production in the Auckland area swelled by over 130 percent. Energy use across the country has grown by three times as much as the increase in population.³⁹ A growing population is therefore having a disproportionate impact on the growth in waste production and energy usage.

Solid waste is usually an issue at a local level because of the demand it creates for landfills. Rubbish dumps are usually difficult to site – no one wants a dump in their backyard – and they are very costly to maintain. They can also contribute to the pollution of waterways. As rubbish breaks down it may also produce methane – a very potent greenhouse gas that contributes to climate change. Furthermore, the waste that ends up in landfills is usually only the tip of the iceberg. Vast amounts of materials and energy are usually required to produce the goods that are eventually dumped (see below). New Zealanders now throw away enough rubbish every day to fill 1000 buses.⁴⁰ This enormous waste, about half of which comes from businesses, adds up to about 900kg of waste per person per year.⁴¹ Although it is difficult to compare this data with waste statistics overseas, New Zealand's waste problem is large and growing.⁴²

Energy is a fundamental issue for sustainability because it touches every aspect of human society. It provides people with essential services such as heating and lighting and gives people the ability to travel and to transport materials or goods. It also drives the industries that process resources and manufacture consumer goods. Human beings cannot create energy – they can only harness it from various sources. These resources may be renewable, such as water and wind used to generate electricity, or non-renewable, such as oil and coal. Energy sources are usually very expensive to develop and all developments have local and/or global impacts on sustainability. Non-renewable energy sources, which are in limited supply, need to be used particularly wisely. If they become depleted, then future generations will not be able to access them. Burning non-renewable fossil fuels also contributes to climate change.

New Zealanders currently use more than 750 petajoules of energy a year. This is about the same amount of energy that 32 million workhorses – eight for every person in this country – could produce if they never stopped to rest.⁴³ Over a third of this energy is 'lost' during conversion processes, such as when gas is converted into electricity, and during transmission, for example when electricity is carried long distances. Although energy use per person is slightly below the average for other developed countries, it is increasing.⁴⁴ New Zealand is also one of the most inefficient users of energy in the developed world.⁴⁵

Two thirds of New Zealand's energy comes from non-renewable sources such as oil, coal and gas. Although New Zealand's small population contributes less than one percent of the world's greenhouse gases, greenhouse gas emissions per person are amongst the highest in the developed world.⁴⁶ Even though most of these emissions come from methane emissions in agriculture, New Zealand is a relatively high user of fossil fuels. Between 1990 and 2000 carbon dioxide emissions increased by 22 percent – the second highest increase among members of the OECD.⁴⁷

Over 40 percent of energy used in New Zealand is for domestic transport.⁴⁸ During the last 20 years the number of cars on New Zealand roads has increased by more than three times the growth in population.⁴⁹ New Zealand has one of the highest levels of car ownership in the world, second only to the United States.⁵⁰ A growing dependence on cars for moving people and goods around cities is also contributing to air pollution. For example, a study commissioned by the Ministry of Transport suggests that almost 400 New Zealanders aged 30 and over die prematurely each year from exposure to dangerous particles released by vehicles.⁵¹ In comparison, 454 people died in 2001 from road accidents, 243 of them aged 30 years and over. Car imports can also pose a biosecurity risk by bringing with them pests such as the Asian gypsy moth. Many of these cars are eventually scrapped, creating further problems for waste management. Over 200,000 cars are de-registered in New Zealand every year (mostly because they have reached the end of their expected lives). If these cars were placed bumper-to-bumper on State Highway One they would stretch all the way from Auckland to Wellington.⁵²



These are just some of the current trends in New Zealand that highlight major pressures on sustainability.⁵³ Although the quality of New Zealand's environment is still very good in many areas, this is mainly due to its small population and not because New Zealanders have learned to live in sustainable ways.⁵⁴ New Zealand often trades on its 'clean and green' image. Many businesses, especially those that are linked to the primary production and tourism sectors, rely on this image for competitive advantage. If environmental realities do not meet the perceptions of overseas consumers and tourists, then economic interests in New Zealand may not be able to sustain their share of many high value markets.

So far, the small size of the New Zealand population and the relatively large land area and water resources at our disposal have allowed us to have our environmental cake and eat it too. In effect, the environment, particularly the indigenous wildlife, has partly subsidised our economic development by providing a succession of quarried resources and plentiful energy resources to use, and abundant land, water and fresh air to absorb our wastes. However, those subsidies cannot be sustained indefinitely and will eventually be withdrawn if we cannot manage our activities sustainably.⁵⁵

– Ministry for the Environment

New Zealand in the world

Already 20% of the world's population consumes 86% of its total resources, while the poorest 20% consume only 1.3% of these same resources. Another striking fact is that a child born in an industrialised country will consume thirty to fifty times more resources than a child born in a developing country.⁵⁶

New Zealand is part of an intricate web of international trade and commerce. From the fertiliser on farms to the cotton in clothes, New Zealand industries rely almost entirely on resources originally imported from overseas.⁵⁷ The current lifestyles of most New Zealanders could not be sustained without the regular inflow of goods and materials across our borders.

It is important to take a global perspective. Although some environmental qualities may improve in New Zealand over time, this may not be because there has been a *reduction* in resource use. Instead, it may be because environmental damage is being *redistributed* to other parts of the globe, especially developing countries.⁵⁸ Ultimately, of course, environmental harms cannot be relocated forever, as all people live on a single planet. World-wide there are increasing pressures being placed on the ability of ecological systems to support and sustain the lives of humans.⁵⁹

Beneath the shiny exterior of many consumer goods purchased in New Zealand, environmental legacies are often left elsewhere in the world. Environmental and social impacts occur throughout the manufacturing process – from the extraction of raw materials and energy to the discharge of pollutants – into the air, water and land. The huge amounts of waste that end up in New Zealand landfills are therefore just the last link in a chain stretching right around the globe. For example, over 700 different materials and chemicals go into manufacturing a computer. The manufacturing process produces over 60kg of waste (including 22kg of hazardous waste). This does not include the waste generated from extracting raw materials. The manufacturing process also uses over 27,000 litres of water and about the same amount of energy that a computer uses in a year.⁶⁰ As another example, it has been calculated that the average American threw out 2kg of waste per day in 1997, but consumed around 55kg in natural resources from farms, forests and mines a day.⁶¹ Unfortunately no similar figures have been calculated for New Zealand.

The concept of an 'ecological footprint' has been developed to illustrate the demands that people place on the environment. It measures how much land a person, or a population, needs to meet their current lifestyles. It considers their food, housing, energy, and mobility requirements and their demands for consumer goods and services. The larger the ecological footprint, the more resources are needed to sustain a given lifestyle.

Real Stories

I'm an engineer working in the water, waste and environmental areas. I really enjoy working with people and the environment. I'm also passionate about sustainability. Why? Because I'm driven by the reality that our society can do better for ourselves and future generations. We need to look after people and the environment we live in by doing things differently, being smarter, and getting more from less.

When I studied at university, I was always interested in the environmental sides of engineering. I was fascinated by its links with people and the rest of nature – but there was nowhere in my formal education where I could learn about these issues. My training was very technical, with lots of isolated subjects and little overlap between them. There were hardly ever any connections made between technical expertise and people or the environment. I've had to keep learning throughout my career to make these links myself.

Although the technical side of my education was useful, it did not prepare me for the difficulties of communicating complex information with wider groups of people. Too often, professionals work in 'silos' and don't stray from their own comfort zones. They cannot see or get involved in the bigger picture. I believe it's vital to break down these silos for a better future. We need people to communicate technical and scientific matters in an easily understood way. We also need people to appreciate different perspectives, as it's essential to look at issues in a holistic way – integrating environmental, social, cultural, and economic considerations. It's important to share experiences and insights with each other and to find some common goals. I also think it's vital to be forward looking and to question many current practices.

I believe that all engineers need to learn about sustainable development. In fact, I think that engineers involved in public infrastructure developments have a professional duty to ensure that they have a good understanding of sustainability. This has become more pertinent than ever with the Local Government Act 2002 – which requires councils to work very closely with communities and to take a sustainable development approach.

There needs to be much more widespread adoption of the principles of sustainable development in New Zealand. We need to shift attitudes and change the way we act. We need to reconnect all New Zealanders back with the rest of nature. We all have a duty to be good local stewards of the environments of our planet. Those that can communicate these issues to others can be very effective at taking other people along with them. I'm committed to working with others and to keep on learning.

Jim Bradley

Principal Public Health Engineer, MWH New Zealand Ltd

The ecological footprint for New Zealand has been calculated at over eight hectares per person.⁶² This compares with a world average of 2.3 hectares per person. Like many other developed countries, New Zealand's ecological footprint per person is very large. It is five to ten times larger than the footprints of people living in India or China. Yet it is also much bigger than the footprints of most developed countries. For example, it is more than 25 percent bigger than the footprints of Germany, the United Kingdom, the Netherlands or Japan.⁶³

In a world of limited resources these sorts of calculations raise serious concerns about global equity. New Zealanders are part of the 20 percent of the world's population who consume more than 80 percent of the world's resources, although there are huge inequalities in consumption within New Zealand. If everyone on Earth used resources at the same rate as New Zealanders, another three planets would be needed to support the human population. If New Zealanders care about other people in the world, and if they wish to be responsible global citizens, New Zealand's ecological footprint will need to be reduced to a more equitable level. This does not mean that New Zealand should separate itself from the international trading system. It merely means that New Zealanders will need to find different ways to meet their needs and to develop a good quality of life that is sustainable on a planetary scale.

2.4 Environmental awareness and understanding

How aware are most New Zealanders of these pressures on sustainability? Taking an environmental focus, a wide range of surveys has examined New Zealanders' understanding of environmental issues. Different studies have produced varied results depending on how they have been conducted. It is therefore difficult to form a comprehensive view. Nonetheless, an analysis of these surveys suggests that most New Zealanders believe the environment in their country is an emerging issue instead of a significant area of concern.⁶⁴ A more recent survey suggests that most people perceive the environment to be in "average to good" condition.⁶⁵

These surveys suggest there is a growing awareness of environmental issues in New Zealand. However, most people do not sense any serious cause for concern. Participants in our investigation echoed this view.⁶⁶ They also suggested that the clean and green imagery of this country often contributes to this perception. As Bell suggests, this imagery survives "first because it is restated so often, and second, because a superficial glance out the window affirms this is so".⁶⁷ The Ministry for the Environment has also identified a growing gap between the image of New Zealand's clean and green environment and the reality of many sustainability problems.⁶⁸

Surveys of environmental awareness among New Zealanders tend to focus on how people perceive their environment. They do not usually focus on bigger

issues in a global context, although climate change is an exception. Many New Zealanders are likely to be aware of global issues, as they are frequently fed pictures through the media of environmental catastrophes occurring right around the globe. But if most people are unaware of environmental issues in New Zealand, it is very unlikely that they will understand how unsustainable their current society is. Many people would probably be extremely surprised to make these sorts of connections. For example, research undertaken in 2000 asked people how well they thought New Zealand was performing compared to other countries in an environmental sense. Most participants expected this country to be among the best in the world. People were usually shocked when they heard otherwise.⁶⁹



Sustainability is not just about the environment, but the environmental dimensions of sustainability are essential. There currently appears to be a fundamental lack of understanding of sustainability issues in New Zealand. Many people interviewed for *Creating our future* expressed this sentiment.⁷⁰ Other recent reports have raised similar concerns,⁷¹ and the government has recognised a lack of awareness of sustainability issues in many recent strategies (see section 4.1). If people cannot see any problems, how can they be expected to work towards solutions? Research conducted by the Government prior to the World Summit on Sustainable Development in 2002 suggested that New Zealanders cannot currently see how they are contributing to many problems, or how they could be contributing to solutions.⁷² The research also highlighted a view that is common among New Zealanders who are concerned about these issues – that education should be given a high priority to resolve these concerns.

2.5 Summary and key points

Education for sustainability is concerned with all the comments in this chapter. It is about the relationships people have with their environment and the quality of life that they enjoy. It examines what people really value about the lives of other people and the world they live in. It is also about the connections people make between their actions (and the actions of institutions in their society) and the social, cultural and economic well-being of people living now and in the future. Key points from this chapter are that:

- Relationships between people and their environment have changed significantly over time. There is a reasonably strong and growing appreciation among New Zealanders of the quality of the environment that they live, work and play in. Nonetheless, just because people value something does not mean that they will take good care of it.

- New Zealand's environment is coming under increasing pressure from its human population. On a global scale, the ecological footprint for each New Zealander is very large. It is much bigger than the footprints of most other developed countries. The size of this footprint is unsustainable and New Zealanders are consuming more than their fair share of global resources.
- Most New Zealanders do not know how they are contributing to pressures on sustainability, or how they could be contributing to solutions.

The following chapter examines the vital role of education to address these concerns. It explains how education for sustainability will require much more than just an increase in awareness. It will require a transformation in the way many people and institutions currently see themselves in the world.

It is widely agreed that education is the most effective means that society possesses for confronting the challenges of the future. Indeed, education will shape the world of tomorrow ... Education, to be certain, is not the whole answer to every problem. But education, in its broadest sense, must be a vital part of all efforts to imagine and create new relations among people and to foster greater respect for the needs of the environment.⁷³

– United Nations Educational, Scientific and Cultural Organisation

CHAPTER

3

Explaining education for sustainability



This chapter explains the origins of education for sustainability and what it seeks to achieve. It discusses links between this concept and terms such as environmental education. It also highlights tensions with existing education systems that often reproduce unsustainable practices. No education is value-free. Values and principles that are essential to education for sustainability are therefore discussed as well.

3.1 The roots of education for sustainability

Education for sustainability is an emerging concept that “encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future.”¹ As noted in section 1.2, the major focus of this report is on the *environmental* dimensions of sustainability.

Although education for sustainability is still developing as a body of thinking, many of its roots are grounded in the environmental education movement that emerged in the late 1960s and early 1970s.

Environmental education first gained prominence at an international level during the Stockholm Conference on the Environment in 1972. Three years later, an international conference focusing on environmental education was held in Yugoslavia. The resulting *Belgrade Charter* called on education to develop a population of people:

... aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.²

This Charter was developed and refined at the world’s first Intergovernmental Conference on Environmental Education in Tbilisi, Georgia, in 1977. The *Tbilisi Declaration* established three broad goals for environmental education:

- to foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas
- to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment
- to create new patterns of behaviour in individuals, groups and society as a whole towards the environment.³

The *Tbilisi Declaration* clearly set out the goals of environmental education and its guiding principles. Most contemporary writings on environmental education,



and many essential parts of education for sustainability, are a reiteration, expansion and critique of these founding principles and ideas.⁴

Subtle shifts to sustainability

During the 1980s, and with more momentum in the 1990s, a shift began to emerge. The language of sustainability began to creep into the discourses of many educators in New Zealand and overseas. This can be linked to broader changes in the international arena and the popularising of the term 'sustainable development' in 1987.⁵ Ever since, a much stronger emphasis has been placed on trying to integrate environmental, social, cultural and economic concerns.

Although the language may have changed, education has continued to be upheld as essential for environmental sustainability and to sustain the social, cultural and economic well-being of people living now and in the future. For example, a strong commitment was made at the Earth Summit in 1992. All 40 chapters of its action plan, *Agenda 21*, called for education. Governments from around the world, including New Zealand, agreed that education for sustainability is:

... critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision making.⁶

Agenda 21 also called for all countries to develop a strategy to implement education for sustainability. The call for education to be a critical part of sustainable development continues to be heard at every international conference on this topic. In 1997, representatives from around the world met at a conference organised by UNESCO and the government of Greece. They reaffirmed the urgent need for governments to honour their earlier commitments to education for sustainability and the need for a:

... rapid and radical change of behaviours and lifestyles, including changing consumption and production patterns. For this, appropriate education and public awareness should be recognised as one of the pillars of sustainability.⁷

At the World Summit on Sustainable Development in 2002, governments emphasised that education for sustainability is "critical for promoting sustainable development" and agreed to "integrate sustainable development into education systems at all levels of education in order to promote education as a key agent for change".⁸ Members of the United Nations, including New Zealand, have recently re-affirmed their commitments in this area by declaring a Decade of Education for Sustainable Development from 2005 to 2014. The United Nations General Assembly has invited governments to include necessary concrete measures to implement this decade.

3.2 Environmental education or education for sustainability?

There is currently much debate, both in New Zealand and beyond, about the best language for communicating the role of education in environmental and sustainability issues. Is 'environmental education' past its use-by date? Should it simply come under the umbrella of 'education for sustainability'? Do both these terms mean the same thing? As noted above, many of the roots of education for sustainability have grown from the environmental education movement. Nonetheless, we have deliberately used the term education for sustainability in this report for important reasons. These are discussed below.

The last two decades have seen a major shift in thinking from environmentalism to sustainable development (which, as discussed in section 1.2, aims to achieve sustainability). It has been suggested that environmentalism is mostly a movement *against* some things – for example stopping pollution and other harmful activities – while sustainable development takes a more proactive approach *towards* positive outcomes.⁹ Education for sustainability is therefore very forward-looking. It aims to do things differently in the first place, instead of just cleaning up the symptoms of underlying problems.

There has also been a more explicit acknowledgement that sustainable development is inherently about human beings, rather than the 'environment out there' or 'nature conservation'. As Tilbury *et al.* state:

Education with the objective of achieving sustainability varies from previous approaches to environmental education in that it focuses sharply on developing closer links among environmental quality, human equality, human rights and peace and their underlying political threads.¹⁰

This does not mean there is no longer a place for environmental education or environmentalism, which have often been driven by social concerns about environmental change. It is still essential to develop knowledge about the environment and to establish an ethic of caring towards the rest of the natural world. However, environmental educators need to engage with many different interests in society to further their concerns. Environmental issues are about more than just the natural, physical world. They are inescapably philosophical, ethical, cultural and political as well.¹¹ It is important to recognise what has always been the case – that how people perceive and interact with their environment (their worldviews) cannot be separated from the society and the culture they live in.

The term 'education for sustainability' is also likely to appeal to a broader audience than 'environmental education'. As several participants in this report suggested, some sectors of society can be quite negative towards any label with the word environment in it.¹² This highlights a need to make very strong

connections between the social, cultural and economic well-being of people (living now and in the future) and a healthy and sustainable environment.

People have used a variety of terms to communicate the thinking behind 'education for sustainability', the term favoured in this report. This phrase is usually interchangeable with 'education for sustainable development'. Other labels such as 'education for a sustainable future', 'sustainability education' and even 'education for a sustainable world order' have been proposed.¹³ Some people also claim that environmental education and education for sustainability essentially aim to achieve the same ends. While we acknowledge that words are important, people could wait forever for a consensus to develop on the best term to use. It is therefore important to keep in mind that it is not the words *per se* that are significant. It is how these words are used and what they actually mean to people that is most important. It is more imperative to develop some common understanding around education for sustainability, or close siblings of this term, than to argue over the best words to use. Section 3.4 identifies key principles of education for sustainability. People who are familiar with environmental education are likely to recognise many of these as well.

The debate will probably continue between environmental education and education for sustainability. However this could just be the growing pains of a movement stretching to embody a huge vision – a vision that environmental education has always shown some characteristics of, but which it now needs to manifest much more proactively. Education for sustainability could simply be thought of as a more contemporary way of taking many of the principles of environmental education, and extending them to communicate in a way that is relevant to the twenty-first century.

To summarise, environmental education is still important. Both environmental education and education for sustainability aim to enable learners to question unsustainable practices. They also aim to empower people to make changes, in their own lives and in the institutions around them. Education for sustainability includes many of the founding principles of environmental education but it is broader in scope. It has more of a human focus and recognises that fundamental human rights and social justice are just as essential to sustainable development as environmental sustainability. As following sections will highlight, education for sustainability also tends to take a more explicit socially critical perspective. Unfortunately, much education that is currently practised in New Zealand and overseas may actually be working against this purpose.



Knowledge is being more effectively used today to justify wrong being done, than to prevent it.¹⁴

– John Ralston Saul

3.3 Education for (un)sustainability?

Before outlining the principles of education for sustainability, it is important to take a step back to examine how education is already used in societies. It is also important to recognise the values and assumptions that are embedded in all education systems. Education, as a process, helps to shape the ways people think, feel and act. The formal education system in particular performs a number of functions:

- it tells people what their society/culture knows and believes about the world
- it trains people for employment
- it helps to reproduce the society/culture that people live in and maintains existing systems and structures of power
- it can be transformative, developing the potential of individuals and allowing them to achieve changes within themselves and across society.¹⁵

Existing education systems can therefore present a dilemma for sustainability. They often support existing social practices and ideologies that are dominant in society. In a society that is operating in an unsustainable manner, unsustainable systems and ways of living can simply be 'transmitted' from one generation to the next.¹⁶ For example, it is interesting to note that the most 'educated' countries are those with the biggest ecological footprints (see section 2.3 for New Zealand's footprint).¹⁷ Nonetheless, it is the fact that education does have

the power to be transformative and empowering that has seen education for sustainability promoted for so many years.

Ideologies and values

As noted above, no education is value-free. For example, the topics that teachers select and the content of their school's curriculum are all based on value judgements about what matters most in education.¹⁸ This is acknowledged in the National Curriculum Statements for New Zealand schools, which state that:

The content of a school's curriculum reflects what is valued by a society and a school community ... The school curriculum, through its practices and procedures, will reinforce the commonly held beliefs of individual and collective responsibility which underpin New Zealand's democratic society.¹⁹

As section 4.1 will highlight, existing education priorities for New Zealand that do not mention the environment suggest that environmental and sustainability concerns are currently being given very little value by the government.

Education for sustainability needs to be open about a values-based approach. This has important implications, as it contrasts with the views of many individuals and sectors of society who believe that education can and should be value-free. Some people fear that values are somehow linked to indoctrination, despite the fact that education systems are already shaping people to think and act in certain ways. However, as several educators note:

Indoctrination is ... an anathema to education systems in democratic societies where we give our students skills to think for themselves, ask questions, solve problems, and make decisions.²⁰

Ultimately, education for sustainability requires people to critically think about and reflect on their own values and the values embedded in the institutions that surround them.²¹ This can provide a basis for deciding what sorts of values a society (and different groups within it) may wish to pursue, without blindly accepting the current situation. It also requires some conscious individual and collective responsibility for making those decisions.

Assumptions

As highlighted earlier, education also helps to tell people what their society/culture knows and believes about the world. People can never know and understand absolutely everything. They therefore make some major assumptions about how the world actually works. Education for sustainability needs to encourage people to reflect on their own underlying assumptions, as well as those of other people and institutions in society.

To promote this process, educators need to be open about the assumptions that are often implicit in debates about sustainability. The following list could be useful for this purpose. It is based on an analysis of United Nations conferences on sustainable development throughout the 1990s:²²

- a healthy environment is essential for sustainable development (and vice-versa)
- sustainability should be achieved through democratic processes
- individuals have basic human rights
- sustainability depends on peace, justice, and equity
- development should be human-centred (i.e. for the betterment of humanity as a whole as opposed to the empowerment of a few)
- no nation should prosper through the explicit impoverishment of another nation
- diversity, both biological and cultural, is intrinsically valuable
- intergenerational respect and responsibility will safeguard the rights of future generations.

We add these assumptions:

- there are ecological limits that constrain resource use and the ability of the environment to absorb the impacts of human-induced wastes
- humans can use technologies to enhance their ability to exist within these limits; however, technologies also act as a double-edged sword (they regularly contribute to further pressures on sustainability that may have been unforeseen)
- economic and monetary systems can be (re)designed to better reflect environmental and social costs and benefits.

3.4 Key principles of education for sustainability

Education for sustainability is still developing as a body of thinking. It draws on many theories and ideas from education and sustainability discussions. Most of the principles highlighted here are therefore not unique to education for sustainability. Furthermore, this section is not intended to be exhaustive. It merely draws together some key principles from recent literature on education for sustainability in the international community.²³ Many of these have been touched on earlier in this chapter.

A strong values base

The main message of any knowledge system is not whether it is true or false. It's not about ideas being proven or unproved. The purpose of any people's evolutionary framework is and always will be the social, cultural and ethical values that are promoted amongst one's members.²⁴

– Aroha Mead

Values saturate people's experiences, and are at the heart of everything they do. Education for sustainability seeks to extend boundaries of concern beyond an individual's sense of self (their way of seeing and interacting with the rest of the world). It encourages people to connect with, and care for, others and the environment they live in. Although the 'thinking' sides of education for sustainability are often highlighted, education for sustainability requires people to use their hearts just as much as their heads. Values that are needed for a sustainable future include (but are not limited to) compassion, equity, justice, peace, cultural sensitivity, respect for the environment and recognition of the rights of future generations. As one of our participants noted during research for this report, "it makes it more easy to start with a values focus because you can then evaluate issues from the solid ground of these values – otherwise there's no yardstick".²⁵

The problems that exist in the world today cannot be solved by the level of thinking that created them.²⁶

– Albert Einstein



Critical thinking and reflective learning

It is important not to 'transmit' unsustainable practices from one generation to the next. People also need to reflect on their own learning. Education for sustainability encourages people to ask lots of questions, to challenge underlying assumptions, and to think for themselves about sustainability issues. Critical thinking is important. People need to be able to peel back the layers of unsustainable practices so that they can understand and address the causes that rest behind them. As Huckle notes, looking at the formal education system:

Education for sustainability invites us to question the assumptions of dominant discourses in education, particularly those objectives, content and teaching methods which favour initiating people into the concepts and skills needed for finding scientific and technological solutions to environmental problems without addressing their root social, political and economic causes.²⁷

Future-focused

The best way to predict the future is to invent it.²⁸
– Alan Kay

People should not just be able to critique unsustainable practices. They need to be encouraged to contribute to positive outcomes. While it is important to learn from the past, education for sustainability is very future-focused. It "involves learners in an examination of probable and possible futures ... this exercise is crucially linked to the development of 'hope', 'empowerment' and 'action'".²⁹ The choices that people and institutions make today, and the actions that they take, often have enormous implications for sustainability. It is therefore essential to maintain a long-term perspective.

Participation

People should be given the opportunity to have a say in the future world that they, and future generations, will live in. Public participation is vital for democracy and sustainability. It is essential to develop a mandate within communities to make changes. Changes that support sustainability are more likely to be implemented if people have a clear understanding and commitment to them.

Communities also need to be empowered to take responsibility for issues for themselves. Governments and businesses often have very short-term timeframes, because of the systems that they currently work within. Communities therefore need to develop long-term visions of where they want to head and to ensure that institutions in society are accountable for the actions that they take. There are always many competing interests in debates about sustainability and it is important to build tolerance around different interests and perspectives. However, it is also important to keep questioning and scrutinising what it is that people and institutions are actually seeking to sustain.

They were nothing more than people by themselves. Even paired, any pairing, they would have been nothing more than people by themselves. But all together, they had become the heart and muscles and mind of something perilous and new, something strange and growing and great. Together, all together, they were instruments of change.³⁰

– Keri Hulme

Real Stories

I first took Sustainable Futures because I wanted an interesting diversion. I thought it would be a cool but cruisy subject. It wasn't. The course was full-on, interesting and challenging...As a result of taking Sustainable Futures I now know more about current issues facing our environment and have made my own informed decisions on these issues. Sustainable Futures was different from any other course, with more discussion, debate and more effect on me personally. -Kate Rogers

We did a more specific topic focussing on genetic engineering. It was awesome to be learning something which is a current issue more fully and the different perspectives which people hold in relation to it...The course was really inspiring and it was good to actually do practical things and not only think about them. -Bella Shewan

Throughout 2003 our class has discovered many different sectors that influence our environment in both positive and negative ways. The class environment has been that of passionate opinions being discussed and people learning to become more open-minded and willing to accept opposing opinions. The class has been the stage for many heated debates that have fuelled individuals' passion to protect the environment and create a sustainable future at Christchurch Girls' High School, Christchurch and New Zealand. -Sarah Townsend

I learned about how people influence society and about environmental issues in New Zealand...Even though I am a foreign student from Korea, I understood different sides on each issue and found this class interesting and exciting. -Anna Park

I was seen by friends as a 'greenie' as soon as I started the course, but often found them interested in what we got up to in class. I'm glad I chose this subject because it gave me an opportunity to answer questions they had and to give them an insight into environmental issues studied by my class...it has opened my eyes to the world and made me make changes to my lifestyle. I have also been given an opportunity to inform and share with my peers and family, which I am grateful for. -Zoe Hauraki

When studying the course, I came to the realisation that as a person who was willing to make a difference, I was not fulfilling my potential to do this. I became more aware of how to improve my skills in this area, and have taught others how to do so as well...Often we perceive environmental problems / issues to be too large to deal with, so it is easier just to ignore these as a whole. Sustainable Future puts this perception into perspective. We are shown as students how we can take action and work towards a sustainable planet...As a whole, I have been alerted to everyday issues that occur that can be done better, or more sustainably. For example, I cannot take the amount of items we

Real Stories

consume seriously. It seems we as a community have blown excess consumerism out of proportion; time, money and resources are wasted, so where do we go from here? -Sara McCormick

I believe that all students and young people should be given this same opportunity for environmental education, as I have found all the things I have learned to be very valuable. -Beth Lepper

It has been tremendously liberating to facilitate a course that has no curriculum demands/pressure. We can really spend some time actually discussing issues of sustainability and what it means for us all as well as delving into what real learning is about. Our Sustainable Futures course is more than just 'about', and 'for' the environment - it is also about the type of relationships we build in our learning communities and how we create powerful learning opportunities. -Jocelyn Paprill (teacher)

Learners at Christchurch Girls' High School Sustainable Futures Class (Year 12)

Learning for life

*I never let my schooling get in the way of my education.*³¹
– Mark Twain

All people should be encouraged to participate in education for sustainability, and people learn throughout their lives. The formal education system is very important. However, it would be far too limiting for education for sustainability to focus on this system alone. Learning takes place in many different contexts. People learn through their families, peers, workplaces, the media, and many different social networks. Many other influences in society also help to shape the ways people think, feel and act. During research for this report, we asked participants which sector of society they thought it was most important for education for sustainability to focus on.³² The range of answers highlighted the need for all people, of all ages and different backgrounds, to be involved in learning for sustainability.



Learning across boundaries

The specialist knows more and more about less and less and finally knows everything about nothing.³³

– Konrad Lorenz

Because sustainability issues are very broad in scope, learning also needs to occur across established boundaries. For example, in the formal education system, especially at a secondary and tertiary level, learning has historically been disciplined into many different fields of knowledge. This has enabled people to develop in-depth expertise in many areas. However it has also made it very difficult for people to share valuable insights that could contribute to sustainability. This does not mean that there should be no specialists. It merely means that better connections need to be made across disciplinary boundaries. These issues are not unique to the formal education system. Many institutions in society also develop knowledge and make decisions without engaging with other sectors of society. Education for sustainability requires integrated thinking. It requires people and institutions to share knowledge, recognise the limits of their own expertise, and to work together on many different issues.

Transformative

True compassion is more than flinging a coin to a beggar. It comes to see that an edifice which produces beggars needs restructuring.³

– Martin Luther King Jr.

Education for sustainability has a strong purpose. This is reflected in the language that it uses. People should not just be educated ‘about’ sustainability. They need to be empowered to take actions that contribute to sustainable outcomes. Having said this, it is important not to place all responsibility on individuals. Societal changes are driven by people (usually working together) but people live and work within wider systems and social structures. These systems can enable people to act in certain ways, but they can also constrain them. Education for sustainability therefore needs to focus on both individual and systemic changes to resolve unsustainable practices. This will require a redesign of many systems that currently exist in societies. As a result, education for sustainability is often perceived as highly political. It aims to transform institutions in society that are promoting unsustainable practices, or holding back sustainable alternatives, so that people can work towards a better future.

3.5 Summary and key points

Key points from this chapter are:

- Education for sustainability is an emerging concept that has many of its roots in the environmental education movement. Environmental education is still important, but education for sustainability is broader in scope. It recognises that human rights and social justice are just as essential to sustainable development as environmental sustainability.
- It is imperative to develop some common understanding around education for sustainability, or close siblings of this term.
- Like all education, education for sustainability is not value-free. It encourages people to extend their boundaries of concern and to critically think about and reflect on their own values. It also encourages people to ask lots of questions, challenge underlying assumptions, and to think for themselves about sustainability issues.
- Education for sustainability needs to focus on the underlying causes of unsustainable practices, instead of just concentrating on their symptoms.
- It is important to be future-focused and develop a mandate within communities to make changes that support sustainability.
- People need to share knowledge, recognise the limits of their own expertise, and work together on many different issues.
- Both individual and systemic changes are needed to resolve unsustainable practices. This will require redesigning many systems that currently exist in society.
- International conferences on sustainable development consistently emphasise the vital need for education for sustainability. New Zealand's government has taken part in many of these conferences and has made commitments to education for sustainability.

Another principle of education for sustainability is that it should be implemented in a locally relevant and culturally appropriate way.³⁵ In a New Zealand context, issues such as the need for a basic education for all, women's rights, and poverty eradication will not have the same focus that they have in less 'developed' countries. Although these issues are still important for New Zealand, many other overwhelming issues need to be addressed. For example, a major issue for New Zealanders is the size of their ecological footprints and the vast volumes of waste that are generated in this country (see section 2.3 and chapter 6). The following two chapters examine how people are learning and being educated for sustainability in New Zealand today.

CHAPTER

4

Educating people

for tomorrow, today



This chapter looks at the extent of education for sustainability in New Zealand today. It focuses on the environmental dimensions of sustainability, which until now have mostly come under the banner of environmental education. It begins by examining the priorities of central and local government and their efforts to educate for sustainability. It then looks at the formal education system from primary schools through to tertiary level. Although this chapter concentrates on government, it looks at the influence of community organisations and businesses as well. Overviews are contained at the end of most sections. A summary at the end of the chapter considers the overall effectiveness of efforts to date.

4.1 Central government

Central government has a pivotal role to play in education for sustainability. In particular, it influences the shape of the formal education system. Many people and organisations also look to central government for leadership and support. Furthermore, the government has developed various strategies and programmes to influence sustainable development in New Zealand. This section begins by looking at these strategies and priorities for education. It then looks at agencies with responsibilities in the environmental and education areas and some key initiatives that are underway.

Over-arching frameworks

Two key documents establish the government's over-arching priorities for education and sustainability:

- The *Sustainable development programme of action* (2003)¹
- *Education priorities for New Zealand* (2003).²

The *Sustainable development programme of action* sets the government's overall direction and priorities for sustainable development. It includes principles for policy and decision making such as: working in partnership with local government, encouraging participatory processes, considering the implications of decisions from a global as well as a New Zealand perspective, and respecting environmental limits.³ These principles have been adopted by Cabinet, and all Chief Executives of government agencies have been charged with implementing them in policy.

The *programme of action* comments that "sustainable development must be at the core of all government policy" and includes a vision that New Zealanders will "Cherish our natural environment, [are] committed to protecting it for future generations and [are] eager to share our achievements in that respect with others".⁴ However, it does not explicitly consider the roles that education could play to meet this vision.⁵ It briefly suggests that, "fostering an apprecia-

tion of New Zealand's unique natural environment among children and young people helps to ensure its protection and enhancement for future generations", although it does not expand on this statement. It only makes some reference to general education skills, such as access to education services and the need to build a 'knowledge economy'.

Education priorities for New Zealand provides a summary of the government's priorities in the education area. It draws together existing strategies and programmes across the formal education system, including the *Early childhood strategic plan*⁶, the *Tertiary education strategy*⁷ and current approaches to schooling. It places education at the heart of social and economic development in New Zealand, and comments that, "The investments we make each year in the development of our education system must focus on the things that really matter".⁸

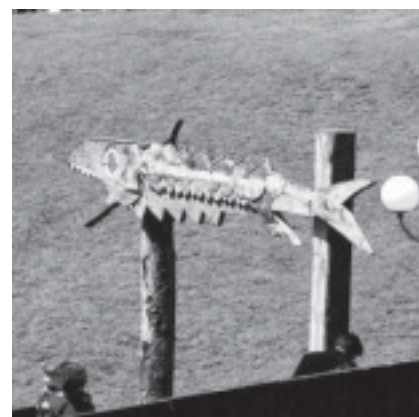
Any mention of the environment is almost entirely absent from this document. The environment does not feature in any of the government's priorities, including 46 'general strategies' for education. Furthermore, the education priorities only refer to the importance of innovation and economic, cultural and social development as key areas for national development. This is despite the fact that environmental sustainability has been highlighted as a key national goal in other government strategies (see section 4.4). A lack of consistency in linkages between government strategies is widespread, as highlighted in *Creating our future*.⁹

Another key government document is the national strategy for environmental education, *Learning to care for our environment*¹⁰. This was released in 1998, and commented that:

There is an increasing appreciation that we all have a part to play in protecting and sustaining the environment. Environmental education is the key to providing people with the knowledge, awareness, attitudes and values that will assist them in this task. Environmental education is not just a priority for school children, it must be a lifetime commitment for all of us.¹¹

This document established priorities to:

- integrate and coordinate environmental education efforts
- evaluate environmental education activities
- enhance the capacity of tangata whenua in environmental education
- incorporate the aims of environmental education across the school curriculum



- promote environmental education in business education and training
- provide individuals and communities with the information and understanding to enable them to make environmentally sound decisions.

The government planned to monitor this strategy through regular reviews of the *Environment 2010*¹² strategy. This highlighted a need to have an integrated national approach to environmental education across all sectors of the community.¹³ *Environment 2010* is now obsolete, as it was the product of a mid-1990s government that is no longer in power. The influence and status of *Learning to care for our environment* remains unclear, although it should be noted that there are no links made to this strategy in *Education priorities for New Zealand* or the *Sustainable development programme of action*.

Other government strategies

The government has produced a range of other strategies, policies and programmes in the environmental, social and economic areas.¹⁴ Their relevance to education for sustainability is summarised in a background paper to this report.¹⁵ Although these strategies are not necessarily well connected to each other, they often highlight an important role for education to achieve objectives for sustainability. Comments include those on page 55.

Strategies with the strongest links to education and environmental sustainability are in the areas of biodiversity, waste, energy efficiency and climate change. Many other government strategies, including those for tertiary education, innovation, transport, health and tourism have very weak or non-existent links to education and the environment.²⁰

Government departments involved in environmental education

Many government ministries and departments are involved in environmental education. Three main agencies are:

- **Ministry for the Environment:** Mostly acts as a coordinator and facilitator for environmental education. The Ministry relies heavily on other networks, especially councils, to communicate with the general public. Most of the responsibility for day-to-day environmental management rests with local government (see section 4.2). The Ministry has therefore put most of its efforts into encouraging councils to employ environmental education staff, develop plans, and to share information and resources with each other. It has also done some work on specific issues such as waste and climate change.
- **Ministry of Education:** Responsible for the New Zealand Curriculum that sets out what all children should learn in schools. The Ministry produces

The large majority of our community remains unaware of the ecological impact of humans on our environment ... Maintaining our status as a 'clean and green' nation requires us to ensure we have the research and skills to...help all New Zealanders develop an awareness of the environment and the impacts economic and social activities have on it.¹⁶

– Tertiary education strategy

Creating understanding of energy impacts and actions at all appropriate levels throughout the community is fundamental to developing a sustainable energy future.¹⁷

– Energy efficiency and conservation strategy

There is a need to recognise and 'mainstream' biodiversity concepts in broader environmental education programmes and to make biodiversity information relevant to people's local environments, that is, to enable people to connect biodiversity with their places and how it contributes to their lifestyles.¹⁸

– Biodiversity strategy

Many people enthusiastically promote and practise waste minimisation, but others know little about the problem. We need to raise awareness so we can build on and support community responses to local waste issues.¹⁹

– Waste strategy

guidelines, which are not compulsory, to support the Curriculum. Guidelines for environmental education were released in 1999. The Ministry also funds professional development courses for teachers and develops materials to support environmental education in schools. More information about these initiatives is covered in section 4.3.

- **Department of Conservation:** Responsible for conserving the natural and historic heritage of New Zealand. The Department received special funding in 2000 to develop conservation awareness projects in urban and rural centres.²¹ The Department has developed a strategy to work more closely with communities, and provides education resources that are aimed at increasing support for conservation.²²

Many other government agencies are involved with specific issues related to education and the environment. For example:

- the Energy Efficiency and Conservation Authority and the New Zealand Climate Change Project are trying to raise awareness about energy sustainability
- the Ministry of Agriculture and Forestry sends kits to schools and provides information on sustainable agriculture.
- the Ministry of Fisheries aims to educate people about fishing rules to promote voluntary compliance with regulations.

Education of new immigrants

No matter how hard the government tries to educate the current population for sustainability, a steady stream of new migrants arrives in this country each year. These people contribute to the cultural diversity and vibrancy of life in New Zealand. They also bring with them their own worldviews that have been shaped by the societies they come from. As suggested in section 2.1, it often takes time for people to develop connections with their environment. No matter where they come from, new migrants probably need to learn how to live in an environmentally sustainable manner in New Zealand's unique ecology. As they settle in this land it is therefore important to consider what attempts are made to educate them for sustainability.

People who come to settle in New Zealand receive almost no guidance from the New Zealand Immigration Service on environmental or sustainability issues. A Settlement Pack has been designed to help people when they first arrive. It covers issues such as housing, health, education and business.²³ It includes only a small amount of information on declaring goods to protect New Zealand's agricultural industries and access to recycling facilities. No guidance is provided on how to behave in the environment. For example, there is no mention of the

need to protect coastal areas and to respect limits for taking fish and shellfish.

Several other government departments have started to expand their activities to work with different cultures. The Department of Conservation has targeted a variety of cultural groups in Auckland to achieve better conservation outcomes. They are currently working with the Chinese Conservation Trust and the Tapa Conservation Trust, which works with Pacific Island communities. The Ministry of Agriculture and Forestry has also begun to work more closely with Pacific Island peoples to improve compliance with biosecurity measures. For example, the 'Protect New Zealand' campaign launched in 2000 targeted Cook Islanders, Fijians, Tongans and Samoans living in or visiting New Zealand. The Ministry of Fisheries has also developed some multi-language notices and guides for recreational fishers.



Other initiatives

Other initiatives that the government has undertaken in the environmental and education areas include:

- **A Sustainable Management Fund**, administered by the Ministry for the Environment, provides assistance to community projects. Many of these projects have a strong education or communications component. The fund has supported: the development of environmental educational resources for schools and communities; a directory of educational resources; and guidelines for the development, implementation and evaluation of strategies and programmes.
- Some **Environment Centres** around New Zealand receive financial assistance from the Ministry for the Environment, under a scheme that began in 2001. The centres, most of which existed well before financial assistance came from government, promote a range of issues in their communities, including environmental education.
- A **National Youth Environment Forum** was established in 2003. Around 50 people between the ages of 15-18 were invited to travel from regions around New Zealand to present their perspectives on selected environmental issues. It is planned to be an annual event.

Overview of central government efforts

Many existing government activities are likely to be supportive of education for sustainability, although the emphasis to date has been on environmental

education. Over the last five years, in particular, there has been a focus on:

- building up capacities for environmental education in local government
- encouraging environmental education in schools
- working with communities on conservation issues.

Education issues are highlighted in many government strategies related to sustainability. The focus of these strategies is usually on raising awareness.²⁴ As chapter 2 highlighted, there is currently a low level of public awareness on many sustainability issues in New Zealand. However, it is important not to assume that changes in awareness will inevitably lead to changes in behaviour. Awareness raising is only one part of educating people for sustainability (see chapter 3).

The government is using a variety of different approaches to assist environmental education, but it is not usually seen as a priority. It has produced some guidance for environmental education in schools (see section 4.3). Many government departments have also developed education resources for schools, although there is no monitoring of the uptake and use of these resources. The government has not taken a proactive approach to cover all new migrants or to start educating them before they get here, although there are some promising examples of government agencies working with new migrants on environmental issues.

One approach the government has hardly used to reach a wider audience on sustainability issues is social marketing (see also section 5.4). The government has conducted many advertising campaigns to convince New Zealanders not to smoke or drink-drive and to motivate them to exercise more regularly, avoid accidents and to save for their retirement. A similar 'journey' has not been taken at a national level for environmental or sustainability issues. The only exceptions to this are the 'Reduce Your Rubbish' campaign coordinated by the Ministry for the Environment, and the 'Be Better Off' campaign conducted by the Energy Efficiency and Conservation Authority. Both of these began in 2003, but they were not well-funded. About \$400,000 was spent in the two-month rubbish campaign to produce and broadcast messages for the media. The energy campaign also lasted two months and was directed at businesses in the Auckland and Wellington regions. It cost about \$200,000, less than half of which went on advertising. As a comparison, the Land Transport Safety Authority spent over \$16 million on advertising in 2001-02, and one New Zealand company spent \$40 million trying to get their message across for people to buy their goods and services.²⁵

The government has acknowledged that there is a critical role for education to achieve sustainable development objectives for biodiversity, waste, climate

change and energy efficiency. Despite this, environmental and sustainability issues are not regarded as a priority by government in the formal education system (see also sections 4.3 and 4.4).

It is also important to note that the initiatives by government agencies are seldom well coordinated. It is possible that government agencies are sometimes confusing people and organisations by providing them with different, and sometimes conflicting, messages. Two key themes that were very clear in researching this report were that:

- central government needs to be providing more leadership and making a much stronger commitment to education for sustainability
- government agencies need to work more closely together to provide coherent messages for people and organisations to enable them to learn more easily.

4.2 Local government

Local government has an essential role to play in education for sustainability. As the “sphere of government closest to the people and environmental issues in the community”²⁶, local government agencies can be regarded as a key interface between individuals and communities, their environment and central government.

Learning to care for our environment recognised the importance of local government in environmental education. It also highlighted how environmental education can be a very effective tool for councils to fulfil their responsibilities under the Resource Management Act 1991 (RMA).²⁷ For example, Christchurch City Council has described environmental education as “an investment in our future”²⁸, while Environment Waikato has described it as “necessary to raise public awareness and increase involvement in environmental management, and to influence community attitudes and behaviour towards the environment.”²⁹

Use of the term ‘environmental education’, as in the quotes above, has historically been the norm in local government. However, the principles of education for sustainability are particularly applicable to local government, with its focus on active public participation (see section 3.4). Indeed, local government has often taken a leading role in implementing environmental education programmes in New Zealand. The impetus for this came from two main sources:

- **Agenda 21**, which highlighted local government’s role in environmental management at a local and regional level (chapter 28). It also recognised the roles that education and awareness raising have in the general enhancement of sustainability (chapter 36).

- **The Resource Management Act 1991**, which gives local authorities primary responsibility for the sustainable management of natural and physical resources. It promotes public participation in environmental management decisions. Education provides a key non-regulatory means for local authorities to implement their policies to achieve their objectives.

Initiatives by local government

In 2001 a stocktake was conducted of environmental education initiatives in local government.³⁰ It found that all 14 regional councils and unitary authorities do undertake some education initiatives. Only one of these councils did not employ any personnel for the sole purpose of environmental education. Only

one council did not have an environmental education strategy.



According to this stocktake, most councils are targeting different sectors for their environmental education programmes, such as the general public, schools or businesses. Many councils also support care groups (such as 'Beachcare', 'Streamcare' and 'Landcare') where local communities take on responsibilities to care for, restore and/or manage specific areas with support from council staff. However, within the city and district council grouping, environmental education programmes have been almost entirely limited to

city councils. Within that group, even if staff are employed for environmental education initiatives, they have not necessarily had the time to undertake those duties.

The stocktake questionnaire did not define environmental education, so the respondents could answer according to their own interpretation of this term. While this makes rigorous analysis of environmental education programmes difficult, the fact that respondents felt able to include some form of initiative shows an awareness and acceptance of the need for environmental education. Initial small steps may expand to encompass more socially critical and transformative initiatives as support and need grows.

While most councils had a fairly wide target audience, a survey of regional council websites undertaken in 2002 showed a strong focus on school-based education.³¹ People we spoke with during research for this report suggested that schools can be seen as 'captive audiences', and that in the past some councils felt that there was a need to step in and fill a gap in providing environmental education in schools that was not being provided by any other agency.³²

Local government leads the way?

Several regional initiatives, which have been supported by their local authorities, have proven so successful that they have since been expanded to become nation-wide programmes. Support from central government has usually come after local government, often in partnership with other non-governmental agencies, has led the way. Four examples of local authority leadership are given below.

Enviroschools

Local authorities in the Waikato region were instrumental in the establishment of the Enviroschools programme, which began in 1993. Initially it was a one-year pilot programme, which ran in three Hamilton schools and was supported by Hamilton City Council and Environment Waikato. The programme has since been successfully launched nation-wide (see chapter 4.3). Local authorities have also provided strong support for the Enviroschools pilot programme and professional development for boosting environmental education initiatives in schools. Some participants in this study suggested that without this support from local authorities, these initiatives might never have got off the ground.³³

The Big Clean Up

The Auckland Regional Council (ARC) began the Big Clean Up campaign in April 2002 to involve all Aucklanders in addressing the increasing pollution and waste problems in the region. By late September 2003, approximately 44,000 households had joined the campaign. In April 2003, the waste section of the Big Clean Up went national, with support from the Ministry for the Environment and most other regional councils. The campaign ran as a pilot scheme for three months, with an aim to gauge the effectiveness of collaborative delivery of national environmental campaigns. While the Ministry for the Environment was the project manager for the national campaign, each regional council coordinated its own regional component.³⁴

Sustainable Households

The Sustainable Households campaign is a joint pilot project between nine local authorities.³⁵ The project has been funded by the Sustainable Management Fund over three years during the pilot stages. It covers a range of topics (waste, energy, travel, water, gardening and shopping) with the aim of helping households become more aware of how their everyday actions affect the environment. The project aims to offer simple and practical ways to make a positive difference to the environment and the health and economy of the household. Evaluations have shown an immediate impact on environmental awareness and work is now underway to evaluate longer-term impacts.

Quality of life in New Zealand's cities

In 2001, New Zealand's six largest cities (Auckland, Christchurch, Manukau, North Shore, Waitakere and Wellington) published a report that measured the quality of life (including social, environmental and economic indicators) in these cities.³⁶ The report recognised the interconnectedness of factors affecting quality of life for their citizens. It recommended new partnerships with central government agencies to address some of the issues of concern. This initiative has recently expanded to include Hamilton and Dunedin. The first report has raised the profile of urban sustainability issues and has contributed to national monitoring work and debates on sustainability.³⁷ While this initiative is not education for sustainability *per se*, it has played a key role in promoting urban sustainability issues nation-wide. The second report highlights the view that New Zealand's cities may not be as sustainable as many people think.

Constraints for going further

The examples above provide a few snapshots of environmental education initiatives undertaken by local government. They do not illustrate the precarious nature of funding for many initiatives, or the associated lack of priority that is given to education by many councillors and council managers. Comments from participants during research for this report suggest that environmental education is not a priority for many councillors, who see it as an 'add-on' that is often impinged on by short-term economic imperatives.³⁸ In councils where the fate of environmental education programmes is not so precarious, the support often comes from individuals who have a passionate commitment to environmental education.

The fact that smaller district councils and unitary authorities undertake less environmental education also highlights difficulties with resourcing of both funds and capacity. Larger authorities with a larger funding-base can possibly afford to allocate funding to programmes with less obvious short-term results. Smaller councils may wish to provide environmental education programmes but are prevented by budget constraints.

Environmental education efforts have also been very difficult to evaluate. While outputs can be counted (for example how many people attend a workshop), it is far more difficult to measure desired outcomes and link these directly to specific education programmes. For this reason it has sometimes been difficult for programme providers to secure long-term funding for their environmental education programmes. If environmental education was seen as an integral part of councils' wider functions, this could be far less of a problem.

Conversely, there has been a growth in numbers of environmental education staff working in some councils, with larger regional and city councils giving more support to environmental education teams. Environment Waikato, for

example, had six full-time equivalents in 2001, a commitment echoed by the council's CEO when he said that the council's strong environmental education programme has had a definite impact on the community.³⁹

Opportunities for greater involvement

The new Local Government Act 2002 (LGA) provides local authorities with more flexible powers than they previously had. It also requires them to work very closely with their communities. The purpose of the Act is to:

... provide for democratic and effective local government that recognises the diversity of New Zealand communities; and to that end, this Act ... provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach.⁴⁰

A 'sustainable development approach' is defined in the Act as a principle that local authorities must act in accordance with. It includes the well-being of people and communities as outlined in the purpose, and "the maintenance and enhancement of the quality of the environment, as well as the reasonably foreseeable needs of future generations".

A key component for local authority planning in the new Act is the Long-Term Council Community Plan. This sets out a plan for a ten-year period, with operational details for a three-year term. This plan provides an opportunity for the local community to become involved in the decision making process, a purpose which is in accordance with the principles of education for sustainability (see section 3.4).

However, while there is much scope to respond to an active, participatory citizenship, it cannot be assumed that the public will have the desire or skills to participate effectively in the management of their community and environment. For example, local body elections have historically had low voter turnout rates. This suggests that there is a need for councils to play a much stronger role in encouraging and helping their residents to be actively involved in their community. This also highlights a need to educate staff to build up capacity within councils to meet the expectations of both the RMA and the LGA. Indeed, as Knight suggests, the issue is more complex than merely asking communities what they want:

If the requirement on local government to pursue sustainable development can still give rise to quite different, indeed contradictory, outcomes, then requiring councils to take better account of what communities want may not increase levels of sustainability. What is missing is some prior discussion on what improved levels of sustainability might mean, before asking people to decide how to achieve it. This

in turn inevitably requires an education process and a raising of understanding: who should do that, and how?⁴¹

The new legislation could be the platform needed to launch a new era of education for sustainability in local government in New Zealand. There will need to be careful consideration given to the issue of educating communities to become more active citizens, but the rewards of such effort are likely to be very high. The recent *Quality of life in New Zealand's eight largest cities* report⁴² found that the most frequent reason given for lack of satisfaction with citizens' involvement in their local governance was a lack of consultation. The report found that people do want to be more involved, so the challenge that faces councils is to find effective ways to facilitate this.

As noted earlier, local authorities have in the past concentrated much of their environmental education efforts on schools. Since central government has begun funding more resources for school environmental education (see chapter 4.3), local government could start to direct their focus more towards other sectors of the community such as businesses and primary producers. The need to help businesses learn how to improve the sustainability of their operations was a recurring theme among participants during research for this report.⁴³ There are already initiatives underway in the business sector (see section 4.6), but local authorities could provide more support in this area.

Participants in this study and local authority staff who responded to the Ministry for the Environment's stocktake⁴⁴ also commented on a need to educate some councillors on sustainability issues and familiarise them with ecological principles. Ensuring that local body politicians can develop a good understanding of sustainable development issues could certainly improve the priority given to education for sustainability.

Overview of local government efforts

Local government has been one of the key players in environmental education in New Zealand over the past decade, both in implementing programmes

directly and supporting others to do so. Education has been identified as a useful tool for councils to fulfil their statutory functions, particularly under two main pieces of legislation: the RMA and the LGA.

Much education that local authorities undertake is aimed at individuals or small groups to promote small scale, achievable actions. Examples of programmes that have grown from local and regional to a national focus are the Enviroschools programme and the Big Clean Up waste campaign.



However, despite a growth in support for environmental education within local authorities, many programmes are still vulnerable to funding cuts, especially when local body councillors do not understand or appreciate the long-term benefits of education. Most education has also been focused on dealing with effects (e.g. encouraging recycling) instead of addressing underlying causes of problems (e.g. reducing the amount of materials that are consumed in the first place – see chapter 6).

Major opportunities for further progress for education for sustainability in local government include:

- education of local body politicians to develop their knowledge of, and commitment to, sustainability
- community education to facilitate improved citizen participation in local governance, as promoted in the new Local Government Act
- further acknowledgement and support for education for sustainability initiatives at a local level.

4.3 Primary and secondary schools

Primary and secondary schools provide a vital context for children and young people to learn and develop. People learn a lot about their society through schools (although, as chapter 5 highlights, a huge amount of learning occurs beyond this system as well). People also develop many values through the education system, regardless of whether these are made explicit or not. Schools are often used to prepare people for employment. Ideally, however, education should develop the potential in people to learn for themselves and to be the best that they can be.

This section examines the environmental dimensions of sustainability in New Zealand schools today. Again, this has mostly come under the banner of environmental education. It begins by looking at the context for environmental education and the school curriculum. It then examines how environmental education is currently practised and some recent developments.

The context for environmental education in schools

All teaching and learning in New Zealand schools is framed by a national curriculum.⁴⁵ The New Zealand Curriculum Framework was published in 1993. It was developed over five years, during which time its environmental focus shifted. Initially the environment was included with science as an 'essential learning area' (which sets out the knowledge and understanding that students are expected to develop). It later became its own area of study, placed within (or across) the other essential learning areas.

This development reflected debate at the time about whether environmental education would be most effective as a cross-curricula subject or as a discrete learning area.⁴⁶ It also reflected a changing political climate, including a change of government. As chapter 3 highlighted, the school curriculum is commonly shaped by ideologies that are dominant in society. Neo-liberal ideologies, which have contributed to fundamental changes in New Zealand society from 1984 onwards, have also had a profound influence on the education system. There has been a major focus on preparing students for jobs within global markets.⁴⁷ Many commentators have expressed concern about this influence, which has helped to bring objectives and practices in the education system into line with commercial values.⁴⁸

The New Zealand Curriculum Framework is currently made up of seven essential learning areas: Languages, Mathematics, Science, Technology, Social Sciences, The Arts, and Health and Physical Well-being.⁴⁹ Environmental education fits into these learning areas as a cross-curricula theme, although it is not mandatory. Boards of trustees determine the extent to which it is taught within any school.

Before 1999, neither environmental education nor education for sustainability were taught on a formal basis in New Zealand schools.⁵⁰ Only some elements of environmental education were taught as part of existing subjects. As noted in section 4.1, the Ministry for the Environment developed a national strategy for environmental education in 1998 to address some of these shortcomings. The key priority of this strategy was to incorporate the aims of environmental education across the school curriculum. As a result, the *Guidelines for environmental education in New Zealand schools* (the Guidelines) were developed by the Ministry of Education.

The Guidelines set out the following aims of environmental education, which have been adapted from the Tbilisi Declaration (see section 3.1):

- Aim 1: **awareness and sensitivity** to the environment and related issues
- Aim 2: **knowledge and understanding** of the environment and the impact of people on it
- Aim 3: **attitudes and values** that reflect feelings of concern for the environment
- Aim 4: **skills** involved in identifying, investigating and problem solving associated with environmental issues
- Aim 5: a sense of responsibility through **participation and action** as individuals or members of groups, whanau or iwi, in addressing environmental issues.⁵¹

Maori in formal education

The *Guidelines for environmental education in New Zealand schools*⁵³ have a significant Maori component. They state that environmental education provides a context for students to learn about:

- the partnership established by the Treaty of Waitangi for managing New Zealand's natural resources
- the special position of the Maori people in relation to the natural resources of New Zealand
- the cultural heritage of New Zealand
- the significance of this heritage to present and future generations.

It is also important to consider how learning is conducted in Maori medium schools. It is not just the use of te reo which makes them different from state schools – it is also the way that Maori worldviews and tikanga (culture and customs) underpin everything that is taught. Kura kaupapa, for example, teach the same national curriculum that is taught in all other state schools, but all learning is undertaken through a lens that is based on cultural knowledge of cosmology and tikanga.

These schools are often an integral part of the local Maori community and regularly have more input from, and connection with, their community than many state schools. Learning therefore becomes multi-layered and inter-generational. This is particularly so with kohanga reo (Maori language 'nests'), which are as much about whanau development as about teaching pre-schoolers.

At the other end of the formal education scale are wananga, which are tertiary institutions that deliver programmes within a Maori context. This includes a focus on educating the whole person, rather than specifically equipping students for a career. For example, one of the purposes of Te Wananga o Aotearoa is "to equip our people with knowledge of their heritage, their language, their culture so they can handle the world at large with confidence and self determination".⁵⁴

Much Maori learning also takes place within the marae setting – an institution described by one Maori educator who participated in this report as "the greatest representation of Maori values coming to life."⁵⁵ Learning at the marae can be described as 'by osmosis', with people immersed (sitting, watching, listening) in a cultural setting to see how everything fits together.



The Guidelines identify sustainability as one of four key concepts underlying environmental education, although they do not define sustainability. They promote the integration of three key dimensions of environmental education: education 'in', 'about' and 'for' the environment.

Education 'in' the environment is concerned with learning outside the confines of the classroom and gaining first hand experience of the environment.

Education 'about' the environment is concerned with developing knowledge and understanding about the

natural and built environments, including social, political, ecological and economic factors that influence decision making in society. Education 'for' the environment aims to integrate students' knowledge about, and experiences in, the environment to develop self-responsibility and a willingness to help maintain and improve the quality of the environment.⁵²

Environmental education in schools today

Because environmental education is a voluntary, cross-curricula subject, it remains difficult to get an accurate picture of the extent and quality of its inclusion in schools. The Guidelines were sent to schools with the hope that they would assist teachers to provide environmental education within the current curriculum.⁵⁶ However, they do not appear to have been widely used. Many people during research for this report suggested that there is a very low awareness among New Zealand teachers that the Guidelines even exist.⁵⁷

Recent research seems to confirm this perception. The Ministry of Education commissioned an in-depth evaluation of the impacts of environmental education in New Zealand schools.⁵⁸ As part of this, a 'Critical Stocktake' was undertaken that involved a survey of schools that were believed to be carrying out environmental education. There were 367 responses received, representing 190 schools. Most respondents were very enthusiastic about environmental education, although only half of them were aware of the Guidelines.

According to the Critical Stocktake, characteristics of environmental education in New Zealand schools today are that it:

- involves a wide range of activities
- includes student participation in activities outside the classroom, particularly in the school grounds but also in the local environment
- involves students taking practical action such as gardening, planting, and clearing up litter in the school grounds and the local community along with

monitoring waterways; students making and implementing decisions; and students advocating in the home and community

- is thought by teachers to contribute to a better school and/or community environment, and to enhance school-community relationships
- enhances student knowledge and understanding of the environment and environmental issues and develops student values and attitudes towards the environment
- may involve an enthusiastic individual or small groups of teachers or the whole school (principal, staff, student interest groups and caretaker)
- may involve the wider school community, particularly parents and the boards of trustees
- involves the use of environmental education service and programme providers, particularly local authorities
- may involve environmental sector professionals
- may involve community-based environmental and service groups.⁵⁹

The Critical Stocktake highlighted that the major focus of environmental education in schools to date has been on education 'in' and 'about' the environment. Topics that have been popular include waste management, water studies, planting and gardening, recycling, and worm farming. There appears to be much less education 'for' the environment. This is an issue with environmental education overseas as well as in New Zealand. Because education 'for' the environment tends to be more socially and politically challenging, it has not been implemented to the same degree as education 'in' and 'about' the environment.⁶⁰

Other recent initiatives

Over the last five years there have been some new developments in environmental education in New Zealand. Key ones are identified below.

Professional development for teachers

The Ministry of Education recently funded three specific programmes to support environmental education:

- Professional development for environmental education at the Christchurch College of Education. Funding for this has now finished.
- Professional development for Sustainable Organic Schools run by Massey University and the Soil and Health Association of New Zealand. Funding for

Real Stories

I introduced environmental education to Kaeo School in May 2003 with professional development for the principal and staff. Our school is situated near the Whangaroa harbour. It is a decile 2 school and 88% of students are Maori. Our Tirohanga Whanui is: Building student knowledge, skills and capability towards shaping a sustainable future for a bi-cultural, bilingual Aotearoa, New Zealand.

Teachers introduced education for a sustainable future to all students in Term 3. Students are able to plan collaboratively to identify environmental issues and to actively learn to improve their environment in the school grounds and in the wider community. They evaluate and reflect on their learning. They produce PowerPoint and iMovie presentations to provide feedback to a range of groups and individuals. All students have become literate in Information and Communications Technologies during this time.

The introduction of education for a sustainable future has been successful because teaching and learning is totally integrated throughout all curriculum areas. Its concepts are embraced by the Board of Trustees and Principal as well as by all staff and students. Children have taken responsibility because it is an area in which they can experience success and share learning experiences with whanau and community. Feedback from parents and the community has been positive. The principal's commitment, with a passion for education for a sustainable future, is the driving force behind the success of this educational initiative.

Maiki Marks

Environmental Education Facilitator – Taitokerau, Northland

this has also finished.

- The appointment of 17 national and regional environmental education coordinators in 2003. Closely linked to colleges of education, these people support schools and kura to incorporate environmental education into the curriculum. Funding for the coordinators is currently ongoing until 2005.

These developments have been critically important, especially given the fact that the vast majority of teachers involved in environmental education have had no training in this area (see below).

National Certificate of Educational Achievement (NCEA)

The recent introduction of the NCEA has enabled new cross-curricula courses to be developed. Teachers can use achievement standards from different learning areas to develop these courses. 'Sustainable Futures' courses have begun to pop up in schools around the country, starting with Christchurch Girls' High School, which has successfully achieved a cross-curricula approach. There are around 60 other secondary schools in New Zealand that are currently interested in establishing Sustainable Futures courses within the NCEA framework.⁶¹

Enviroschools

In 1999 the Sustainable Management Fund provided funding for the development of the Enviroschools project (see also sections 4.1 and 4.2). The project was launched nation-wide in 2001. The Enviroschools programme involves students aiming to create a sustainable school through planning, designing and implementing environmental projects within school grounds.⁶² Students, teachers, boards of trustees, and the community become involved in developing "living policies"⁶³ aimed at making day-to-day functions in the school's curriculum and physical environment sustainable. There are currently around 50 Enviroschools in New Zealand.

Constraints for environmental education

While there have been some promising developments, the Critical Stocktake highlighted many challenges for environmental education, as identified by teachers. These include:

- the non-mandatory status of environmental education
- the challenge of integrating environmental education into other learning areas
- the need for whole school support and involvement
- the need for in-school leadership (from the principal and/or an environmental education coordinator)

- the need for further professional development for themselves or for their colleagues
- the need for resourcing in the form of environmental education units and the equipment needed to take action 'for' the environment
- the need for funding for teacher release so they have time to plan, prepare and share ideas, make contact with support people, and be involved in action 'for' the environment.⁶⁴

Many of these challenges were echoed by teachers during research for this report.⁶⁵ Two key areas identified in our research were the need for practical help with the teaching of environmental education and for clarification of the ambiguous status of environmental education in the New Zealand school curriculum.

As highlighted in chapter 3, environmental education and education for sustainability are often perceived as highly political. The authors of the Guidelines suggested that a major problem with their development was the tension between providing a policy document that could be used by teachers to legitimise the inclusion of environmental education in the curriculum, and providing practical guidance for environmental education programmes.⁶⁶ The authors noted that it was easier to achieve a cross-curricula approach at a primary school level than at a secondary school level, where knowledge has been disciplined into many different subjects.⁶⁷

Towards education for sustainability?

The New Zealand Curriculum was recently reviewed. In 2002, a report was presented to the Minister of Education that analysed experiences with the 1993 reforms.⁶⁸ It recommended changes to the New Zealand curriculum in a number of ways. Recommendations with particular relevance to education for sustainability were that:

- The essential learning areas should be revised to ensure that they better reflected future-focused curriculum themes. These include education for a sustainable future (including sustainable development and environmental sustainability), social cohesion (including developing resilience and a sense of social connectedness), citizenship (local, national, and global), bicultural and multicultural awareness, enterprise and innovation, and critical literacy (including digital literacy).
- The essential skills should be reduced to six skills and attitudes: creative and innovative thinking, participation and contribution to communities, relating to others, reflecting on learning, developing self-knowledge and making meaning from information.

- Professional development and materials should be developed for teachers on the most effective strategies for integrating and linking curricula.

Many of these recommendations would go a long way towards supporting education for sustainability. However a key issue remains. As chapter 3 highlighted, education for sustainability requires learning across boundaries. It does not easily fit into a single subject or disciplinary domain. Furthermore, all of the future-focused themes identified above directly relate to achieving a sustainable future (see some key principles of education for sustainability in section 3.4). Education for a sustainable future, or education for sustainability, could therefore be considered as an umbrella term across the entire curriculum. Environmental education for sustainability could then be positioned as a key theme within this, as long as it is covered in a cross-curricula way.



Overview of education in schools

Environmental education has had a slow and rocky start within New Zealand schools. A key issue is its non-mandatory status, which has several implications. First, the curriculum is already perceived by many people to be 'overcrowded'.⁶⁹ When the Guidelines were released they were therefore 'shelved' by many teachers as something that they did not have time for.⁷⁰ While environmental education remains non-mandatory it will tend to be taken up only by dedicated enthusiasts. This has also been the experience overseas, where there has often been an uneven and "sporadic" quality to environmental education.⁷¹ Education efforts regularly break down in schools when these dedicated people leave.

Secondly, while environmental education is not mandatory, it is less likely to receive as much support (in terms of funding, professional development or physical resources) as the essential learning areas of the curriculum. All the teachers interviewed for this report raised these concerns. This is also a problem for teacher training institutes, as they have only a limited amount of time to educate teachers and they tend to focus on compulsory core areas. Environmental education may simply be perceived as an 'add-on' (although several colleges of education have taken a more proactive stance than this – see section 4.4). Indeed, the Critical Stocktake found that only six percent of teachers undertaking environmental education had received pre-service environmental education training. A further two percent had received both pre-service and in-service training. Internationally, the OECD has found that teacher training was the "weakest point" in environmental education in all countries

that it surveyed.⁷² In-service training is often seen as too costly, while pre-service training is almost non-existent.

To date, the vast majority of environmental education in New Zealand has focused on education ‘in’ and ‘about’ the environment. There has been a serious gap in education to achieve the transformative qualities that are vital to education for sustainability (see chapter 3).

Despite these problems with the implementation of environmental education to date, there have been some promising developments. EnviroSchools is a New Zealand-born initiative that has a lot of potential (it has entered only 50 schools out of more than 2,500 in this country). Sustainable Futures courses are also beginning to emerge in some secondary schools, although these have usually been driven by dedicated individuals, often without much support. The recent review of the national curriculum also provides a platform to give more priority to education for sustainability, including its environmental dimensions, in New Zealand.

It is important to consider links between primary and secondary school education and the tertiary education system as well. Secondary school teachers who wish to implement Sustainable Futures courses can often be constrained by university requirements for students to have credits in “approved” subjects, which are often slow to adapt to new courses.⁷³ Furthermore, as the OECD highlights, subjects in primary and secondary schools are often:

... legitimised by the disciplinary structures of higher education to a considerable degree. So environmental education as a subject does not have the legitimacy that traditional subjects like physics, chemistry, and biology have ... [The] role of the university in defining what knowledge consists of in modern societies is so central that environmental education is seriously impaired until universities regard [it] as a serious topic.⁷⁴

4.4 Tertiary education

The tertiary education sector, where post-school education and training takes place, includes universities, polytechnics, colleges of education and wananga. People in highly influential positions in society often have tertiary qualifications. For example, they design the systems for delivering water and energy to most of the buildings where people live, work and play. They develop ways to move people and goods around cities and throughout New Zealand or beyond. They educate children in schools, contribute to knowledge through research, and develop technologies and techniques for social and economic development. Many people with tertiary degrees also provide policy advice to government and shape strategic thinking and daily life in the corporate business world.

Education for sustainability in tertiary institutes today

Internationally, sustainability is becoming an integral part of programmes in forward-looking tertiary education institutes. Many institutes are linking learning and innovation to sustainability.⁷⁵ Many leading universities are reshaping their strategic plans to encourage education for sustainability.⁷⁶ This is not a minor phenomenon or a trivial trend. Over 1,000 university presidents and vice-chancellors have signed declarations that commit their institutions to change towards sustainability.⁷⁷

In contrast to the international scene, including near neighbours such as Australia, there has been very little research on education for sustainability in New Zealand's tertiary education sector. This may actually reflect the lack of attention given to sustainability issues in tertiary institutes. The consensus among the people we spoke with (including many tertiary educators) was that sustainability issues are gaining momentum, but they are still on the fringes of most tertiary organisations and their departments. As two New Zealand academics suggest from their experience:

One could hardly claim that the much-debated concept of sustainable development has made it into the mainstream academic discourse in business schools. Where space has been made for sustainable development in the curriculum, it would appear to be mostly at the margins, with core curricula remaining largely untouched by its ethos or substance.⁷⁸

Another report supports the view that sustainability issues are seeping into teaching and research, but only in an ad hoc way.⁷⁹ Enthusiastic individuals are usually left to push for changes in their departments, or to include sustainability issues in their own courses.

Looking at universities in particular, knowledge has traditionally been disciplined into many different fields or 'languages' (such as chemical engineering, chemistry, commerce, history, anthropology, physics, zoology etc). This has enabled people to develop in-depth knowledge in separate areas of expertise. The downside of this approach is that it is often very difficult to bring together valuable insights and understandings from different strands of thought. Many people do not recognise the limits of any academic language for understanding everything about the world. Students also find it difficult to develop knowledge of issues from a variety of different perspectives.⁸⁰ As the OECD notes, although universities have successfully separated knowledge into various branches of learning, they have been "very slow to address social problems, especially those that do not fit disciplinary structures"⁸¹. As section 3.4 highlighted, a key principle of education for sustainability is that it requires learning across boundaries. Many academics overseas have also highlighted how sustainability cannot simply be integrated into existing curricula. It requires a

transformative agenda that would require changes in education practices, addressing the way knowledge is sliced up into disciplines, as well as making structural changes in institutions.⁸²

A new breed of interdisciplinary environmental degrees, which address some of these issues, has recently emerged in New Zealand. 15 years ago there were only a few degrees focused on the environment. All eight universities and many polytechnics now offer various planning, environmental science, environmental management, resource management and resource studies programmes.⁸³ Although this has been a significant development, these degrees are mostly targeted at people pursuing professional careers in environmental management and planning. There is less potential for other students to gain an understanding of environmental or sustainability issues. Responsibility is usually placed on students to seek out environmental courses that can be found in many isolated pockets of institutions. For example, a recent audit of courses at one New Zealand university revealed that there are over 160 different courses with some environmental orientation.⁸⁴ These courses span most departments – from History to Surveying, Philosophy to Maori Studies, Design to Physical Education, and from Geography to all the sciences. Many of these courses are being taught by staff who have never met (at least until recently) or known about other courses on offer with environmental content. An advisory group has been established to develop an oversight of Environmental Studies within the university. This is a promising development, although this group is yet to focus on the broader concept of sustainability.

It is still common for a future architect, economist, engineer, business leader, or policy analyst (to name just a few) to graduate from any New Zealand university without developing any knowledge of, or concern for, environmental or sustainability issues. Many teachers are also being trained without developing any understanding of environmental education or education for sustainability. Because environmental education has never been compulsory in the curriculum, it has often been perceived as an 'add-on' (see section 4.3). This has major repercussions for young people in schools, as teachers can hardly be expected to educate people for sustainability if environmental education has never been part of their own professional development. Some colleges of education, particularly in Christchurch and at Massey and Waikato universities, have developed environmental education courses and supported in-service training for many teachers. Nonetheless, these courses are optional and normally draw on students who are already environmentally aware.

The government's framework for tertiary education

The major focus of this section has been on universities, as there is no research to draw on to examine education for sustainability elsewhere in the tertiary

sector. However, as highlighted above, sustainability still seems to be on the fringes of this sector. Because the government provides the bulk of funding to this sector, it is also important to consider how the current framework for tertiary education covers the environmental dimensions of sustainability.

In 1995, the government stated that:

... education providers in the tertiary sector should offer study programmes and research opportunities that will improve understanding of sustainable management of the environment.⁸⁵

Attention was drawn to the need for business people in particular to gain a good understanding of environmental issues through their education. In 2002, government reformed the tertiary education sector. Their intention was to make it contribute more explicitly to national development goals. Do these reforms encourage education providers to offer study programmes and research opportunities with a focus on environmental sustainability? A background paper for this report examines this issue.⁸⁶ Some key points are highlighted below.

The Tertiary Education Strategy

The government released this strategy in 2002 to set the overall direction and priorities for the tertiary education system. It guides all government agencies and organisations within the tertiary education system. The strategy includes six national development objectives taken from the Growth and Innovation Strategy. Tertiary education providers and government agencies are expected to work towards these. Environmental sustainability is clearly identified as a national objective. The strategy identifies a need for research and skills to:

- contribute to international understanding of climate change and reduce local impacts of these changes
- sustain New Zealand's biodiversity
- manage biosecurity risks
- manage changing patterns of (intensive and extensive) use of the land and sea
- help all New Zealanders develop an awareness of the environment and the impacts economic and social activities have on it.⁸⁷

The strategy begins with a good focus on environmental sustainability, yet this focus starts to fade as it continues. For example, there are six specific strate-



gies within the strategy. Only one of these refers to environmental goals (very briefly). The major focus is on economic transformation and innovation, as well as Maori development. The strategy also includes 35 objectives for action. None of these objectives make any explicit reference to environmental sustainability or the research and skills that were previously identified as important in this area, even though other national goals are covered in much more detail. One objective in the strategy is for all people to develop high-level generic skills. These skills are mostly targeted to be relevant for businesses. "Cultural and environmental" awareness is included, although it is categorised as a desirable "interpersonal skill".

The strategy also includes tools to measure progress. None of these are related to environmental sustainability. It highlights a need for tertiary research to focus on meeting social and economic objectives, but no links are made to the environment.⁸⁸ Although environmental sustainability is highlighted as a national objective early on in the strategy, it is largely absent from the rest of the document.

Statement of Tertiary Education Priorities (STEP)

The government is required to issue a STEP at least once every three years. These are based on the Tertiary Education Strategy. They establish short-term priorities for tertiary organisations and government agencies. The first full STEP was released in August 2003 and will be in place until the end of 2004.

The key priority for this period is to develop capacity within the tertiary education system. It emphasises the importance of establishing the new reforms and to "change behaviours and attitudes to reflect the new ways of thinking and working".⁸⁹ It sets priorities for tertiary education organisations and government agencies for each of the 'specific strategies' listed in the Tertiary Education Strategy.⁹⁰ None of these priorities are related to environmental sustainability.

Charters and profiles

All tertiary institutes need to have an approved charter and profile in place to get government funding. Charters set the direction for each organisation and identify their role in the tertiary education system. Profiles identify how an organisation will give effect to their charter over a shorter time period. These documents are assessed by the Tertiary Education Commission and must meet the directions of the Tertiary Education Strategy.

The Tertiary Education Commission has provided guidance for organisations on their charters. Although environmental sustainability is identified as a national goal in the Tertiary Education Strategy, it does not have a visible presence in these guidelines. Organisations need to illustrate their contribution to New

Zealand's identity and economic, social and cultural development but no reference is made to the environment.

The Commission has also developed 22 criteria for assessing charters and profiles. Only one of these criteria has some relevance to environmental sustainability. This is that all tertiary education providers need to show how they "will contribute to the Tertiary Education Strategy and other of the government's national strategies." Presumably a provider needs to show how it contributes to *all* of the national objectives in the strategy (including environmental sustainability), and other strategies related to sustainability, although this is not explicitly stated.

Overview of the tertiary sector

The tertiary education sector is a vital part of New Zealand society. If tertiary graduates do not have a core understanding of sustainability then the pathway to a sustainable future will remain a side road for far longer than necessary. Despite this, education for sustainability is still out on the fringes of most tertiary institutes.

The government has labelled the tertiary education system a key "strategic asset" and has argued that it is vital to build a "strong alignment between the Government's broader vision for the nation's economic and social development"⁹¹ and this sector. The 2002 reforms established a framework for government to have a much greater influence on the structure and shape of activities in the tertiary sector than they previously had. Environmental sustainability is clearly identified as a key national goal in the Tertiary Education Strategy, but it is not a priority (especially compared with the attention given to other national objectives). It is very difficult to see how the current arrangement can contribute to the desire to "help all New Zealanders develop an awareness of the environment and the impacts economic and social activities have on it".⁹²

The government is also trying to develop values and a culture in New Zealand for building a 'knowledge society'. The Tertiary Education Strategy comments that:

... the development of a prosperous and confident knowledge society... [will] require a culture of continuous inquiry, innovation and improvement – and of risk-taking and entrepreneurship.⁹³

It argues that "All New Zealanders will need to view themselves as part of an economy and society"⁹⁴, but no mention is made of New Zealanders viewing themselves as part of the wider environment that they essentially depend on. Key messages are also provided to tertiary education providers and government agencies to foster a culture of optimism and creativity and to work more closely

Real Stories

I grew up near the ocean and I was always an oceans person, but it wasn't until 1998 that I fell in love with conservation. That year I was involved with the Kamo High School marine reserve proposal. Students started the proposal in 1990 with the support and guidance of our teacher, Warren Farrelly. New 7th formers would come along each year and pick up where the last year left off. After twelve years of investigation, consultation and preparation, a formal application was made to the Director General of Conservation for three areas in the Whangarei Harbour to be declared marine reserves. I was so touched by the project that I went back to help other students with the formal application. It was a truly unique learning experience and an incredible task. Being out in the environment made me realise it was all worthwhile. I think I speak for all past students when I say it felt great to do something that actually *meant* something.

It was this project that got me inspired and helped me find my niche. After school I travelled overseas and came back more confident than ever and determined about where I wanted to be (Northland, New Zealand). I did a Diploma in Environmental Management at Northland Polytechnic, where I was offered another opportunity by a contact I had made. I was given a chance to design a marine education project supported by DoC. I thought back to a time when I went snorkelling at Leigh marine reserve with the local primary school. I was buddied up with two young kids. The look on their faces when they saw a huge snapper swimming by inspired me to capture that experience in an education programme. I also wanted to compare local unprotected environments to the protected marine environments. The 'Experiencing Marine Reserves' programme came to life (with the advice and supervision of an experienced educator). It is now a successful model for marine environmental education for year 7 and 8 students. The students' experiences on the programme often result in an enhanced perception of the environment and may result in action for the environment. The programme focuses on learning through experience and has also proved a successful way of learning for adults too!

As well as working full time on developing this programme, I am studying part time for a Bachelors degree. One of my visions is to have people my age (23) involved in local marine issues, as many young people are very active and often get very involved in environmental issues. My aim is to capture all ages through groovy marine resources and 'Celebrate the Sea' type events. For example in March 2003 my Trust (Nga Maunga ki te Moana Conservation Trust) and I organised a special event. With the blessing of the local Iwi we invited people to attend a celebration of the sea at the Poor Knights marine reserve. 'Big Day Out' musicians Pitch Black played in the sea cave in the name of marine conservation. This event generated a lot of publicity locally and on student radio in Auckland.

At the end of the day it's great to be involved in something that makes you feel great. So long as it keeps paying the bills, the road is set!

Samara Sutherland

with businesses. The Growth and Innovation Strategy (which is closely linked to the Tertiary Education Strategy) takes a similar approach. It emphasises a need to encourage “enterprising values and attitudes” with “pride in business”⁹⁵, and to develop an “effective innovation culture”⁹⁶ based on continuous improvement.⁹⁷ The government seems to want to build a culture aligned around economic growth (see also section 6.4). They have not identified any similar intentions to develop a culture based around sustainability and the capacity to ensure a good quality of life for New Zealanders into a distant future.

4.5 Community and NGOs

The focus of this chapter so far has been on government. However it is also important to examine the influence of other sectors of society. This section, and the following one on businesses, takes a very brief look at other organisations involved in education for sustainability in New Zealand.

Sustainable development must be implemented where people are able to learn, feel, and be empowered to act – at the local level.⁹⁸

There are many opportunities for New Zealanders to learn about and be involved in environmental and sustainability issues in their communities (see also section 4.2). Non-governmental organisations (NGOs) and community groups have been very active in involving people in environmental issues. The examples in this section are by no means exhaustive. They merely illustrate the range of work being undertaken. It would be impossible to identify everything that is happening, as many people are ‘beaver away’ in the background and working without any formal recognition of the good work that they are doing.

Environmental NGOs and community groups are often directly involved in education. Many of the traditional environmental NGOs, such as Greenpeace, the Royal Forest and Bird Protection Society, and the Worldwide Fund for Nature (WWF), have a strong nature conservation focus. Their education initiatives usually echo this, although they regularly focus on more general issues as well, such as recycling, energy efficiency and using public transport. They often highlight practical actions that individuals can take to reduce their environmental impact, although a major emphasis is also placed on awareness raising.

The environmental NGOs have also played an active part in mobilising public support for environmental issues on many occasions (see section 2.2). They often encourage people to lobby government and businesses on specific issues. All of these organisations target both adults and children, although WWF has a very strong school education focus.

During research for this report, many people highlighted the need to tackle environmental and sustainability issues through small, achievable steps.⁹⁹ While there is definitely a need for this sort of individual action/sector-based education, there is also a need for learning that looks at the bigger picture. Some environmental NGOs are encouraging people to think about deeper, underlying issues such as the flow-on effects of free trade on the environment and society.¹⁰⁰

New Zealand has one NGO with a specific focus on environmental education. The New Zealand Association of Environmental Education (NZAAEE)¹⁰¹ was founded in 1982. Many of its members are practising educators from government agencies and schools. The association itself is more involved behind the scenes – for example, networking and coordinating the Enviroschools project and supporting professional development. To date, it has not taken on a more active role in lobbying.

Many people have also been working at a grassroots level to work with their local community on sustainability issues and to foster more individual involvement. For example, the Landcare Trust has many groups working in communities on sustainable land management and biodiversity issues.¹⁰² Staff from the Trust help coordinate landcare groups around the country and assist them to develop agendas and action plans and to source funding.

Around New Zealand, 'Environment Centres' have also been established by many local communities to promote issues such as community action, ecological restoration and environmental education. They provide an important 'home' for many people concerned about environmental issues, and distribute many materials related to environmental education.

Although the environmental NGOs have often been very effective at bringing issues onto the public agenda for debate, there is also a danger that they can sometimes perpetuate negative perceptions of environmental issues among some sectors of the community. This is often problematic in the media, which thrives on controversy and is very good at playing on stereotypes (see section 5.3). Sometimes there is also a problem with environmental NGOs 'preaching to the converted', whereas it is vital to engage with people across society to get traction on sustainability issues. As chapter 3 highlighted, there is a vital need for environmental educators to work with many different interests in society if they wish to further their concerns. For example, closer connections could be made with other organisations in New Zealand involved in sustainability issues such as peace education, human rights education, citizenship education and development education¹⁰³ (which are just as vital to education for sustainability as environmental issues). Environmental NGOs often work with businesses as well, although this often creates tensions for their ability to maintain an



independent voice.

In summary, much learning is taking place on environmental issues in communities around New Zealand. A huge amount of work is done on a voluntary basis, and it is a testament to the hard work of many passionate individuals and groups of people that there are so many groups and initiatives around. While many of the environmental NGOs tend to be more focused on conservation issues, these groups do provide an avenue for personal action. Community and NGO education can be particularly effective as it is often very practical, and people can learn a lot from their peers.

Many people have also established organisations to encourage education for sustainability in businesses. For example, The Natural Step Trust is part of a global network of trained facilitators. It uses a sustainability framework to guide organisations of all sizes to improve their operations. The Zero Waste Trust supports the activities of organisations to minimise and eliminate waste, and the BusinessCare Trust aims to increase the number of people who have cleaner production skills throughout the country.¹⁰⁴ A variety of smaller organisations also operate around the country.

4.6 Businesses

Businesses are often singled out in discussions about sustainability. Many people argue that commercial interests are a root cause of environmental and social problems. Others suggest that business holds the key to tackling issues around sustainable development.¹⁰⁵ Regardless of the views that people take, many businesses do contribute to major impacts on the physical and social environments in which they are based. They are also extremely influential in shaping production and consumption patterns as they provide people with goods and services (see section 5.4 and chapter 6).

New Zealand businesses, like others around the globe, have become increasingly involved in sustainable development concerns over the last two decades. There has been considerable debate about the role of businesses in society and the impact of their activities on the environment. Government and community organisations often try to develop an understanding of sustainability issues among businesses, although they do not always deliver their messages in coordinated ways (see section 4.1).¹⁰⁶ Many businesses have also taken a more proactive stance on sustainability issues than central government. Business people have established a variety of networks and organisations in New Zealand to promote learning and understanding of sustainability issues. For example:

- In the mid-1990s environmental business networks started to appear

around the country. They provided a forum for many small to medium sized enterprises to learn about environmental issues and to improve their performance.

- In 1999, the New Zealand Business Council for Sustainable Development (NZBCSD) was established. The aim of founding members (including many large corporations) was to develop knowledge, engage in dialogue, achieve action on sustainable development, and to have an influence in society.¹⁰⁷
- In 2002, a Sustainable Business Network was established to promote understanding and action on sustainability issues among small to medium sized businesses.¹⁰⁸

Business people have been motivated to form these sorts of organisations, and to address sustainable development concerns in general for many different reasons. Some people have been driven by personal values and concerns about the impact of business activities on people and the world around them. Others have been influenced by the ‘business case’ for sustainable development. This emphasises the need to look for opportunities (such as saving costs by using resources more efficiently) and challenges (such as damage to a valuable brand from being exposed with a poor environmental record). It also highlights the potential for ‘win-win’ solutions that increase business profits with less environmental damage.

There are often divisions within the business community, both in New Zealand and overseas, about the best approach to use to promote sustainability. Some people stress the importance of engaging with people’s personal values. They focus on ethical issues associated with sustainable development and highlight how values that are embodied in organisations need to change.¹⁰⁹ Other people believe that the primary focus should not be on values, but on ‘value creation’ (maximising profits). They suggest that the profit motive provides the most effective tool to shift business practices.¹¹⁰

Despite differences between these two approaches they often share some common ground. Advocates of a values-based approach frequently highlight how businesses can increase their financial value by being responsive to social concerns (captured in the phrase “do well by doing good”). Those who focus on ‘value creation’ also recognise that “it is not always profitable or appropriate for a particular company to do the ‘right thing’ with regard to sustainability”.¹¹¹ Both approaches often seek the same ends – working towards environmental, social and economic objectives while sustaining businesses that cannot survive without a profit. Nonetheless, there is a major point of difference. People with a strong focus on personal values often accept the need for businesses to be responsive to society’s concerns. People who place the primary focus on maximising profits tend to deflect responsibility for making changes to others in

society, such as government and community organisations.

New Zealand's business community is extremely diverse. Taking a single approach on sustainability issues is therefore unlikely to be very effective. Although the loudest voices usually come from large corporations, most businesses in this country are small. More than 95 percent of businesses employ less than 20 people, and most employ fewer than five.¹¹² People working in both small and large organisations will be motivated to learn and act on sustainability issues for many different reasons. Some people may make close connections between their personal values and the impacts that their organisation is having on the world around them. Others will be more easily swayed by opportunities to increase or protect their profits. Yet it is also important to recognise that businesses can be designed in many different ways. Some businesses are designed to seek rapid short-term growth and to maximise their profits. Others are less focused on growth, especially when the people who run them are driven not only by financial rewards.

Many New Zealanders today do not trust businesses, especially large ones, to act in society's best interests. This often harms businesses that rely on the goodwill of the communities they operate within. It also contributes to many tensions and dilemmas. Businesses provide a livelihood for many people and supply them with goods and services that can contribute to their quality of life. Because businesses are a major component of most twenty-first century societies, including New Zealand, it is vital to work with business people on sustainability issues. However, it is also vital to keep challenging businesses and some of their underlying assumptions. For example, some business people have claimed that the only realistic answer to sustainability problems is to develop new technologies.¹¹³ Others have claimed that sustainability is best promoted by maximising economic growth.¹¹⁴

Often business people aim to influence the structure and the content of the formal education system as well. Employers regularly call for better connections to be made between the skills they seek in employees and the skills developed in people through their education. This can be useful in ensuring that education and training programmes meet evolving business needs. However, it is also important to ensure that business leaders' views on knowledge needs do not dominate education.

Concerns have also been raised about the growing influence of corporate marketing in schools.¹¹⁵ New Zealand businesses have generally taken a low-key approach to this issue until recently. However, there are signals that many marketers now see schools as a fertile ground for corporate communications and sponsorship.¹¹⁶ Beyond the formal education system, businesses also help to shape consumer desires and behaviour throughout society (see section 5.4).

A major effort is therefore required to ensure that business practices can contribute to sustainability, while keeping an eye on what business people are actually trying to sustain.

4.7 Summary and key points

This chapter has looked at the environmental dimensions of education for sustainability in New Zealand today, which have mostly come under the banner of environmental education. Here is a snapshot of the current situation:

- Environmental education is currently not a priority for central government in the formal education system. Many government strategies related to sustainability highlight a need for education to be used to achieve their outcomes. However, the focus of these strategies is often on awareness raising, and they are seldom well coordinated (if at all). The government's strategy for environmental education also appears to be outdated. Central government's focus over the last five years has mostly been on building up capacities in local government and taking some steps to encourage environmental education in schools.
- Local government has become much more involved in environmental education over the last decade. Many initiatives have been expanded to a national level after local government led the way. However, environmental education is still not a core part of most council activities. Funding and support for education within councils is often precarious. The Local Government Act 2002 provides a useful opportunity to launch a new era of education for sustainability in local government.
- Environmental education has had a slow and rocky start within New Zealand primary and secondary schools. It is still not conducted in the majority of schools. A key issue is its non-mandatory status. Guidelines for environmental education have assisted many teachers, but there is a very low awareness that they even exist. Most existing environmental education is focused on education 'in' and 'about' the environment. The transformative qualities of environmental education have often been lacking. A recent curriculum review provides an opportunity to give education for sustainability, including its environmental dimensions, a much more prominent place in the education of young people in New Zealand today.
- Sustainability is still out on the fringes of most tertiary organisations and their departments. Although there are many courses that have an environmental component, connections are seldom made across disciplines of knowledge to integrate thinking on sustainability. The government has recently reformed the tertiary education sector. Although environmental sustainability was identified as a key national goal, it is not seen as a

priority. The government appears to be more focused on building a 'knowledge society' with a culture based around values such as risk-taking and pride in business.

- There are many opportunities for New Zealanders to learn and be involved in environmental and sustainability issues in their community. Environmental NGOs and community organisations have been actively involved in raising awareness and highlighting individual actions that people can take to reduce their environmental impacts.
- Many businesses, both large and small, have shown a growing interest in sustainability issues over the last decade. Various networks and organisations have been formed to promote sustainable business practices. However, concerns have also been raised about the influence of some corporations in schools and their role in shaping consumption and production patterns.

Drawing all of this together, how effective has environmental education been to date? It is impossible to generalise across New Zealand. Nonetheless, as section 4.3 highlighted, it seems that most environmental education has focused on 'green' topics such as recycling, tree planting and 'nature conservation'. Connections have seldom been made between environmental issues and social, cultural and economic concerns. The underlying causes of environmental problems are rarely being addressed, as the primary focus has often been on dealing with the 'symptoms' of these problems (such as recycling waste – see chapter 6). A lot of the focus has been on changing individual behaviours, instead of changing the systems that perpetuate unsustainable practices. As chapter 3 highlighted, key principles of education for sustainability include critical thinking and social transformation. These elements have often been lacking from environmental education in New Zealand. This is probably because this kind of education is much more difficult to undertake. It requires strength, stamina and courage to openly seek to challenge the status quo of the society one is a part of.

This overview is not a criticism of environmental education efforts to date, as they have been very helpful. It is important to commend the efforts of many individuals and organisations who have contributed to many changes – often with little support, but with much dedication. Their efforts have contributed to an ethic of caring for people and the environment that surrounds them, which is vital for a sustainable future. Nonetheless, the time has come to build on this foundation. Education for sustainability needs to build on the successes and commitment of existing environmental education efforts and to delve into the underlying reasons why New Zealand is developing in such an unsustainable way.

CHAPTER

5

Further shapers in society



The previous chapter examined the environmental dimensions of education for sustainability in New Zealand today. It is also important to look at some less formal influences on learning in society. People learn throughout their lives, so the process of learning “is not a single still photograph; it is an epic motion picture with a ‘cast of thousands’ spanning numerous scenes and settings”.¹ This chapter provides ‘snapshots’ of some major shapers in society that affect the ways people think, feel and act in the world around them. It also considers how these influences can help or hinder efforts to promote sustainability.

5.1 Families and peers

Families and whanau play an important part in nurturing and protecting people and providing them with emotional and material support. They also shape children and young people as they develop:

...for the vast majority of children the family is the first and most important context for physical and psychological growth ... The family is thus the basic unit within which the child is introduced to social living.²

Family figures, especially parents and caregivers, are important educators. They often aim to develop desirable values in children. They also help to establish acceptable norms of behaviour for young people to fit into the society and the environment they live in.³ This is often a deliberate process. For example, parents with strong values, such as respect for the environment and a concern for social justice, often aim to cultivate these values in their own children. However, parents and caregivers also pass on (transmit) many values and cultural norms without really realising it. Family figures are usually important role models for young people. If they behave in ways that threaten sustainability, such as wasting a lot of resources, their children may learn to adopt these practices for themselves.

If people know how to live in ways that promote sustainability, or if this is an intrinsic part of their culture, it is likely that they will pass on this knowledge to the young people that they care for. However, most New Zealanders have developed less and less sustainable lifestyles over the last century.⁴ It is therefore likely that many family figures are unintentionally passing on unsustainable ways of living from one generation to the next. People who are aware of these issues also face a dilemma: how should they equip their youngsters to fit into a society that is fundamentally unsustainable?

Learning within families is not simply a one-way



process from adults to children. Young people educate other family members and influence their actions as well. For example, there was a lot of anecdotal evidence in this investigation about the flow-on effects of environmental education in schools. Although there is a lack of research in this area, it is very likely that students who are exposed to education for sustainability will share the knowledge that they gain with families and other people in their community. Overseas research has also shown how children can be very effective at influencing their parents or caregivers in their role as consumers. Young people develop sophisticated techniques including:

- (1) bargaining strategies, including reasoning and offers to pay for part of a purchase;**
- (2) persuasion strategies, including expressions of opinions, persistent requesting, and begging;**
- (3) request strategies, including straightforward requests and expressions of needs and wants; and**
- (4) emotional strategies, including anger, pouting, guilt trips and sweet talk.⁵**

Children learn to adapt and use different strategies that work well in different contexts. Although parents and caregivers are often aware of children using these sorts of techniques, it usually takes a lot of willpower to resist the persuasive and emotional manoeuvring of a cute and precious loved one. This is one of the reasons why many marketers target young people to sell brands and products (see section 5.4).

As a young person develops, their contact with people beyond their family increases. They establish relationships with peers, including friends, classmates, workmates, and members of clubs and associations. As more and more peers (in wider and wider circles) become part of a person's life, the influence of families as a source of day-to-day direction often diminishes.⁶ This is especially so in adolescence, which is a critical stage for young people as they become more self-reflective and form their own identities. Peer groups often act as a reference point for defining values and acceptable norms of behaviour.⁷ Some peers also act as influential role models for people as they form views on what a good and successful life requires.

Peers continue to influence people throughout their lives. There are strong pressures to conform to others' expectations and, in a New Zealand context, not to be a 'tall poppy' standing out from the crowd. It often takes a lot of courage to break out of the world that most people take for granted and to challenge the status quo. Most environmental and sustainability issues are currently out on the fringes of New Zealand society. People who speak out about these issues are therefore dismissed as 'greenies' or 'luddites' on a regular basis – even though sustainability is not just an environmental issue.

Nonetheless, for many people today it is also fashionable to be 'green' (albeit only up to a point). Although peer pressure is likely to hold back many changes that would support sustainability, peers can also be very influential in transforming others' behaviours. To give another example, smoking is generally considered a social taboo in much of New Zealand society today, and there are now enormous pressures not to smoke. Only a few decades ago it was a perfectly acceptable, and indeed fashionable, habit.

The actual influence of families and peers on people obviously differs between individuals. The impact of family figures usually depends on how much time and energy they put into the development of young people as they grow up. Peer pressure is also moderated by the degree of tolerance in a society. Some societies are more welcoming of different perspectives than others. As chapter 3 suggested, it is this sort of tolerance and sharing of knowledge that education for sustainability seeks to achieve.

5.2 Religions

Religions can be defined as systems of belief, faith, ritual and spiritual aspiration that are based "on an understanding of human beings as *other* or *more than simply* their purely social or physical identities".⁸ They delve into the human spirit, promote some values over others, and establish moral frameworks that foster social norms. Religions have helped shape the contours of cultures for centuries. They also provide many people with a strong sense of meaning and can shape their sense of self. They:

... help situate human beings in both the natural and the social worlds. The latter function is served by their moral teachings, the former by a combination of creation myths, narrative accounts of the origin of particular phenomena (for example, death), and norms governing our relation with our natural surroundings.⁹

Christianity, in many different forms, is the major religion in New Zealand. Slightly more than half of all New Zealanders identify themselves as Christian, although many people are not actively involved with the Church. Almost four out of ten people do not have any religious affiliation, and this proportion is growing.¹⁰ Younger people are also much less likely than older people to identify with a religion. This contrasts with a century ago when only one in 30 people did not have a religious affiliation and over 90 percent of people were Christians.¹¹ While Christianity has been on the decline in New Zealand, increasing ethnic diversity in the population has been accompanied by a rise in religions such as Hinduism, Buddhism and Islam.¹²

Different religions portray the relationship between humans and their environment in vastly different ways. This can influence how people learn to connect,

or distance, their sense of self from their environment. As noted above, these relationships are often grounded in narratives that make meaning from the chaos of the world. The creation story in the Bible, for example, suggests that God created humans in his own image and then said to them:

Be fruitful and multiply; and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the Earth.¹³



Many people have critiqued this view of creation, and many other parts of the Bible, from an environmental perspective.¹⁴ A literal reading suggests that humans are somehow separate from, and should be dominant over, the rest of the natural world. This view was particularly strong in Western Europe during the sixteenth to eighteenth centuries when most people assumed that God had created the world and every creature in it purely to serve some human purpose.¹⁵ Other religions do not tend to take such a human-centred perspective on life.¹⁶ Research in the 1980s suggested that the more 'Christian' (or Biblically oriented) people were, the less likely that they would be concerned about the environment.¹⁷ Yet many theologians and influential leaders in Christianity have interpreted other passages in the Bible – especially over the last three decades, as environmental concerns have increased – to suggest that Christians do have a responsibility to take good care of the Earth.¹⁸ Many of these people have connected environmental issues with Christian concerns for social justice, like the need to share limited resources.¹⁹ A lot of people now take a less literal reading of the Bible as well. They stress that it was not actually written by God, but by human followers with limited knowledge who were writing in a specific place and time.

A Christian view of creation contrasts remarkably with the explanation for the origins of the universe contained in a traditional Maori worldview.²⁰ This is based on the narrative of Ranginui ('Sky father') and Papatuanuku ('Earth mother') and their offspring who act as guardians for various phenomena in the world (such as Tane, god of the forests, and Tangaroa, god of the seas). Everything in the universe has its own whakapapa (genealogy) that goes back to Ranginui and Papatuanuku. Many Maori continue to embrace this view, which creates an unbreakable link between humans and the rest of the animate and inanimate world.²¹

To my mind, the Maori explanation of creation and evolution teaches me all I need to know to understand my role in life and attitude towards nature. My heritage teaches me about concepts such as the integrity and interdependency of living things. It makes me quite comfortable with the notion that as a human being I am but one part of a whole and that my generation is also simply one strand in the rope of humanity. It pre-determines that the relationship I have with nature is based on kinship and respect and that in order for me to survive in a culturally rich way, I depend on the survival of others, not just other humans, but also plants and animals in the sea as well as on the land. It clarifies that both male and female elements are necessary to create and sustain life, be it human, plant or animal.²²

— Aroha Mead

The rise in cultural and religious diversity in New Zealand may encourage people to question the purpose of different religions and the insights they may have to offer. Although religions and belief systems are grounded in tradition, they are constantly being re-interpreted by people as they develop new understandings and try to make sense of their lives in an ever-changing world. Nevertheless, New Zealand society has become increasingly secular. Religions play a less significant role for most young people today than they did for previous generations. Yet the past continues to influence the present. Even in an increasingly secular era, people still derive many of their ideas of right and wrong, either directly or indirectly, from one religion or another. The dominant culture in New Zealand has been shaped by Christian values and beliefs that arrived with missionaries and colonists from Europe. It is usually possible to make some strong links between the values of different religions and the importance of sustainability, but many people do not have a sense of self that is strongly linked to their environment.

5.3 The media

I find television very educational. The minute somebody turns it on, I go to the library and read a good book.²³
– Groucho Marx

The media consists of technologies for communicating information and ideas. Modern forms of mass media include print media (such as newspapers and magazines) and broadcast media (such as radio and television). The media are often labelled the ‘fourth estate’ – referring to their desired role as defenders of democracy and the public interest.²⁴ Yet the main function of most media organisations today is to make money. This can usually be accomplished by keeping people entertained. As a local journalist suggests:

My understanding of the media is that it is driven to a great extent by the three C’s – celebrity, confrontation and crime – in service of the big E – entertainment. To a large extent information in the mainstream media is a subset of entertainment or at least must be presented in an entertaining fashion or the news won’t sell. So you will find that alarmist views – on the environment, for instance, or the disintegration of society – will generally get more extensive treatment than sober assessments or more optimistic outlooks. That’s a sort of rule of thumb.²⁵

The mass media have a huge potential to help people learn about sustainability issues. They can communicate ideas to many people over long distances in a short space of time. They also play a role in putting issues on the agenda for public debate. The media have been very influential in raising awareness about



environmental issues. But because the media thrive on controversy and conflict they do not usually provide a good forum for debate about complex issues such as sustainability. News, especially on television, is also broken down into bite-sized chunks for easy consumption. Journalists seldom have the opportunity to explain the underlying causes of problems that are difficult to understand. It is even more difficult to offer potential solutions.

Information is not just transmitted through the media. It is shaped by media agencies and transformed by the technologies they use (see section 5.7). The most pervasive form of media in New Zealand today is television. New Zealanders currently spend an average of 20 hours per week watching their television screens.²⁶ Many people rely on this medium for learning a lot about the world around them. The nightly news is always a top rating programme – although an hour of ‘news’ may contain only ten minutes of actual news coverage after the sport, weather, human interest stories, casual banter between presenters, and ads are taken into account. Even the short snippets of news have become more and more ‘soft’ in New Zealand over the last two decades, with almost no in-depth analysis.²⁷ Stories are now carefully crafted to make the most of visual imagery and short, sharp sound bites (such as voice-overs) provide very little opportunity for learning.

For most broadcasters (those that are commercially oriented) news is just like any other programme. It either rates well or it is replaced. Commercial media agencies make money by selling audiences to advertisers. They can maximise their profits by developing large audiences or by targeting very valuable ones.²⁸ The news is usually packaged to appeal to a wide audience. To remain a top seller it usually drifts towards entertainment. Current affairs programmes and documentaries on television may look at issues in more depth. Yet they are also affected by constant pressures to keep people captivated by relying heavily on moving images and emotive techniques.

Given the choice between an insightful series on sustainability issues in New Zealand (that ten percent of the population may wish to see) and another dose of ‘reality TV’ (that 11 percent will watch) a commercial broadcaster will nearly always opt for the latter. They may even screen a programme that fewer people will watch if the viewers are very valuable to advertisers, such as people with a high disposable income. It could be claimed that this is simply a democratic expression of tastes by viewers. Yet commercial television often squeezes out minority perspectives that get no voice at all. ‘Hard’ news and in-depth analysis also tends to become diluted as it drifts into ‘infotainment’. The problem is not that commercial television presents people with entertaining subject matter. The problem is that *all* subject matter tends to be presented as entertaining.²⁹ In fact, several people during our research suggested that New Zealand had “led the way in dumbing down television during the last two decades”.³⁰ They also commented that sustainability issues are not as available on television in

this country as they are overseas.

Programming in a commercial setting is also shaped by advertising. Businesses do not wish to advertise to audiences that are not interested in purchasing their products or services. Broadcasters therefore adapt their programming to develop profitable audiences for advertisers. They may also decide not to screen some programmes if they are controversial, or if there is a risk that they will upset the most valuable advertisers or sponsors.

The government recognised tensions with commercial broadcasting in New Zealand by implementing the Television New Zealand (TVNZ) Charter in 2003.³¹ This followed restructuring by a previous government in the 1980s (as part of wide-ranging reforms that were driven by neo-liberal ideologies of the day), that had moved TVNZ away from its role as a public broadcaster to become more commercially driven. The charter now encourages TVNZ to inform, entertain and educate New Zealand audiences. It requires them to maintain a balance between programmes of general appeal and programmes of interest to smaller audiences. It also requires TVNZ to stimulate critical thinking and to feature programmes about New Zealand's environment. In theory, this should provide more of an opportunity to get coverage of sustainability issues on television – although doubts remain about how effective the charter will actually be. Radio New Zealand is the other major public broadcaster in this country. It has managed to resist pressures to become more commercially driven and it also has a charter that promotes high standards of broadcasting. Most forms of print media, which are not in public ownership, remain commercially driven.

What implications do these issues have for people learning about sustainability through the media? First, messages need to be adapted to work well in different forms of media. It is important to be 'media savvy' to get issues on to the public agenda and to communicate key messages. The print media may provide a platform for some in-depth discussion, but it is more difficult to develop understanding of sustainability issues through broadcast media (particularly television) that tend to be more influential. The Internet also provides a very useful medium for communicating a mix of simple messages and complex information. Sustainability issues are always complex, so there are always trade-offs in choosing how to communicate them to a wider audience. It is also vital to encourage understanding of how the media actually operate.

To get media attention there are also pressures to adapt messages to make them more entertaining, or to play on the media's appetite for conflict and controversy. People often resort to alarmist tactics to get media coverage. Unfortunately this often damages their credibility in the eyes of the public. Environmental issues often look 'fringe' because the media uses existing stereotypes about environmentalists to sell their stories in an entertaining and

Real Stories

I was born into one of the most beautiful situations you can imagine in today's frantic world. I was brought up on an idyllic coastal property covered in native bush, with a supportive and happy family. We grew a lot of our own vegetables, cooked our own food and brewed our own beer – as you have to do when your parents' combined incomes struggle to break \$20,000 a year. We had no TV as my parents didn't think much of them – something I hated at the time but in retrospect was great, as we went and played outside instead!

I also spent most of my life dressed in hand-me-downs. I always envied my peers with their new clothes, TVs, microwaves, fast food, overseas holidays and all that gumf. However I now realise just how lucky I actually was, and how much happier we were than the average family today. Now I can also see how sustainable that model was. But there has been another life in between to get to this realisation. Let me fill you in.

Life has been a race almost ever since I hit the workforce. After university I headed off to the fast-moving world of London finance. I worked as a broker on the biggest market in the world. As I described it to some of my peers at the time, "The best brokers here are earning marginally less than God". It was a crazy period of material excess, with monopoly money to spend and the untempered pizzazz of youth to fritter it away with. And I'd be lying if I said I didn't love it (at least for a while), living like the rockstars I'd always dreamed of being.

However before long a hollow feeling started to eat at me, as I realised there was something a little pointless with my existence. I left to return to NZ, intending to find a more 'real' existence. I didn't do a very good job at first, launching straight into senior management of a multinational software company riding high on the peak of the IT boom. I worked day and night to keep up with the rigours of this job, and I'm sure I took years off my life with the stress of it all. Once again, life was 'good' appearance wise, but inside the system was starting to break down. Strike two and I was out.

One day the dam burst and I just couldn't do it any more. It wasn't so much that I mind hard work, but when I realised I didn't believe in what I was creating with all that blood, sweat and tears I just couldn't go on. It was time to focus my energy on bettering the world I lived in, not tearing it apart for the love of money and an outdated concept of progress. So about two years ago I jumped ship and started to focus solely on two things – the progress of environmental technology and ideas to better the world. It's been a hard and twisting road, and I wouldn't say that it's been easy. But I swear there's no way I could go back to what I had. And it is worth it. All the other stuff was a fun distraction, but was pretty unfulfilling. At the moment there are many people from alternative sides of life pushing for change, but we need people from all sides – from business, government, the community, and from the old to the young to make a difference. We need people from all walks of life to make lasting changes happen.

Rob Rogers

easily understood form. It is therefore important to avoid and challenge these sorts of stereotypes while gaining media coverage in creative ways.

Because it is difficult to 'sell' solutions, the media is also disempowering for many people. People continuously witness environmental degradation in the world through the media. Yet connections are hardly ever made between those problems and people's everyday lives. This is one of the most fundamental challenges that need to be overcome.

Commercial pressures in the media also need to be addressed. If programmes about environmental and sustainability issues do not pull in a valuable enough audience, broadcasters are unlikely to screen them. Commercial broadcasters are unlikely to encourage learning about sustainability issues unless there is a strong enough 'market' for these issues. They are also unlikely to develop those markets on their own. To maintain a voice on minority issues in the media it is therefore essential for some broadcasters to remain free from purely commercial demands. This does not necessarily mean that media agencies should never be commercially driven. It merely highlights the dangers of allowing *all* media agencies to be based around fully commercial models. It is also important to be aware of how commercial media outlets are swamping the screens and air-waves with advertisements that influence how people think, feel and act.

5.4 Marketing and advertising

Marketing explicitly aims to influence people. It involves planning the conception, pricing, promotion and spread of goods, services and ideas. It is often used by businesses to create awareness of, and desire for, their brands and products. However, marketing techniques are also used by many non-commercial organisations and government agencies to sell their messages to the public. Tools of marketing include market research, advertising and public relations.



Market research is used to understand the needs, wants, desires and values of people. Marketers often claim that they are merely finding out what people want and matching this with what they have to offer. This is because most marketing is based on the assumption that it exists "(1) to discover the needs and wants of prospective customers and (2) to satisfy them".³² In reality, many organisations also begin with what they want to sell and try to develop a market to suit.

A major part of marketing is advertising. Advertisements come in many different forms, "from the tiniest classified newspaper advertisement to a TV spot, from a small leaflet to a massive outdoor sign, from a message on the Internet to a letter delivered to one's door, or a sponsored cultural or sporting event".³³

Advertisers assert that they are providing information to consumers to enable them to make informed decisions. Simple forms of advertising, such as classifieds, may meet this goal. But the most pervasive forms of modern advertising, especially those used on television, aim to influence and persuade people instead of informing them. Advertisers often play on people's emotions to build connections between products, brands and people (see also section 6.5). As Hamilton suggests:

Advertising long ago discarded the practice of selling a product on the merits of its useful features. Modern marketing builds symbolic associations between the product and the psychological states of potential consumers, sometimes targeting known feelings ... and sometimes creating a sense of inadequacy in order to remedy it with the product.³⁴

Advertisements do not *make* people buy things, but they are incredibly influential in shaping human behaviour. Marketers use techniques that they have learned from psychology, sociology, economics and anthropology to shape consumer preferences.³⁵ In doing so, they often help to socialise people as willing and wanting consumers. As an example, think about the marketing of four wheel drive 'sports utility vehicles' (SUVs) in New Zealand. These vehicles were initially used almost exclusively by farmers and commercial operators such as builders. Marketing has been used to successfully sell them as 'urban safari vehicles', playing on symbolic associations that have been fostered and developed in people. It is not their useful features that are marketed. Who wants to buy a vehicle that is generally more dangerous, polluting, difficult to park, and more expensive to run than the average car? It is their image as masculine and adventurous off-roading objects of desire that is marketed, even though they seldom leave the sanctuary of urban streets. The irony is that the beauty of New Zealand's environment is often used to market these vehicles. There are countless shots on television screens and in the print media of SUVs doing damage to dunes, streams and riverbeds.³⁶ Similarly, images of New Zealand's 'clean and green' environment are often used by many businesses to brand and sell their products to the world.

Increasingly, advertisers are targeting children to shape consumption preferences early in life and to take advantage of the growing amount of money that people are spending on children.³⁷ For example, American children between four and 12 years old spend over \$24 billion in direct purchases and influence another \$188 billion in family household purchases.³⁸ An average ten-year old in America has now been socialised to learn 300-400 different brands.³⁹ In Britain, characters from a Japanese card trading game called Pokemon are far more recognisable to the average eight-year-old than animals and plants.⁴⁰ There are therefore growing concerns about the impacts of advertising and marketing on children.

Societies need to consider the powerful impact of advertising on young children, for whom all information has an educational and formative impact. Children constitute an important market for consumer products, but society has a responsibility to educate them, not exploit them.⁴¹

– United Nations Development Programme

To reduce children's exposure to marketing, countries such as Denmark, Greece and Belgium restrict advertising to children. Sweden and Norway totally ban it.⁴² The Swedish government believes that "children have the right to safe zones" and that advertising can compromise their safety and well-being.⁴³ This sentiment is strongly supported by the majority of people in Sweden, as well as by their national association for advertising agencies.

Marketing and advertising to children is permitted in New Zealand, although there are voluntary codes of practice in the advertising industry to moderate some of its effects. While there is little research on this issue, a recent survey suggests that there are major concerns among New Zealand parents about the levels of advertising to children on television. Among those surveyed, there were strong feelings that television encourages children to want products they do not need.⁴⁴ There was also a strong sentiment that advertising should not be regulated by the same people who sell products to children.

The current framework for advertising in New Zealand is mostly based on self-regulation by industry. This framework, and how it relates to the environment, is examined in a background paper to this report.⁴⁵ There is a code of practice for product claims related to the environment, but there is no code for how the environment is portrayed in advertisements. There is also a lack of consideration given to the effects that saturation advertising can have on people. This is despite the fact that advertising expenditure in New Zealand, as a proportion of GDP, is one of the highest in the world. New Zealand ranked third in the world

for advertising expenditure in 1996⁴⁶, and the amount of money spent on advertising has steadily increased since then. In 2002 it reached \$1.5 billion per year and in 2003 it was predicted to exceed \$1.7 billion.⁴⁷ What sort of culture is all this advertising helping to create?

As noted above, advertising is just one tool of marketing. Marketers use a variety of techniques, such as product placements in movies and using celebrities and role models to shape consumer desires. Public relations skills are also used by businesses, government agencies and non-governmental organisations to 'spin' their stories and manage their images in the media. Public relations usually involves intensifying (playing up) some messages and downplaying others that could be detrimental to an organisation's reputation. There is a growing awareness among the public about the 'greenwashing' that many organisations use to shape their environmental image. This may undermine the effectiveness of some public relations skills, while contributing to a fundamental lack of trust in big business and government to be open and honest about sustainability.

It is important to keep in mind that marketing techniques are not just used by commercial enterprises. For example, government is showing a growing willingness to use social marketing to achieve outcomes related to sustainability (see section 4.1). It has also been suggested that 'demarketing' can be used to encourage people to reduce their consumption of some goods or services.⁴⁸ There is a major potential to market the messages of sustainability, although it is important to consider that social marketing is very expensive.⁴⁹ It is also important to question how effective government agencies can be at getting their messages across when people are already swamped by so many other marketing messages in the commercial media. In some areas, such as road safety, there is good evidence that social marketing can be very effective. However, social marketing campaigns need to be carefully researched, planned and organised as well as well-financed to capture people's attention, and to avoid switching people off.

5.5 Art, literature and narratives

What are the mountains on high
 But the crystallised waves of the sea,
 And what is the white-topped wave
 But a mountain that liquidly weaves?
 The water belongs to the mountain.
 Belongs to the deep;
 The mountain beneath the water
 Suckles oceans in sleep.⁵⁰ – Dennis Glover

As long as people have lived in New Zealand they have tried to capture and communicate the sensations and the significance of living in this land. This is reflected in art, music, poetry and the oral and written narratives that permeate the cultures of this country. Artists, orators and writers have also shaped the ways that people see the world around them. Art often challenges people and provokes or inspires them to think and feel in different ways. Stories frequently include important messages and more complex narratives can provide people with a frame to see the world. The landscapes of New Zealand, and the flora and fauna within them, have often had a strong presence in these works.

Well before the first Europeans arrived, the plants and animals of Aotearoa and all the elements of the world infused the art and culture of tangata whenua. From the delicate curves of fern fronds (reflected in carving and weaving) to the towering peaks of mountains (personified as important ancestors) people connected with their environments to explain and sustain their place in the world. Skilled orators used highly developed narratives to pass on accumulated knowledge and understanding. These often embodied important ecological messages that helped to forge a strong spiritual connection between people and the world around them (see also section 5.2).⁵¹

The landscapes of New Zealand have also been a dominant theme in contemporary art and literature in this country.⁵² The same landscapes have been feared, admired, romanticised and cherished at various points in time according to different artists and writers (who have been influenced by the cultures they draw on and the society they interact with). Many New Zealand writers and poets have expressed their sense of awe and wonder about the world around them and helped to instil those feelings in others.

Over the last few decades the environment has often been portrayed in a more sympathetic way, reflecting and fostering a concern about the fragile state of the environment and the impact of human developments.⁵³ Artists have also challenged and politicised environmental issues, such as a series by Ralph Hotere that protested against a proposed aluminium smelter at Aramoana in the 1980s. In children's literature, New Zealand writers also began to focus more on

environmental issues from the 1980s onwards.⁵⁴ In realistic and fantasy novels alike, writers have helped to heighten awareness about damage done by humans to their environments.

Collectively, many people have therefore helped to infuse their environments with meaning and to communicate key messages in their work. Art and literature can help to foster identification between people and their environments, although they can also break them apart. They can encourage people to value different things, depending on how the story is told. More complex narratives that are intimately connected to the knowledge and culture of a society can also have a fundamental influence on the way people see the world.

5.6 Other major influences

This report cannot even attempt to identify all the influences on learning in society, but a few further ones that are very influential are listed here as well.

Language

Languages are at the core of every culture. People are born into a world of words that they absorb and gradually inherit. Languages are not just used as a simple tool for communication – they help to structure human thought. They provide people with words infused with meanings that shape their view of the world. For example:

Naming a thing creates an identity; names establish values and functions, give something life, a separate existence. We are our names in ways we cannot describe ... Language weaves worlds of being and meaning; but this is a double-edged sword. Calling a forest “timber”, fish “resources”, the wilderness “raw material” licenses the treatment of them accordingly.⁵⁵

People often take for granted the language that they use. Yet some words have contributed to major shifts in understanding. One of the most hotly debated words in the English language is ‘nature’. People often use this word to refer to pristine ‘wilderness’ areas and species other than humans that they wish to preserve. Yet there was no word to convey this sort of meaning before the Enlightenment (a period of major philosophical changes that occurred in Europe during the eighteenth century).⁵⁶ Many cultures do not have a similar word that creates a split between humans and their physical environment. Nonetheless, many people also refer to humans as ‘part of nature’ and not completely separate from it.



Cross-cultural communication is also challenging at times because of vast differences in language. It is very difficult to try and understand the worldview of one culture while using the language of another. For example, many people have highlighted problems with understanding Maori environmental concepts without having an understanding of te reo Maori.⁵⁷ Similarly, the word 'sustainability' may be less significant for many Maori than terms like kaitiakitanga, which may have similar meanings attached.

Within a language like English, there are also many specialist languages such as the 'language of business' or the 'language of ecology' that refer to particular ways of thinking.⁵⁸ People learn these languages too. Unfortunately they sometimes get caught up in a particular way of thinking. They cannot recognise the limits of any language to explain everything about the world. Yet languages are not completely fixed. Changes in languages often play an important part in wider social and cultural changes.⁵⁹ For example, one business person has argued that:

... business needs a new language, a new role, a new way of seeing itself within the larger environment. Business parlance is a specific, rarefied, and, for most of us, borrowed language. It is useful when it describes the mechanics of commerce, but fails when we try to connect it with biology, society, or feeling, yet this specialised dialect has established itself as the planetary *lingua franca* ...⁶⁰

Words are also used in very political ways. Subtle shifts in language can conceal more fundamental shifts in meaning and understanding. Thus, people often argue over the word 'sustainability' because it can mean many different things to different people, depending on how it is used. Although diversity in thinking is valuable, it is also important for people to be very clear about what they are trying to sustain and why (see chapter 3). It is also important to consider the importance of adapting communication to suit different audiences. For example, referring to the environment as 'natural capital' may be very effective for communicating messages about the value of the environment to business people and economists. It may not be as useful for talking with people who have a close spiritual affinity with the environment in which they live.

Technology

Only those who know nothing of the history of technology believe that a technology is entirely neutral ... Each technology has an agenda of its own.⁶¹ – Neil Postman

Changes in technology can have a major impact on the way people think, feel and act. For example the invention of the printing press in the sixteenth century has had a profound effect on cultures. The printing press enabled books to be mass produced for the first time. Whereas the knowledge in these texts was once controlled by a few privileged elites, they soon became more accessible to

a wider audience. More people became empowered to learn and critique this knowledge, and to challenge established doctrines. Societies that used to pass on their accumulated knowledge through oral traditions (often through songs, narratives and art) also began to use writing much more as a medium for communication.

The invention of the television also contributed to a major shift in communication and learning in society. Television is able to combine moving pictures and sounds from around the globe into a potent set of images. The medium of television is good at communicating some messages very well, especially those that are emotive or consist of short, sharp 'sound bites'. It is also immensely amusing to watch (see section 5.3). Compared with the written word, however, it is difficult (although definitely not impossible) for television to be used to communicate complex information. There is a constant pressure for broadcasters to capture and keep the attention of viewers by flicking rapidly from frame to frame. Is it any coincidence that the average attention span for many people today (seven minutes) is the same amount of time that is usually found between commercial breaks?

More recent technologies like the Internet are also having an impact on communication patterns and ways of thinking. The Internet combines words, images and sounds and has provided a platform for many independent media organisations to find a greater voice in society. It is also being used by many advertisers to develop new marketing strategies (see section 6.5). The Internet is part of a global communications system that has been accelerating in its breadth and speed in recent years.

Globalisation

Globalisation has many different elements. It is partly an economic process, but it is also an influential social and cultural process that has been unfolding with increasing momentum over the last five decades. World markets, connected with technologies that enable rapid communication and movements of people, products, services and capital, are becoming more and more integrated over large distances.⁶² Local and national boundaries are becoming less significant for many businesses as they spread their activities around the globe. Yet globalisation is also a social and cultural process. It often places pressures on different cultures, connected via global media networks, to become more similar. This is not a simple two-way process. For example, programmes made in the United States often dominate New Zealand television, while only a few of those produced in New Zealand feature beyond this country. There are also pressures on consumer tastes and fashions to become more homogenised. Large corporations often seek to develop new markets for their products that are standardised for global consumption.

Globalisation can have all sorts of impacts on the way people think, feel and act. Values and attitudes may start to shift among some people as they are influenced by other cultures. Yet local and national identities, based on differences between groups of people, can also become more important. This is especially likely to occur if people feel threatened, or if they sense a loss of control over issues that affect them.

Globalisation has many implications for environmental sustainability that have been identified elsewhere.⁶³ Three major impacts that it could be having on New Zealand culture are:

- Programmes made overseas dominate New Zealand television and could be influencing values and attitudes.
- There are pressures for consumer tastes and preferences to become more similar to the tastes of people elsewhere in the world.
- While globalisation can help to erode national identities, some New Zealanders may be resisting these pressures and placing more emphasis on their national identity to maintain a sense of difference. As noted in chapter 2, New Zealand's national identity is often closely linked to the unique environment in this country, so this could be having all sorts of effects.

5.7 Summary and key points

This chapter has traversed a vast terrain of different influences that shape the ways people learn throughout their lives. For example:

- Families and whanau help to develop desirable values in young people and establish norms for them to fit into the society and the environment they live in. Young people often educate other family members and influence their actions as well.
- Peer groups often act as a reference point for defining values and norms. Peers can also be influential role models for people as they form views on what a good and successful life requires. Peer pressure may hold back many changes, but peers can also be very influential in transforming others' behaviours.
- Religions provide many people with a strong sense of meaning and can shape their sense of self. New Zealand society has become increasingly secular, but many people still derive many of their ideas of right or wrong (either directly or indirectly) from one religion or another.
- The mass media has a huge potential to help people learn about sustainability issues. But because the media thrive on controversy and conflict they do not usually provide a good forum for debate. In particular,

commercial media agencies are much more focused on entertainment.

- Marketing, which is usually conducted through the mass media, explicitly aims to influence the way people think, feel and act. Advertising expenditure in New Zealand, as a proportion of GDP, is one of the highest in the world. Modern marketing often plays on people's emotions to build symbolic associations between products, brands and people. Marketers often target young people in particular.
- Artists, orators, writers and musicians often provoke or inspire people to think and feel in different ways as well. They have helped to infuse New Zealand's environments with meaning and to communicate key messages in their work.
- Other major influences include language (which structures human thought), technology (which can shift communication and learning patterns) and globalisation (which is having all sorts of consequences for cultures).

How influential are these 'shapers' relative to each other? It is difficult to generalise, as they impact on all individuals and communities in very different ways. But thinking back over the last century, what have some of the major trends been? Families will always play an important role in bringing up young people. However, many parents and caregivers now spend more time in paid employment than they used to, which suggests that they may be putting less time and energy into young family members. In fact, Americans now spend nearly seven times as much time shopping as they do playing with their children⁶⁴ (unfortunately, no data exists for New Zealand).

Since the advent of commercial television in the 1950s, this form of mass media has also become much more influential in shaping learning. While religions have declined in influence, modern marketing techniques have become more dominant. This has mirrored the trend in many Western countries. For example, it is suggested that:

For the first time in human history, children are getting most of their information from entities whose goal is to sell them something, rather than from family, school or religion. The average 12-year-old in the United States spends 48 hours a week exposed to commercial messages. The same child spends only about one-and-a-half hours per week in significant conversation with his or her parents.⁶⁵

It is debatable how much this comment could apply in a New Zealand context. Some of these issues are raised in the following chapter, which looks at waste and the rise of a consumer society in New Zealand.

CHAPTER 6

Waste not, want not



This chapter looks at the theme of waste in New Zealand to examine how education for sustainability could approach this issue. It emphasises a need for education to peel back the layers of waste problems to address their underlying causes, and not just to deal with their symptoms. It raises questions about consumption and the growth of a consumer society and makes some connections with quality of life concerns. Tensions and dilemmas that need to be addressed are also acknowledged. The topic of waste was chosen because it is currently a topical issue in New Zealand. It also provides a useful window into the world of many other sustainability issues.

Please note: This chapter provides only a brief introduction on waste in New Zealand, with a focus on solid waste. *The New Zealand Waste Strategy*¹ also provides useful background information on this topic.

6.1 The current situation

Thinking about waste

As noted in section 2.3, New Zealand's waste problem is large and getting worse.² Waste volumes have been growing much faster than the growth in population. An enormous amount of waste is now going into landfills, but what many people do not realise is that the vast majority of waste is usually produced *before* people buy things. For example, it takes three tonnes of materials to make a gold ring that weighs only ten grams.³ In addition, more materials and large amounts of energy are often required to recycle waste into reusable forms. The basic image of the 'waste hierarchy' is often used to communicate this message (see figure 6.1). The greatest gains in waste management need to be made by thinking about ways to reduce waste from the outset. Reusing materials and recycling them is helpful, but it is important to note that these offer less potential for managing the use of materials and energy in society.⁴

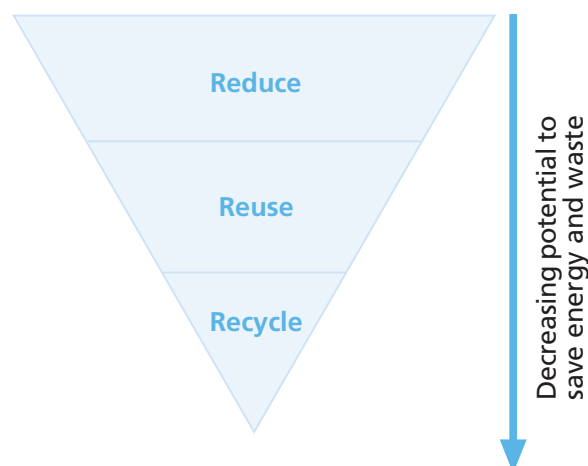


Figure 6.1: The basic waste hierarchy

Waste is basically a by-product of production and consumption patterns. 'Production' is concerned with how goods and services are made by people from materials and energy in their environment. 'Consumption' relates to how people use those goods and services to provide them with things they need and want. Production and consumption are like two sides of the same coin. Production often shapes consumption (e.g. businesses develop products and encourage people to buy them) and vice versa (e.g. people need and want things that other people and organisations produce).

The current focus

There is a huge range of activities taking place in New Zealand to lower the amount of waste going into landfills. Community groups have been advocating for 'zero waste' and have helped to drive many of these initiatives. Local government is very involved in waste recovery and recycling initiatives, strongly motivated by the desire to save on landfill costs by diverting rubbish from the waste stream. Students in schools are often encouraged to compost and recycle waste as part of their environmental education. Many businesses are reducing the amount of resources they use, with a growing awareness about the ways they can save money. Central government has also taken on a stronger leadership role in this area by releasing the *New Zealand Waste Strategy* in 2002, developed in partnership with local government.

These initiatives are an important and integral part of waste management. They are also useful for getting people to think about waste in society. Yet the current focus is mostly based on the *bottom tip* of the waste hierarchy. The New Zealand Waste strategy summarises the situation:

We are making good progress in managing waste disposal but little in reducing waste. Forging a path towards sustainability means finding ways to break the link between development and environmental degradation. Reducing environmental stress means not only reducing the waste we generate but also changing the way we think about our use of resources.⁵

The government has identified a need to reduce waste as a cornerstone of New Zealand's commitment to sustainable development.⁶

Most of the current focus is also on getting individual people and organisations to take responsibility for their own waste. For example, a recent campaign urged people to reduce their rubbish.⁷ As discussed in chapter 3, it is important to focus on individual changes in behaviour to promote education for sustainability. Yet it is also vital for education to empower people and organisations to help change the context (the systems) in which they operate. The danger of focusing on individuals only is that the outcomes of education efforts can often become very vulnerable. Efforts to manage waste often

become dependent on the goodwill, energy and enthusiasm of individuals.

Education for sustainability therefore needs to delve below the surface to address the underlying causes of problems like waste. Educators need to keep things in perspective: where is all the waste in New Zealand coming from? Are people being socialised to recycle and dispose of their waste without helping them to work out ways to prevent it in the first place? Given the current gaps, the rest of this chapter looks at the issue of waste reduction. As the old saying goes, prevention is better than cure.

6.2 Getting to the roots of waste

Fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development.⁸ -World Summit on Sustainable Development

As noted above, waste is basically a by-product of production and consumption. People and organisations can often be motivated to curb the amount of waste they create during production. This is because there are usually incentives for them to save money by using materials and energy wisely. Consumption issues are often more difficult to address. Despite this, there is widespread agreement in the international community about the urgent need to tackle issues related to consumption.

... sustainable development demands a strategic and long-term approach which attempts to tackle and reform the underlying causes of environmental damage. Spurred by success in reducing the impacts of production processes, there is a greater willingness to begin to look at how the more difficult question of consumption can be addressed. This is evident in the willingness to begin to re-examine some formerly 'taboo' consumption patterns and lifestyles.⁹

– Organisation for Economic Cooperation and Development

The main focus for the rest of this chapter is on consumption. One of the ways that education for sustainability could look at waste in society is to address the fact that New Zealanders now live in a consumer society. This has far-reaching implications for the ways people learn, what they value, and how they live their lives.

Consumption and the rise of a consumer society

The term 'consume' used to mean to use something, or to waste, exhaust, or destroy it. People have always used materials and energy from their environment to support and sustain themselves. 'Consumption' will therefore remain an important part of human societies. But to say that New Zealand has increasingly become a *consumer society* means something fundamentally different.¹⁰ People in consumer societies do not just use materials and energy (embodied in products) to sustain themselves – they often consume the symbolic meanings associated with products (see section 5.4).¹¹ A consumer society is one in which high levels of material consumption are closely linked to the identities, aspirations and leisure activities for more and more of the population.

The history of private enterprises in New Zealand has long been characterised by intensive efforts to stimulate the public into consuming more and more.¹² Government policies have supported these efforts because of the perceived benefits for economic development and employment. If current trends in household consumption and debt are anything to go by, the development of a consumer society in New Zealand may even be accelerating. The volume of goods and services consumed by New Zealand households has been increasing in all areas since 1998, with per capita consumption rising steadily¹³ (see also section 6.3).

Consumer societies tend to be very wasteful societies. As the New Zealand waste strategy states, "the amount of waste we produce is directly linked to how many goods and services we consume – the greater our wealth, the more we waste".¹⁴ Think about this statement from a market research company in New Zealand:

Consumers are spending less time cooking and are demanding, and being offered, a greater selection of frozen meals. Added to this is the fact that 84% of households have a microwave. Microwaves were introduced into New Zealand about 15 years ago and in 3-5 years from now we will see the emergence of a new breed of homemakers who have grown up with no concept of food preparation without a microwave.¹⁵

As technologies have changed, and shifts in lifestyles have occurred, a throw-away society has been developing in New Zealand. Although microwaves use less energy than conventional ovens, a frozen dinner that is cooked and eaten in minutes leaves a plastic container as a legacy that will persist for hundreds of years.¹⁶

It is important to realise that the development of consumer societies has been a relatively recent phenomenon. The origins of many consumer societies can be traced back to events that were occurring in the United States at the turn of the twentieth century.¹⁷ Brand names started to become household names, packaged and processed foods made their widespread debut and the automobile began to assume a pivotal place in American culture. As Durning suggests:

Economists and business executives, concerned that the output of mass production might go unsold when people's natural desires for food, clothing, and shelter were satisfied, began pushing mass consumption as the key to continued economic growth.¹⁸

People who were once known as customers gradually began to morph into consumers. Before this period, people tended to look after material goods, which were usually designed to be durable. With the rise of the consumer society, 'disposability' became the new trend, and many products were actually designed to become obsolete very quickly. Marketers encouraged people to throw things away, as "the selling points of modern products – styling, technological superiority, convenience and cleanliness – all amounted to arguments for disposing of things rather than seeking ways to reuse them".¹⁹ The continual growth of markets for new products partly came to depend on the continuous disposal of old things.²⁰

To show how far and fast things have changed, consider this: two weeks after the terrorist attacks on 11 September 2001, the leaders of the United States and Britain urged people to go out shopping to prevent the economy going into recession.²¹ Shopping had become a patriotic duty. Half a century earlier these governments had expressed a completely different sentiment. During World War Two people were encouraged to consume less and 'tighten their belts'.²² Shopping to express one's loyalty as a citizen was not at the forefront of anyone's mind.²³

Is it not a cause for concern when world leaders encourage people to use more and more materials and energy to try and achieve security, instead of using less? The dominant culture in New Zealand is obviously different to the cultures of the United States and Britain. But consumerism (when consumption becomes an ideology) is now central to the way of life in all these countries. New Zealand is also embedded in the same international trading system that has been structured around consumption. Retail sales are regularly used as a measure of the 'health' of the local economy. Many New Zealanders, gazing through their television screens at American programmes each night, may also wish to simulate the idealised pictures of an American lifestyle for themselves.

Learning in a consumer society

Consumer societies do not just develop overnight. People *learn* to be consumers and to consume in different ways. Two major developments last century have been very influential in accelerating the process of shaping people as consumers: the introduction of commercial television in the 1950s and the advent of modern marketing techniques. Advertising now fuels the desire for the symbolic meanings that people consume (see section 5.4). It is continuously used to persuade people to buy more and more.



Well before children can read, they can recognise familiar packages in stores and characters on products such as clothing and toys.²⁵ Consumerism creeps into the consciousness at a very early age. Twenty-five years of research on consumer socialisation in the United States has found that:

Desires for material goods become more nuanced as children progress through elementary [primary] school, with material goods becoming aligned with social status, happiness and personal fulfilment. Fuelled by a greater understanding of the social significance of goods, consumption symbolism, and interpersonal relationships, materialistic values crystallise by the time children reach fifth or six grade [11 or 12 years old].²⁶

Although the vast majority of children do not understand the persuasive intent of advertising before the age of seven or eight years,²⁷ they are bombarded with marketing messages on a daily basis. These messages continue throughout their life. For example, think about this advertisement from a recent New Zealand magazine under the heading 'A formula for success' (all names have been removed):

Making a great cold drink is a challenge. Making it cool is even harder. But when an advertiser promoted their new product on our internet site, the kids really clicked ... First, cool web banners attracted kids to the promotion where they invited the product to become their buddy and [the kids] entered their details into the product's database ... Word soon spread, and after just two weeks the response was enormous: 812% higher than forecast ... To quote the Brand Manager, "The Instant Messenger allowed a high level of intimacy leading to a greater emotional connection with the brand".²⁸

Is this targeting of young people really a formula for success in society? This kind of advertising highlights how businesses do not just 'discover' consumer tastes and design their products to suit (see section 5.4). Advertising is often

used to create wants, which often shift into becoming perceived needs. To illustrate how advertising can sell almost anything, it is useful to reflect on this example: an Auckland graphic designer developed a billboard campaign in 1999. The product was literally nothing. She used 27 billboards (under the auspices of an art project) that included a picture of a woman's face and the caption "Nothing™: what you've been looking for". Over a third of Aucklanders recalled viewing the billboards. Some people even rang the owners of the billboards to ask where they could buy Nothing™ – consumers who wanted a brand even though they had no idea of the product.²⁹

The use of modern marketing techniques has been assisted through the development of media technologies (see section 5.3). It should therefore come as no surprise that high levels of materialism are usually reported for adolescents who watch more television.³⁰ There are many other influences that shape the ways people think, feel and act as consumers. Families and peers can also be influential in altering consumer beliefs early in life.³¹ Yet modern forms of marketing, spread through the media, are fundamental to the ongoing maintenance of consumer societies.

Self-identity in a consumer society

A mark of how civilised a population is: what they start worrying about when their ordinary needs are met. An advanced civilisation might start being concerned about spiritual or philosophical questions. We go shopping.³²

What happens to a person's identity in a consumer society? As chapter 3 highlighted, education for sustainability aims to extend boundaries of concerns from beyond an individual's sense of self (their way of seeing and interacting with the rest of the world). It encourages people to connect with, and care for, other people and the environment they live in. Advertisers, who aim to encourage individual consumption, often target people's sense of identity to sell symbolic messages. In the words of one marketing lecturer in New Zealand, "People are fickle. Self is so malleable".³³ They also aim to build emotional connections with people, products and brands (see the example above). As such, marketing and advertising helps to foster a very self-centred view of the world. This does not mean that people are more self-aware. It means that their sense of identity becomes more closely tied to their role as consumers. Identity is displayed *through* symbolic displays of consumption. If people are constantly being encouraged to focus on themselves as individual consumers, this makes it much more difficult to extend their boundaries of concern to care for other people and the wider world around them. It has even been suggested that a certain degree of dissatisfaction



While governments exhort their citizens to protect the environment through the slogan 'reduce, reuse and recycle', a huge advertising industry persuades people to 'increase, discard and dump'.²⁴

– Clive Hamilton

needs to be maintained to sustain a consumer society:

... workers who are earning a lot of money because they work long hours provide the market for the very goods they are producing, and never mind if they do not really need the goods in question. The consumption becomes the reward for the hard work and the long hours. Nevertheless, it cannot be a very satisfying reward: the conditions of dissatisfaction must be maintained, or markets for useless products would disappear under a gale of common sense. We become addicted to consumption, which provides no lasting satisfaction.³⁴

Historically, many religions have also shaped (and often repressed) people's sense of identity by positioning them in a wider social context (see section 5.2). All established religions contain strong messages against greed and excessive materialism.³⁵ In contrast, consumer societies embrace materialism to keep the cogs of consumption turning. Consider this quote from an American retailing analyst in the 1950s:

Our enormously productive economy ... demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek spiritual satisfaction, our ego satisfaction, in consumption ... We need things consumed, burned up, worn out, replaced, and discarded at an ever increasing rate.³⁶

While religions have declined in influence in New Zealand over the last century, consumerism may have filled a spiritual void for many people – albeit with a completely different sense of purpose. As Hamilton suggests:

There is ... an intimate relationship between the creation of self in consumer capitalism and the destruction of the natural world ... Protecting the natural world requires not only far-reaching changes in the way we use the natural environment: it calls for a radical transformation of our selves.³⁷

6.3 Educating for a transformation

People may read this chapter and merely think – so what? Lots of people know about a consumer society in New Zealand. Even among those who care about these issues, the challenges often seem so large that it is all too easy to switch off. But New Zealanders face important choices: do they want to follow the current path of development in their country or direct their energies elsewhere? As the United Nations Development Programme (UNDP) has noted:

No major changes have occurred since UNCED [the 1992 Earth Summit] in the unsustainable patterns of consumption and production which are putting the natural life support system at peril. The value systems reflected in these patterns are among the main driving forces which determine the use of natural resources. Although the changes required for converting societies to sustainable consumption and production are not easy to implement, the shift is imperative.³⁸

If people can learn to be consumers, they can also learn to resolve unsustainable practices and develop sustainable ways of living. As chapter 2 highlighted, the size of New Zealanders' ecological footprints are very large, and there is currently a major lack of awareness of sustainability issues in New Zealand. Awareness raising is likely to play an important part in educating people to address problems like waste. For some people, highlighting the environmental consequences of consumption and waste will be enough to get the ball rolling – especially when the environment is closely tied to the national identity of many New Zealanders (see section 2.1). But for most people, communicating messages in an 'environmental' frame is unlikely to be very effective. The environment often slides down people's list of priorities. It is also all too easy to highlight 'doom and gloom' issues surrounding consumption. As one person suggested during research for this report, "a sulky and negative perspective is not the state of mind to be in to face up to environmental pressures".³⁹ People need to *want* to make changes. It is therefore important to emphasise what people *get*, not what they *give up*. What connections could education for sustainability make between waste, consumption and other concerns in society?



Focusing on quality of life

As highlighted in section 2.2, a useful angle for looking at sustainability issues is to focus on quality of life. What provides people with a sense of well-being? What makes them happy? What sort of a society do people want to live in? What do people *really* want? The UNDP suggests that:

Consumption clearly contributes to human development when it enlarges the capabilities of people without adversely affecting the well-being of others, when it is as fair to future generations as to the present ones, when it respects the carrying capacity of the planet and when it encourages the emergence of lively and creative communities.⁴⁰

They also emphasise the point that increasing levels of consumption and materialism do not necessarily contribute to more well-being. In fact, the opposite is often true. Study after study shows that material wealth, once it gets beyond a certain level, does not create happiness.⁴¹ For example, the proportion of Americans calling themselves happy peaked in 1957 – even though material consumption has more than doubled since that time.⁴² Americans have been busy accumulating a lot more 'stuff', producing much more waste in the process, but their perception of affluence has actually fallen. Although there is hardly any research in New Zealand on this topic, at least one

Real Stories

My life was once all about numbers. Salary with six figures. Weeks with one hundred working hours. Home with eight bedrooms, five TVs, and three kids who hardly knew me. Twenty years creating those advertisements that drive you to buy more, spend more, throw away yesterday's purchases to make room for today's new models. Making ads that assure you all is well when that big friendly multinational with the smiling frontman wants to build a health hazard in your backyard. Over time, the bigger the clients, the smaller their consciences, the more uneasy with it all I became.

Then an email arrived from Nepal; a request for design assistance with one man's project. He'd set up a web-based way of redistributing Khatmandu's meagre surpluses to the hill villages. Office workers logged on to give their address and a truck would call to collect their spare schoolbooks, shoes and blankets; simple, and effective. For me, the light went on. This was a better use for the web than the consumer sites I was building. This was a better purpose in life than the life I was leading. I could redirect my advertising skills and experience to good causes, full-time. It led me to thinking that if enough skilled advertising people pledged just a little of their time too, we could create a global network of advertising resources powerful enough to make a difference. So my wife and I set up The Global Bridge to do just that.

Once the decision was made in favour of change, once my family and I were committed to it, the transition from consumer values to sustainable values flowed like a powerful river – overcoming seemingly impossible obstacles. It seemed the more money we had made, the more we owed; we had no capital with which to finance this dream – in fact we were in debt. But we were 100% committed, and that's all it took.

I left my job as Creative Director for a well-known multimedia firm and we sold everything we owned (for around 8% of what we paid for it!), in order to travel to wherever we were needed most, and stay there for as long as we were needed. The day we moved out of our house, we moved onto a seventy-year-old 36-foot wooden sailboat that we had financed to the mast-tops. In the first two years we sailed the full length of New Zealand's east coast, creating educational multimedia for dolphin and albatross projects with DOC and Forest and Bird on the way.

Our sons are home-schooled, we work together as a family, and we live on the smell of an olive-oily rag. And best of all, success is now measured by what we've been able to give away.

Life is good.

Dene and Pamela Waring

study seems to reveal similar findings.⁴³ All religions, and many researchers in the social sciences, also seem to agree: happiness is more likely to be found in things like relationships with friends and family, meaningful work, and living in a healthy environment.⁴⁴

Educators could therefore address consumption issues by encouraging people to connect with what they really value. For example, do parents want to spend more time at work to buy more stuff for their kids – or would they prefer to spend more time with them as they grow up? As noted in the previous chapter, Americans spend nearly seven times as much time shopping as they do playing with their kids.⁴⁵ Do New Zealanders wish to pursue that way of life? In fact, people seldom stop to think about how much time they actually spend working to accumulate and look after large consumer items. For example:

The average American is involved with his or her automobile – working in order to buy it, actually driving it, getting it repaired, and so on – for sixteen hundred hours a year. This means when all car mileage in a given year is divided by the time spent supporting the car, the average car owner is travelling at an average speed of five miles per hour.⁴⁶

And who likes to live in debt? As Watkins suggests, “advertising helps create desires, and – where income is lacking – credit provides the means”.⁴⁷ Consumer spending by households in New Zealand has increased faster than household incomes since 1988, and people actually began to spend more than they were earning for the first time on record in 1998.⁴⁸ Many New Zealanders are now spending beyond their means, and credit card use is among the highest in the world.⁴⁹ Although credit can be used wisely, it can also tie people down when they eventually try to pay off their debts. Increasing levels of debt may also run counter to the government’s attempts to persuade people to save for their retirement.

While some people consume a lot in New Zealand society, it is also important to acknowledge that many people are excluded from the benefits of consumption. An increase in their material wealth could therefore contribute significantly to their well-being. It is also vital to look at equity issues. Inequalities in consumption, especially when they are accompanied by conspicuous displays of material wealth, often deepen poverty and harm perceptions of well-being.⁵⁰ There is also evidence to suggest that the social bonds that connect people (sometimes labelled ‘social capital’) often break down when there is excessive materialism in society.⁵¹ When these threads begin to loosen, the entire fabric of a society can start to unravel.

These are just some of the ways that education for sustainability could look at quality of life concerns. As section 2.2 highlighted, people also value many other things in life that rely on a sustainable environment – such as the lives of

their children and their children's children if they have them. But even if people wanted to talk about these issues, it remains to be seen how educators could initiate a dialogue on them.

Getting the messages across

If education for sustainability was adequately covered in the formal education system, it could provide people with an open forum to talk about consumption and waste issues. Students could be encouraged to critically reflect on their own values and dominant values in the world around them. Unfortunately, as chapter 4 highlighted, education for sustainability is almost entirely on the fringes of this system.

There is also an enormous potential to use the media to help people learn about sustainability issues. The problem is that the media often thrives on controversy and conflict, especially when it comes to seemingly 'taboo' topics like consumption (see section 5.3). What about marketing? If marketers can sell Nothing', there is definitely a potential to use marketing to sell other messages related to quality of life. As an example, modern marketing uses symbolic associations to shape consumer preferences for goods like sports utility vehicles (SUVs) (see section 5.4). Could it be just as feasible to develop the perception that real 'blokes' should like fuel-efficient cars, or that they should keep fit by using their own feet to get to work? Of course it would be difficult to sell these sorts of messages when so many other advertisements are trying to sell people contradictory messages – but it does make one think. It is also important not to doubt the power of peer pressure. Symbolic meanings can only continue to exist and be influential as long as enough people believe that they are important.

Using social marketing is just one approach that could be used to sell the messages of sustainability. In reality, all social contexts for learning (such as families, peer groups, religions and others discussed in chapter 5, to name a few) could be used to open a dialogue on waste and consumption issues. It is valuable to use a variety of different approaches. The most important thing is that people should feel encouraged to talk openly and reflect upon these issues.

So far, the focus in this section has mostly been on individuals. Changes in society need to come from caring and enthusiastic people. However, as this report often emphasises, it is important not to simply shift all responsibility onto individuals. People need to develop the capacity to change the larger social and economic systems in which they live, or they will always face an uphill battle. Although it is good to be idealistic, it is also important to be realistic about existing tensions and dilemmas. Transformation in society starts from where New Zealand is today.

6.4 Tensions and dilemmas

As discussed above, private enterprises in New Zealand (supported by government policies) have been very influential in encouraging people to consume more and more. New Zealand's existing economic system has therefore become based around maintaining and sustaining high levels of materialistic consumption. It is difficult for people to look beyond this system, especially when there are many people's jobs and livelihoods at stake. There are also many vested interests that will resist changes by insisting that 'there is no alternative'. This section looks at some of the major tensions and dilemmas.

A dilemma for government

Governments aim to maintain a stable system of taxation to fund public services like health and education. To do so, they usually want to increase economic growth. In fact this often becomes an over-riding goal of government policies.⁵² Economic growth is commonly measured by gross domestic product (GDP). Economists, business people and politicians often use GDP figures to justify or criticise New Zealand's well-being as a nation. However, as section 2.2 noted, GDP is a very simple measure. It simply adds up the total quantity of goods and services produced in an economy, regardless of whether they come from activities that help or hinder people's well-being, and it does not make any deductions for any harm done. More crime, prisons, road accidents, pollution and landfill costs increase GDP along with new schools, exports and tourism earnings. Even the economists who helped design the system of national accounts, which provided the basis for measuring GDP, were acutely aware of its limitations. As one of them commented, "The welfare of a nation can scarcely be inferred from a measurement of national income".⁵³ He went on to add that:

Distinctions must be kept in mind between quantity and quality of growth, between its costs and returns, and between the short and the long run ... Goals for 'more' growth should specify more growth of what and for what.⁵⁴

Time and time again, people have emphasised the dangers of putting too much reliance on GDP as a measure of prosperity – especially when alternative indicators exist.⁵⁵ A point is usually reached when economic growth, as it is currently defined, ceases to improve quality of life.⁵⁶ In fact, economic growth today often relies on generating more waste, through the "trash created by packaging and disposables and the constant technological and stylistic changes that has made 'perfectly good' objects obsolete and created markets for replacements".⁵⁷ Nonetheless, because of the dominant mantra that 'growth is good', it is difficult to broaden the debate about alternatives to GDP. Even if government wanted to pursue alternatives, they would need a strong mandate from the public to do so.

A dilemma for businesses

While government aims to increase economic growth, businesses usually try to expand and maximise their profits (especially if they are large corporations that need to meet the expectations of their shareholders). Business people often claim that they play a 'wealth creating' role in society, but it is important to reflect on what they actually 'create' wealth from. Businesses use people as well as materials and energy from the environment to sustain their activities. It is also important to question what is meant by 'wealth'. As businesses grow, they tend to use more materials and energy and produce more waste, even though they may become more efficient in their production techniques. They also encourage people to consume more of what they want to sell. Current business models are therefore very focused on material growth. As one of the people interviewed for this investigation asked, "Where do we go if we're not going to promote growth?"⁵⁸

Many businesses, like government, are therefore likely to resist calls for people to consume less. As Hawken suggests, this raises fundamental questions about the sustainability of many existing business practices:

If every company on the planet were to adopt the best environmental practices of the 'leading' companies ... the world would still be moving toward sure degradation and collapse. So if a tiny fraction of the world's most intelligent managers cannot model a sustainable world, then environmentalism as currently practised by business today, laudable as it may be, is only a part of an overall solution. Rather than a management problem, we have a design problem, a flaw that runs through all business.⁵⁹

Nonetheless, many businesses have been more proactive on sustainable development issues than most governments around the globe (see section 4.7). Businesses can also be designed in many different ways, and growth and consumption *per se* are not the major issues for waste in a consumer society. It depends on *what* people consume, and *what sorts* of economic activities are taking place.

Redesign

Increasingly, the paradigm of *progress* is being challenged by that of *transformation*: the conviction that we are still 'on track' to a better future by the conviction that we are now straying ever further off it; the view that economic, social and environmental problems are 'glitches' we can iron out of the system by the view that the problems are systemic and require whole-system change.⁶⁰ – Richard Eckersley

As emphasised in chapter 3, education for sustainability does not just need to challenge current systems – it needs to seek positive solutions. As one of the people interviewed for this investigation commented, "the current paradigm of

living off the earth indefinitely creates irresolvable paradoxes. Education should be teaching about these paradoxes and looking for answers to issues".⁶¹

To get to the bottom of waste issues, consumption needs to be addressed. But to change what people consume, it would also be necessary to redesign the ways that many things are currently produced. Thinking about that frozen dinner again, it is useful to reflect on who designed the plastic packaging. How did it develop from a mineral under the ground into a disposable wrapper? As noted above, consumption and production are like two sides of the same coin. You cannot treat either of them in isolation.

Much work has already been done in the area of 'sustainable consumption and production'.⁶² A common theme is that there needs to be a shift away from selling people more 'stuff'. Instead, there needs to be a much stronger focus on what people *really* need and want. People do not literally 'consume' most products, in the sense that they exhaust them. They merely use them to provide them with things they need and desire. For example, a car provides people with mobility. Often it provides them with a sense of status as well. Yet on congested urban streets, cars often *impede* people's mobility. Too many cars on a limited number of streets begin to slow the flow of people. The conventional solution is to build more roads, at an enormous cost to society. Many cities have therefore been designed around the private automobile, using many materials and producing much waste in the process. People then become more dependent on cars for getting around. But what was most important in the first place? Was it a quick, safe, affordable and comfortable form of mobility or just a status symbol?



There are also many positive examples of successful businesses that are starting to break the connections between consumption, production and waste.⁶³ However, they often face hurdles in the markets that they are competing within. This is because the economic structures that have developed over time generally encourage more consumption of materials, with little emphasis on preventing waste. This is why there are often calls for economic systems to be redesigned to contribute more to people's quality of life.⁶⁴

Education for sustainability could therefore be used to look at creative ways to meet society's needs and wants in ways that promote a good quality of life. It could look at ways to develop systems that promote less resource use and not merely more, while making sure that materials can also be reused and recycled before being safely integrated back into the environment. In essence, another level could be added to the waste hierarchy (see figure 6.2) to highlight a need

to think about how products, services and systems are designed in the first place.

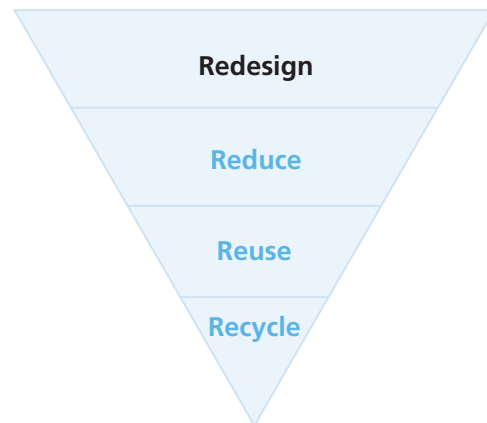


Figure 6.2: Re-thinking about waste

What would this redesign require? It could require people to develop some common understanding and concern for sustainability issues. Business people, economists and policy makers could learn about these matters. Engineers, architects and planners could design systems that produce less waste. Scientists could share their expertise and develop production processes that mimic natural processes. People could become more media literate and learn more about the short history of consumer societies. All people could also be encouraged to be creative, share ideas and think critically about many of the vested interests that hold back changes in society. Any changes would need to be supported by a strong mandate from society. People and organisations could even be empowered to take responsibility for many issues for themselves.

What does this suggest? It highlights that education for sustainability cuts across all areas of established learning and education in society. If sustainability is important, and if it should be embedded in people's education, it would require some rather fundamental shifts in the way education is currently practised in New Zealand. It would also require a lot of learning and cooperation well beyond the formal education system. Sustainability requires people to care about their fellow human beings and the rest of the world they live in. Fortunately, a lot of environmental educators in New Zealand, who often use art and narratives and many different learning techniques, are very good at developing this sense of caring. Unfortunately, even environmental education is still on the fringes of most institutions.

6.5 Summary and key points

If a boat isn't too large and doesn't move too fast, its wake won't disturb other boats or ducks in the water. Or erode the shore. Just like boats, people – myself included – will always make waves in the world. When you get right down to it, consumption is inescapable. Any biologist can tell you that life itself is a process of consuming energy and matter and producing waste. Yet consuming too much isn't inevitable.⁶⁵

This chapter contains much more than a discussion on waste. That is because waste is connected to so many other issues in New Zealand society today. Whether people realise it or not, waste is a symptom of much larger systems. These issues are very complex, so justice can hardly be done to them within the few pages of this report. The most important point is that people should feel free to talk about, and challenge, these issues in society. For example, the consumer society that has developed in New Zealand is based around the creation of ever-expanding wants and perceived needs. What sort of implications does this have for attempts to bring down New Zealand's ecological footprint (see section 2.3) to a size that is sustainable and equitable on a planetary scale?

Waste is not just an environmental issue. It can be looked at through a variety of social, cultural and economic lenses. Like many other issues, education for sustainability needs to encourage people to make these sorts of connections. There are many different ways that education could be used to look at issues like waste and consumption. However it is also important to question the influence of other forces in society that may shape learning in undesirable ways. For example, many advertisers now aim to develop emotional connections between young people, brands and products. It is useful to compare this to the sentiment expressed in the government's *Sustainable development programme of action* that, "How we value and look after our children and young people is an important reflection on the state of our society. It is also a predictor of how we will fare in the future".⁶⁶

Key points from this chapter are that:

- Waste is an enormous issue for New Zealand. The current focus is on recycling and getting individual people and organisations to take responsibility for dealing with their own waste.
- Although many existing initiatives are helpful, it is vital to peel back the layers of problems like waste to address their underlying causes, and not just deal with their symptoms. For example, are people simply being socialised to dispose of their waste without enabling them to work out ways to prevent it in the first place?

- New Zealanders now live in a consumer society. This has far-reaching implications for the ways people learn, what they value, and how they live their lives.
- People in consumer societies do not just use materials and energy to sustain themselves. They often consume symbolic meanings. A consumer society is one in which high levels of material consumption are closely linked to the identities, aspirations and leisure activities for more and more of the population.
- New Zealand's economic system has become based around maintaining and sustaining high levels of materialistic consumption. This creates all sorts of tensions and dilemmas for government and businesses.
- To address these issues, and to bring down the size of New Zealand's ecological footprint, it will be necessary to redesign many of the social and economic systems that currently exist in New Zealand.
- Consumer societies do not just develop overnight. People *learn* to be consumers and to consume in different ways. If people can learn to be consumers, they can also learn to resolve unsustainable practices and to develop more sustainable ways of living that contribute to a good quality of life.
- It is important to open a dialogue, both in the formal education system and beyond, to talk freely about these issues. Many different contexts for learning could be used for this purpose. It will also be necessary to challenge some forces in society that shape learning in undesirable ways.

CHAPTER 7

Future Directions



The purpose of this report is to raise the level of debate about education for sustainability, and to stimulate effective action so that New Zealanders can learn to live in sustainable ways (see section 1.3). It argues that a shift in perception and understanding is needed among many people and organisations in society, in the ways they look at issues and search for solutions, to enable a 'sea change' for the better.

Key points have already been summarised at the end of each chapter. To stimulate effective action, this chapter highlights areas that the Parliamentary Commissioner for the Environment (PCE) believes require focus and action *now* to enable learning and education for sustainability. Suggestions for future research have also been highlighted.

7.1 Areas for focus

Quality of life

Education for sustainability needs to have a strong focus on the quality of life that people enjoy in communities across New Zealand. Because the vast majority of New Zealanders live in urban centres, it will be particularly important to ensure that urban dwellers can learn to live in sustainable ways.¹ As highlighted in chapters 2 and 6, New Zealand's economy is currently material and energy intensive. New Zealanders have very large ecological footprints compared to most other developed countries. We are consuming more than our fair share of global resources, often in inefficient ways. New Zealanders can resolve these concerns and enjoy an excellent quality of life. To achieve this, it will be necessary to address some of the bigger questions about why ecological footprints in this country are so large.

Keeping an eye on the bigger picture

A major focus of environmental education efforts in New Zealand to date has been on encouraging individuals to take responsibility for their impact on the world around them. The focus has also tended to be on educating people to deal with the symptoms of sustainability problems like waste, instead of also empowering them to address the underlying reasons for these problems. Individual responsibility is an important part of education for sustainability. It is also helpful to manage the effects of undesirable activities. However, for transformations to occur, which will make it easier for people to live in sustainable ways, it is vital to keep an eye on the bigger picture of where problems are coming from. It will be essential to develop collective responsibility and a consensus for redesigning social and economic structures and institutions that perpetuate unsustainable practices.

Developing capacity

Environmental education in New Zealand has suffered from a lack of support. Many initiatives have only been successful because of the enthusiastic efforts of dedicated individuals. It is very likely that more successes could have been achieved if they had received more encouragement and assistance. It is essential to build on the achievements of environmental education efforts in New Zealand, and to develop the capacity across all sectors of society to engage with the broader concept of education for sustainability.

Learning across society

Significant changes are needed in the formal education system. However, major changes in society will not come about by changing this system alone. A vast amount of learning takes place outside of schools and tertiary education institutions. Young people need to be empowered to participate in decisions that affect them, but is it fair to encourage them to resolve unsustainable practices without encouraging adults to do the same? Many different approaches can be used to promote sustainability across society, although coordination of efforts is likely to be an ingredient for overall success.

Pursuing social marketing for sustainability

The government has conducted many advertising campaigns to motivate New Zealanders to act in various ways (see section 4.1). To date, social marketing has not been widely used to reach a bigger audience on sustainability issues. There are therefore significant opportunities in this area. It is important to acknowledge tensions between social marketing and education for sustainability. For example, social marketing often encourages people to act in certain ways without getting them to think very hard about why. In comparison, education for sustainability aims to empower people to think for themselves about unsustainable practices. Nonetheless, social marketing has a huge potential to complement education for sustainability. Some people may question the acceptability of using marketing approaches in this way. If so, it is useful to reflect on this question: why is it currently acceptable for marketers to shape needs and desires around products and brands, and to shift behaviours in the areas of drink-driving and smoking, but not to use these techniques to promote sustainability?

Being responsive to cultural diversity

New Zealand is already a culturally diverse country, and diversity is continuing to increase (see section 2.1). Education for sustainability needs to be responsive to the different cultural backgrounds of a diverse



population. It will also be essential to make stronger connections with tangata whenua perspectives on learning and education for sustainability.

7.2 Areas for action

**The warnings are there and the evidence is all around.
But the message is not getting through.² – Sir Peter Blake**

As chapter 3 highlighted, education for sustainability needs to be future-focused. It is also important to look for positive ideas for improvements. This section highlights key areas that the PCE believes require action *now* to ensure that education for sustainability can have an increasing influence on how New Zealanders organise their lives to enjoy a great quality of life. They have been grouped into various sectors – although it will be vital for all people and organisations to be encouraged to work towards a better future.

Local government

Public participation is a vital part of education for sustainability (see section 3.4). The new Local Government Act 2002 requires councils to work closely with their communities (see section 4.2). There are therefore major opportunities to improve public participation at a local government level. There needs to be a focus on building up capacity within councils, as well as out in the community, to ensure that adequate participation can take place.

Local government has led the way on many education initiatives in New Zealand (see section 4.2). Nonetheless, funding and support for education is still precarious in many councils. All councils should recognise the need for education to be a core part of their activities. Local government also needs to work with central government to ensure that education for sustainability and social marketing approaches are relevant to the different needs of communities throughout New Zealand.

Central government

Central government needs to see environmental and sustainability issues as a priority for education. Education also needs to be a core part of efforts to advance sustainable development in New Zealand. Progress in both these areas has been sorely lacking to date (see section 4.1). The government has made commitments in the international community to take a strategic approach to education for sustainability, and to integrate sustainable development into education systems at all levels (see section 3.1). It needs to ensure that these commitments are fulfilled.

Key areas for government to focus on are in the primary, secondary and tertiary education sectors (see below). The government also needs to look beyond the

formal education system, and to work with local government and other sectors of society to build up a mandate for changes needed for sustainability. Social marketing should be pursued to reach a wider audience on sustainability issues, as long as it is well researched, adequately funded and suitably developed. It is vital to ensure that messages from government departments to the general public and businesses are coordinated in a meaningful way. In addition, the government needs to take a more critical look at the content and quantity of advertising in New Zealand society (especially advertising that is targeted at children and young people) that may run counter to sustainability.

Primary and secondary schools

Environmental education has had a very rocky start in New Zealand schools. Education for sustainability has only recently come on to the agenda. The education of young people today has major implications for the future of New Zealand. For the vast majority of New Zealanders, environmental education has not been part of their learning in schools. Where environmental education has taken place, it has mostly focused on education 'in' and 'about' the environment (see section 4.3). This sort of education is essential for developing an ethic of caring towards other people and the environment. However, education for sustainability also requires people to address the underlying reasons for unsustainable practices.

It is essential to ensure that education for sustainability, including its environmental dimensions, has a strong presence in the primary and secondary school curriculum. Education for sustainability requires learning to be undertaken in a cross-curricula way (see section 3.4). The recent review of the curriculum has provided a timely opportunity to ensure that education for sustainability can be part of the formal education of every New Zealander. Other valuable initiatives, such as Enviroschools and the recent development of Sustainable Futures classes, need further support. It will also be essential to ensure that there is adequate professional development for teachers to enable them to implement education for sustainability in schools.

Tertiary education

Tertiary graduates need to have a core understanding of sustainability embedded in their education. Tertiary education institutes therefore need to follow the lead of many other universities and institutions around the world by encouraging education for sustainability throughout their organisations (see section 4.4). They need to address the ways that knowledge is sliced up into many different disciplines and to support learning across boundaries, while still allowing subject specialists. As noted above, there is also a need for all teacher training institutes to build on the environmental education successes of some colleges of education in New Zealand.

Recent reforms of the tertiary sector have enabled government to have a greater influence on tertiary education in New Zealand. It is essential to extend the government's vision for this sector to give much more priority to environmental sustainability (see section 4.4). The government needs to work with the Tertiary Education Commission to ensure it is contributing to this goal.

Community organisations

Many community organisations and environmental NGOs have played a vital role in promoting environmental education in New Zealand. Although it is important to maintain an environmental focus, it will be vital to engage in the broader debate on education for sustainability. The focus of many education efforts to date has been on individual changes that people can make to reduce their environmental impacts. It is helpful to keep this focus. However, it is also essential to empower people and organisations to redesign some larger institutional and economic systems that shape the sustainability of New Zealand society. This will require a careful consideration of how all forms of community organisations can better be part of the sustainability learning process.

Businesses

A focus on businesses is essential for sustainable development. Proactive businesses in New Zealand are now giving much higher priority to sustainable development. Although these businesses are still in a minority in the business community, business people are showing a growing willingness to learn about sustainability and to question many of their own activities (see section 4.6). Business people need to be supported and encouraged in these efforts. However, it is also vital to keep challenging businesses. To maintain a 'licence to operate' in society, businesses will need to increasingly reflect on the values that are embedded in their organisations, and to question some underlying assumptions. They will also need to delve into some deeper issues, such as the role of many businesses in consumer societies (see chapter 6).

7.3 Suggestions for future research

There is much more research that needs to be done in New Zealand on education for sustainability, although this should not be taken as an excuse to stall changes in the meantime. Some areas for future research are listed below. The order does not imply any priority, and the lack of any recommendations about who could undertake research is deliberate. The intent is to generate interest in various areas and to inspire innovative approaches and, hopefully, partnerships for research.

Tangata whenua perspectives on education for sustainability

As highlighted in section 1.3, although this report has looked at learning across

society, it has not had a major focus on tangata whenua. It is likely that many close connections can be made with the principles of education for sustainability and tangata whenua perspectives on the environment. Further research is needed in this area, and should be conducted in a culturally appropriate way.

Local government capacity issues

As highlighted in section 4.2, there are a variety of capacity issues for local government in the area of education for sustainability. For example, councils with a small ratings base have often struggled to provide environmental education programmes. Local government also needs to develop capacities within their communities to encourage more active public participation in decision making. Research could look at ways to address some of these concerns.

Education for sustainability in the tertiary sector

Although there is much research on environmental education in New Zealand schools, the tertiary sector has not had the same degree of attention. This is a significant gap, because if tertiary graduates do not have a core understanding of sustainability then the pathway to a sustainable future will remain a side road for far longer than necessary (see section 4.4). Research could look at ways to improve the uptake of education for sustainability in tertiary institutes across New Zealand.

7.4 Future involvement by the PCE

The completion of this report does not signify the end of the PCE's involvement with education for sustainability in New Zealand. We will continue to monitor this area and welcome any comments you may have on education for sustainability and this report. We encourage you to contact us via email, at education@pce.govt.nz, or through the post at PO Box 10-241, Wellington.

In *Creating our future*, the Commissioner made a commitment to conduct another review of progress with sustainable development in 2006-07.³ Education is essential for sustainable development. The Commissioner has therefore decided that the 2006-07 review will include a re-examination of education for sustainability. The United Nations Decade of Sustainable Development will be underway by this time (see section 3.1). The Commissioner will follow up on the key areas identified above to see what actions have been taken.

Appendix: List of background papers

There is much more information on education for sustainability than we were able to squeeze into one report. Background papers have been produced to provide more detail in the following areas:

- 1: Summary of interviews
- 2: Government strategies related to education for sustainability
- 3: The structure of the tertiary education sector
- 4: Advertising controls in New Zealand

These papers can be downloaded free of charge from www.pce.govt.nz. Copies can also be requested by contacting us directly.

Glossary and acronyms

biosecurity	The protection of New Zealand's environment, economic systems and people's health from pests and diseases. It includes trying to prevent new pests and diseases arriving, and eradicating or controlling those already present.
biosphere	The part of the Earth (up to a height of 10,000m and down to the depths of the ocean and several hundred metres below the surface of the land) and the atmosphere surrounding it, which is able to support life.
curriculum	A written plan that drives teaching. It coordinates the skills and concepts taught and evaluated to enhance student learning.
ecological footprint	A measure of how much land a person, or a population, needs to meet their current lifestyles.
formal education system	The system of pre-schools, primary and secondary schools and tertiary education institutions.
hapu	Family or district groups, communities.
iwi	Tribal groups.
kaitiakitanga	The responsibilities and kaupapa, passed down from the ancestors, for tangata whenua to take care of the places, natural resources and other taonga in their rohe, and the mauri of those places, resources and taonga.
kaupapa	Plan, strategy, tactics, methods, fundamental principles.
kohanga reo	Maori language pre-schools ('nests').
kura/kaupapa Maori	Maori medium schools within the formal education system.
maoritanga	Maori culture.
matauranga	Traditional knowledge.

mauri	Essential life force, the spiritual power and distinctiveness that enables each thing to exist as itself.
norms	Customary behaviours, standards, or patterns.
Papatuanuku	Earth mother.
rahui	Protection of a place or resources by forbidding access or harvest.
Ranginui	Sky father.
rohe	Geographical area of an iwi or hapu.
solid waste	All waste generated as a solid or converted to a solid for disposal. It includes wastes like paper, plastic, glass, metal, electronic goods, furnishings, garden and other organic wastes.
tangata whenua	People of the land, Maori people.
taonga	Valued resources, assets, prized possessions both material and non-material.
tapu	Sacredness, spiritual power or protective force.
te reo Maori	Maori language.
tertiary education providers	Post compulsory educational institutions that provide formal programmes of study.
tikanga	Customary ways of doing things, traditions.
wananga	A public tertiary education provider with an emphasis on the application of knowledge regarding ahuatanga Maori (Maori tradition) according to tikanga Maori (Maori custom).
waste stream	The flow of solid waste from homes, businesses, institutions or communities.
whanau	Family groups.
whakapapa	Genealogy, ancestry, identity with place, hapu and iwi.
worldview	A way of looking at and understanding the world. It is made up of many values, assumptions and beliefs.

Acronyms

DOC	Department of Conservation
EECA	Energy Efficiency and Conservation Authority
GDP	Gross domestic product
MFE	Ministry for the Environment
NGOs	Non governmental organisations
NZAEE	New Zealand Association of Environmental Education
OECD	Organisation for Economic Cooperation and Development
PCE	Parliamentary Commissioner for the Environment
RMA	Resource Management Act
STEP	Statement of Tertiary Education Priorities
TVNZ	Television New Zealand
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNESC	United Nations Economic and Social Council
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Endnotes

Introductory Sections

¹ Oxford Dictionary of English. 2003.

² UNESCO. 2002: 5.

Chapter 1

¹ PCE. 2002a.

² See PCE (2002c).

³ PCE. 2002d.

⁴ Huckle and Stirling (eds). 1996.

⁵ PCE. 2002b.

⁶ In contrast, 'weak' sustainability is characterised by a belief that the environment, society and economy are separate and competing interests. It suggests that environmental and social problems can always be solved by giving over-riding priority to the health of the economy. It does not acknowledge the ecological constraints that human societies and their economic systems operate within (see PCE (2002a)).

⁷ This approach is also consistent with the PCE's current strategic plan. Dialogue with participants during development of this plan clearly signalled that the focus of the PCE's work should be on the environmental dimensions of sustainable development, and not sustainable development *per se*.

⁸ See Background Paper 1: Summary of interviews.

⁹ See www.pce.govt.nz for more information.

¹⁰ Pacific Rim Institute of Sustainable Management and Knight. 2000: 79.

¹¹ See PCE (2002c). See also Background Paper 1: Summary of interviews.

¹² McKeown and Hopkins. 2003.

¹³ Smith. 1999.

¹⁴ See Background Paper 1: Summary of interviews.

Chapter 2

¹ MFE. 1997.

² Pawson and Brooking. 2002: 7

³ Roberts et al. 1995.

⁴ Pawson and Brooking. 2002.

⁵ Bell. 1996.

⁶ Eggleton. 1999: 8.

⁷ Cited in Eggleton. 1999: 11.

⁸ McNaughton. 1986.

⁹ See for example T.H. Potts (1878), 'National Domains', in Temple (1998).

¹⁰ Eggleton, 1999: 13.

¹¹ Robin Hyde, quoted in McNaughton. 1986: 9.

¹² Belich. 2001: 527.

¹³ McNaughton (1986) and Belich (2001).

¹⁴ Bell. 1996.

¹⁵ Pawson and Brooking. 2002:6.

¹⁶ Four percent of the population did not report an ethnicity and nearly a third of a million people identified with more than one ethnic group.

¹⁷ Statistics New Zealand. 2002b.

¹⁸ See PCE (1998a).

¹⁹ See Background Paper 1: Summary of interviews.

²⁰ Statistics New Zealand. 2002b.

²¹ New Zealand Government. 2003b.

²² Statistics New Zealand. 2003.

- ²³ New Zealand Government. 2003a.
- ²⁴ Cited in PCE. 2002a: 44.
- ²⁵ Consultation undertaken to inform the development of an Oceans Policy for New Zealand, www.oceans.govt.nz/policy/stage1.html [Accessed 2 Sept 2003].
- ²⁶ For examples see PCE (2002b) and Eckersley (1998).
- ²⁷ Murphy. 2001.
- ²⁸ Bell. 1996.
- ²⁹ Roberts et al. 1995.
- ³⁰ Forsythe Research. 2000. These results are very similar to the same survey conducted in Auckland in 1997 and similar to studies conducted in Australia.
- ³¹ EnviroSolutions. 2001.
- ³² MFE. 2001c.
- ³³ Massey University. 2001.
- ³⁴ See MFE (1997) and PCE (2002a) for an overview.
- ³⁵ MFE. 1997: 3.8.
- ³⁶ See for example Pawson and Brooking (2002).
- ³⁷ This does not mean to suggest that pollution per se is unsustainable – although it may be harmful. Pollution is unsustainable when it exceeds the environment's capacity to absorb and recover from it.
- ³⁸ Waste and energy issues are closely connected. For example when people 'consume' a product, they are also 'consuming' the embodied energy in that product – the amount of energy that was used to make it (and the energy that was needed to get all the materials it has been made from) and to transport it to the person who is using it.
- ³⁹ See PCE (2002a: 63).
- ⁴⁰ <http://www.reducerubbish.govt.nz/>.
- ⁴¹ *ibid.*
- ⁴² MFE. 2002.
- ⁴³ Total primary energy supply in New Zealand in 2002 was 773.16 petajoules and total consumer energy was 490.4 petajoules (MED, 2003a) . One workhorse can release about 2.75 megajoules of energy per hour.
- ⁴⁴ PCE. 2000b.
- ⁴⁵ MED. 2002b.
- ⁴⁶ MED. 2003b.
- ⁴⁷ MED. 2002.
- ⁴⁸ PCE. 2002.
- ⁴⁹ PCE. 2002a.
- ⁵⁰ <http://www.aucklandcity.govt.nz/auckland/introduction/people/default.asp>.
- ⁵¹ Fisher et al. 2000.
- ⁵² Bob Field (Toyota New Zealand), citing research at The Sustainable Business Conference. Auckland, 18 November 2003.
- ⁵³ A much more comprehensive analysis can be found in MFE (1997) and PCE (2002a). As highlighted in both these documents, a lack of good sustainability indicators in New Zealand also makes it difficult to assess many trends. See also Statistics New Zealand (2002a).
- ⁵⁴ PCE. 2002a.
- ⁵⁵ MFE. 1997: 3.45.
- ⁵⁶ Lopez. 2000: 1.
- ⁵⁷ MFE. 1997.
- ⁵⁸ Johnston, et al. 2000.
- ⁵⁹ See for example Lopez (2000) and UNESCO (1997a).
- ⁶⁰ This is based on 1997 figures produced by Ryan and Durning (1997).
- ⁶¹ Ryan and Durning. 1997.
- ⁶² McDonald and Patterson. 2003. Adjustments have been made for land productivity to enable international comparisons, as recommended by Wackernagel (1996). These sorts of calculations are always difficult to make when there is such a significant shift of goods around the globe. For example, New Zealand agriculture is supporting the populations of

other countries such as the United States, which has a 'deficit' in its own ecological footprint.

⁶³ McDonald and Patterson. 2003.

⁶⁴ Envirosolutions. 2001. See also MFE (2001b) and Environment Waikato (2000) phone survey.

⁶⁵ Hughey, Kerr and Cullen, 2002: 81

⁶⁶ See Background Paper 1: Summary of interviews.

⁶⁷ Bell. 1996: 53.

⁶⁸ MFE. 2003.

⁶⁹ Brendan Mosley, Knowledge Wave Trust, personal communication, October 2002.

⁷⁰ PCE. 2002b.

⁷¹ Pacific Rim Institute of Sustainable Management and Knight. 2000.

⁷² <http://www.mfe.govt.nz/issues/susdev/rio-findings/>.

⁷³ UNESCO 1998:15, see <http://www.unesco.org/education/esd/english/education/role.shtml>.

Chapter 3

¹ UNESCO. 2002:5.

² UNESCO-UNEP. 1976.

³ UNESCO-UNEP. 1978.

⁴ See for example Gough (1997), Knapp (2000) and Sterling (1993).

⁵ This term was first used in the World Conservation Strategy in 1981, but it was popularised in the 'Bruntland Report' (WCED, 1987).

⁶ UNCED. 1992: 583.

⁷ UNESCO. 1997c.

⁸ United Nations. 2002.

⁹ Davis (2001) cited in PCE (2002).

¹⁰ Tilbury et al. 2002: 9.

¹¹ Grove-White, cited in Foster, 1999: 3.

¹² See Background Paper 1: Summary of interviews.

¹³ See for example Gough (1997), Hopkins and McKeown (1999), Huckle (1996) and Sterling (1993).

¹⁴ Ralston Saul. 1997: 45.

¹⁵ Based on Thomson and Bebbington (2002: 4) and Sterling (2001).

¹⁶ Sterling. 1996.

¹⁷ McKeown. 2002.

¹⁸ In a school setting, education can also be thought of as a 'consistent whole' that includes the curriculum, pedagogy, and the structure and ethos of the organisation behind the education. See Stirling (1996).

¹⁹ See www.tki.org.nz/r/governance/nzcf/attitudes_e.php.

²⁰ McKeown and Hopkins. 2003: 126.

²¹ Fien. 2000.

²² Adapted from Hopkins and McKeown, 2002: 19

²³ These have been developed from contemporary literature on education for sustainability. See for example UNCED (1992), Blakeley et al (1999), Hopkins and McKeown (2002), Morrison-Saunders (1998), Plant (1994), Sterling (1993), UNESCO, (2002) and Tilbury et al (2002).

²⁴ Mead. 2000.

²⁵ See Background Paper 1: Summary of interviews.

²⁶ From www.quoteland.com.

²⁷ Huckle (1996) cited in Tilbury et al (2002: 9).

²⁸ From www.quoteland.com

²⁹ Tilbury. 1995: 5.

³⁰ Hulme. 1986: 4.

³¹ From www.quotationspage.com.

³² See Background Paper 1: Summary of interviews.

³³ From www.famous-quotations.com.

³⁴ Martin Luther King, 'Beyond Vietnam', speech at the Riverside Church, New York, 4 April 1967.

³⁵ McKeown and Hopkins. 2003: 119.

Chapter 4

¹ Department of Prime Minister and Cabinet. 2003.

² New Zealand Government. 2003a.

³ Department of Prime Minister and Cabinet. 2003: 10.

⁴ Department of Prime Minister and Cabinet. 2003.

⁵ The *Programme of action* is also linked to the *Growth and Innovation Framework and Key Government Goals to Guide the Public Sector in Achieving Sustainable Development*. One of these goals, as (identified in Annex One of the *programme of action* is to "foster education and training to enhance and improve the nation's skills so that all New Zealanders have the best possible future in a changing world."

⁶ Ministry of Education. 2002a.

⁷ Ministry of Education. 2002b.

⁸ New Zealand Government. 2003a: 3.

⁹ PCE. 2002a.

¹⁰ MFE. 1998.

¹¹ MFE. 1998: 3.

¹² MFE. 1994.

¹³ Ministry for the Environment. 1995: 57.

¹⁴ The linkages between these strategies and their relevance to sustainable development has been discussed in PCE(2002: 96-106).

¹⁵ See Background Paper 2: Government strategies related to education for sustainability.

¹⁶ Ministry of Education. 2002b.

¹⁷ EECA. 2001: 16.

¹⁸ DOC. 2000: 101.

¹⁹ MFE. 2002: 12.

²⁰ See Background Paper 2: Government strategies related to education for sustainability.

²¹ DOC. 2001.

²² DOC. 2003.

²³ See <http://www.immigration.govt.nz/Settlement+Pack/>.

²⁴ See Background Paper 2: Government strategies related to education for sustainability.

²⁵ http://www.acnielsen.co.nz/MRI_pages.asp?MRIID=3#AS.

²⁶ MFE. 1998.

²⁷ MFE. 1998.

²⁸ www.ccc.govt.nz.

²⁹ Wilson-Hill et al. 2001.

³⁰ MFE. 2001a.

³¹ PCE. 2002: 59

³² See Background Paper 1: Summary of interviews.

³³ See Background Paper 1: Summary of interviews.

³⁴ For more information see www.arc.govt.nz.

³⁵ For more information see http://www.businesscare.org.nz/bookshelf/newsletters/2002/BusinessCare_E-Newletter9.pdf or <http://www.smf.govt.nz/projects/summary.php?series=6000>

³⁶ Auckland City Council et al. 2001

³⁷ North Shore City Council et al. 2003.

³⁸ See Background Paper 1: Summary of interviews.

³⁹ Barry Harris. 2001. Pers. Comm.

⁴⁰ Local Government Act 2002, s 3.

⁴¹ Knight. 2003.

⁴² North Shore City Council et al. 2003.

⁴³ See Background Paper 1: Summary of interviews.

⁴⁴ MFE. 2001b.

⁴⁵ Ministry of Education. 1993.

⁴⁶ Bolstad et al. 2003.

⁴⁷ Codd. 2000.

⁴⁸ For example see Easton (1999).

⁴⁹ See also the Maori names at www.tki.org.nz/r/governance/nzcf/ess_learning_e.php.

⁵⁰ Having said this, it is also important to point out that Liberal Studies, which was part of the sixth form curriculum for many years, encompassed many aspects of education for sustainability, albeit not under this banner, and not from an environmental perspective. Other aspects of education for sustainability have also been covered from time to time, such as human rights education, which was included within parts of the Social Studies Curriculum.

⁵¹ Ministry of Education. 1999: 11.

⁵² Ministry of Education. 1999: 14.

⁵³ Ministry of Education, 1999: 11.

⁵⁴ See http://www.twoa.ac.nz/frames/mainframe_aboutus.htm.

⁵⁵ See Background Paper 1: Summary of interviews.

⁵⁶ Ministry of Education. 1999: 5.

⁵⁷ See Background Paper 1: Summary of interviews.

⁵⁸ Bolstad et al. 2003.

⁵⁹ Bolstad et al. 2003 (1): 46.

⁶⁰ See for example Gough (1997), Morrison-Saunders (1998) and Wilson-Hill and Van Rossem (2001).

⁶¹ Barry Law. 21 August 2003. Pers. Comm.

⁶² See www.enviroschools.org.nz.

⁶³ Wilson-Hill and Van Rossem. 2001

⁶⁴ Bolstad et al. 2003 (1): 46.

⁶⁵ See Background Paper 1: Summary of interviews.

⁶⁶ Law and Baker. 1997.

⁶⁷ Law and Baker. 1997.

⁶⁸ Ministry of Education. 2002d.

⁶⁹ For example Law and Baker (1997), Wilson-Hill and Van Rossem (2001); see also Background Paper 1: Summary of interviews.

⁷⁰ Wilson-Hill and Van Rossem. 2001.

⁷¹ OECD. 1995: 85.

⁷² OECD. 1995: 11.

⁷³ Barry Law. 21 August 2003. Pers. Comm.

⁷⁴ OECD. 1995: 89.

⁷⁵ Tilbury. 2004.

⁷⁶ Forum for the Future, et al. 1999.

⁷⁷ These include the Halifax Declaration (1991), Kyoto Declaration (1993), Copernicus Charter (1994), Swansea Declaration (1999), Talloires Declaration (1999) and Lunenburg Declaration (2001).

⁷⁸ Springett and Kearins. 2000.

⁷⁹ Pacific Rim Institute for Sustainable Management and Knight. 2000: 50

⁸⁰ This does not mean that all people should become a 'jack of all trades' to achieve education for sustainability. It merely highlights a need to develop some common understandings, and to appreciate the value of having many different perspectives.

⁸¹ OECD. 1995: 89.

⁸² Robottom (1987) and Tilbury (1998a, 1998b and 2004).

⁸³ Baalbergen and Ledbury. 2003.

- ⁸⁴ This audit was conducted by an Environmental Studies Academic Advisory Group (ESAAG) that has been established to provide an overview of teaching programmes on the environment at the University of Otago and to prepare suitable materials for advising students on environmental programmes and courses.
- ⁸⁵ MFE. 1995: 57.
- ⁸⁶ See Background Paper 2: Government strategies related to education for sustainability.
- ⁸⁷ Ministry of Education. 2002b.
- ⁸⁸ Ministry of Education. 2002b: 65.
- ⁸⁹ Ministry of Education. 2003b: 9.
- ⁹⁰ It also notes that different organisations within the sector are expected to interpret and apply the priorities differently, depending on their distinctive roles, 'strategic niches' and available resources.
- ⁹¹ Ministry of Education. 2002b: 66.
- ⁹² Ministry of Education. 2002b: 13.
- ⁹³ Ministry of Education. 2002b.
- ⁹⁴ Ministry of Education. 2002b.
- ⁹⁵ New Zealand Government. 2002.
- ⁹⁶ New Zealand Government. 2002.
- ⁹⁷ New Zealand Government. 2002.
- ⁹⁸ Wendell Berry, cited in Tilbury et al, 2002: 6.
- ⁹⁹ See Background Paper 1: Summary of interviews.
- ¹⁰⁰ For example, see Greenpeace's campaign against the WTO: www.greenpeace.org.nz.
- ¹⁰¹ See www.nzaee.org.nz.
- ¹⁰² See <http://www.landcare.org.nz/trust/index.htm>.
- ¹⁰³ Examples include the Peace Foundation, Amnesty International, the Global Education Centre (part of Dev-Zone), the Council for International Development and all the development NGOs that are focused on developing countries.
- ¹⁰⁴ See <http://www.naturalstep.org.nz>; <http://www.zerowaste.co.nz>; <http://www.businesscare.org.nz>.
- ¹⁰⁵ Pacific Rim Institute of Sustainable Management and Knight, 2000: 26.
- ¹⁰⁶ A stocktake of these initiatives has been undertaken. See Goldberg (2001).
- ¹⁰⁷ The mission and objectives of the NZBCSD have since changed. See www.nzbcscd.org.nz.
- ¹⁰⁸ This organisation was formed after a merger of the Auckland Environmental Business Network and Businesses for Social Responsibility.
- ¹⁰⁹ British Telecommunications. 2003.
- ¹¹⁰ Gilding et al. 2002: 11.
- ¹¹¹ Gilding et al. 2002: 11.
- ¹¹² These organisations employ just over 40 percent of the paid workforce.
- ¹¹³ See for example <http://www.nzbcscd.org.nz/story.asp?StoryID=3>.
- ¹¹⁴ See for example Henderson (2001).
- ¹¹⁵ See for example Kalaftides (2001).
- ¹¹⁶ See for example Gautier (2002).

Chapter 5

- ¹ Garbarino. 1982: 122.
- ² Schaffer. 1996: 204
- ³ Schaffer. 1996: 204
- ⁴ See chapters 2 and 6 of this report for examples.
- ⁵ John. 1999: 200.
- ⁶ Garbarino. 1982: 111.
- ⁷ Garbarino. 1982: 112.
- ⁸ Gottlieb. 1996: 8.
- ⁹ Gottlieb. 1996: 48.
- ¹⁰ Statistics New Zealand. 2002.

- ¹¹ It is also likely that it is more acceptable to state no religious affiliation today. [http://www.stats.govt.nz/domino/external/web/prod_serv.nsf/0/c68ef0a2fa520b27cc256ba500129c51/\\$FILE/ATT76B6U/cssnap1.PDF](http://www.stats.govt.nz/domino/external/web/prod_serv.nsf/0/c68ef0a2fa520b27cc256ba500129c51/$FILE/ATT76B6U/cssnap1.PDF).
- ¹² Statistics New Zealand. 2002.
- ¹³ Genesis 1: 26-28.
- ¹⁴ See for example Kinsley (1996).
- ¹⁵ For some examples see Kinsley (1996: 113).
- ¹⁶ For examples see Gottlieb (1996).
- ¹⁷ For examples see Kearns (1996).
- ¹⁸ See for example Pope John Paul II, 'The Ecological Crisis: A Common Responsibility' in Gottlieb (1996: 230-237).
- ¹⁹ Kearns. 1996.
- ²⁰ A Maori worldview is not usually defined as a 'religion' but it does consist of values, beliefs, narratives and rituals that connect people in a metaphysical way with their surroundings.
- ²¹ Roberts et al. 1995.
- ²² Mead. 2000.
- ²³ From www.quotationspage.com.
- ²⁴ The other three estates are: the legislative power that makes the law (Parliament); the executive power that makes decisions on a day-to-day basis (the government of the day); and the judiciary who interpret the laws (the courts). Power is in principle divided between these three powers to provide a counter-balance (although the executive branch of government in New Zealand can also push through legislation in Parliament).
- ²⁵ Colin James cited in NZBCSD (2003).
- ²⁶ See http://www.acnielsen.co.nz/MRI_pages.asp?MRIID=3#TV%20Viewership.
- ²⁷ Atkinson. 1994.
- ²⁸ Younger audiences are especially important for advertisers, as they often have a high disposable income. Very young audiences may also be targeted to establish brand loyalty, or to use them to influence their parents' spending patterns.
- ²⁹ Postman. 1985.
- ³⁰ See Background Paper 1: Summary of interviews.
- ³¹ See http://www.tvnz.co.nz/tvnz_detail/0,2406,111535-244-257,00.html.
- ³² Berkowitz et al. 2000.
- ³³ World Federation of Advertisers et al. 2002.
- ³⁴ Hamilton. 2003: 89.
- ³⁵ Lawson et al. 1997.
- ³⁶ See Background Paper 3: Advertising and the environment in New Zealand.
- ³⁷ Worldwatch Institute. 2003.
- ³⁸ McNeal. 1998.
- ³⁹ Quart (2003: 68-69) citing Donna Sabino.
- ⁴⁰ See http://www.ananova.com/news/story/sm_556089.html?menu=news.quirkies.
- ⁴¹ UNDP. 1998: 64.
- ⁴² Worldwatch Institute. 2003.
- ⁴³ Jacobsson. 2003.
- ⁴⁴ de Bruin and Eagle. 2000.
- ⁴⁵ See Background Paper 3: Advertising and the environment in New Zealand.
- ⁴⁶ UNDP. 1998: 64.
- ⁴⁷ <http://www.theindependent.co.nz/index3.html>. No data is available for how this compares with the rest of the world.
- ⁴⁸ Lawson et al. 1997.
- ⁴⁹ For this reason it has been suggested that a tax on television advertising could be used to fund messages that promote sustainability and to provide balance in media dominated by commercial messages. See UNDP (1998: 91).
- ⁵⁰ From 'Arawata Bill' by Dennis Glover in Temple (1998).
- ⁵¹ Roberts et al. 1995.

- ⁵² Eggleton (1999), Hebley (1998), McNaughton (1986) and Temple (1998).
- ⁵³ Eggleton. 1999.
- ⁵⁴ Hebley. 1998.
- ⁵⁵ Suzuki. 1997: 201-202.
- ⁵⁶ Johnston et al. 2000.
- ⁵⁷ Roberts et al. 1995.
- ⁵⁸ These are often referred to as 'discourses', which can be thought of as bodies of social knowledge.
- ⁵⁹ Fairclough. 1992.
- ⁶⁰ Hawken et al. 1999: 10.
- ⁶¹ Postman. 1985: 86.
- ⁶² Johnston et al. 2000.
- ⁶³ See PCE (2002: 60-61).
- ⁶⁴ de Graaf et al. 2001.
- ⁶⁵ de Graaf et al. 2001: 52.

Chapter 6

- ¹ MFE. 2002.
- ² Just how fast the waste problem is growing is difficult to judge precisely. As the waste strategy notes, data on the size of the problem is inconsistent, difficult to compare, and in many cases does not exist. See section 2.3 for data on the Auckland region, where monitoring has existed since 1983.
- ³ MFE. 2002.
- ⁴ Waste and energy issues are closely connected. For example, when people 'consume' a product, they are also 'consuming' the embodied energy in that product - the amount of energy that was used to make it (and the energy that was needed to get all the materials it has been made from) and transport it to the person who is using it.
- ⁵ MFE. 2002: 2.
- ⁶ MFE. 2002.
- ⁷ See www.reducerubbish.govt.nz.
- ⁸ United Nations. 2002.
- ⁹ OECD. 1997: 47.
- ¹⁰ Clarke. 2003: 2.
- ¹¹ Clarke. 2003: 24.
- ¹² Lawson et al. 1997: 18.
- ¹³ www.stats.govt.nz/domino/external/web/nzstories.nsf/Response/Household+consumption.
- ¹⁴ MFE. 2002: 9.
- ¹⁵ It is also interesting to see how this suggests people are "demanding, and being offered" frozen meals. But where did the demand come from? Source: <http://www.acnielsen.co.nz/industry.asp?industryID=4>.
- ¹⁶ Microwave ovens, like many other technologies can be regarded as a 'double-edged sword'. They can be used in ways that promote sustainability (e.g. compared to conventional ovens they can cook fresh foods with minimal energy) but also threaten it (if people are encouraged to use them in ways that produce more waste).
- ¹⁷ Durning (1992: 29) and Strasser (1999).
- ¹⁸ Durning. 1992: 29.
- ¹⁹ Strasser. 1999: 173.
- ²⁰ Strasser. 1999.
- ²¹ Clarke. 2003: 1.
- ²² Clarke. 2003: 1.
- ²³ This was partly due to the fact that production capacity needed to be diverted to produce war products.
- ²⁴ Hamilton. 2003: 91.
- ²⁵ John. 1999: 192.

- ²⁶ John. 1999: 202.
- ²⁷ John. 1999: 189.
- ²⁸ Advertisement in the New Zealand Listener. 11 October 2003: 31.
- ²⁹ See <http://www.adbusters.org/magazine/24/nothing.html>.
- ³⁰ Moschis and Moore. 1982.
- ³¹ Hawkins and Coney (1974) cited in John (1999).
- ³² Anholt. 2003.
- ³³ Denise Conroy cited in Clifton (2003: 20).
- ³⁴ Carley and Spapens. 1998.
- ³⁵ See UNDP (1998: 4).
- ³⁶ Victor Lebow cited in Durning (1992:21).
- ³⁷ Hamilton. 2003: 97.
- ³⁸ United Nations Economic and Social Council (UNESCO). 2002: 5.
- ³⁹ See Background Paper 1: Summary of interviews.
- ⁴⁰ UNDP. 1998: 38.
- ⁴¹ For examples see Bond (2003), de Graaf et al (2001), Eckersley (1998), Hamilton (2003), Schumaker (2003) and UNDP (1998).
- ⁴² UNDP. 1998: 2.
- ⁴³ Murphy. 2001.
- ⁴⁴ de Graaf et al. 2001.
- ⁴⁵ de Graaf et al. 2001.
- ⁴⁶ Hawken. 1993: 4.
- ⁴⁷ Watkins. 2000: 909.
- ⁴⁸ See <http://www.stats.govt.nz/domino/external/pasfull/>.
- ⁴⁹ http://onenews.nzzoom.com/onenews_detail/0,1227,225871-1-7,00.html.
- ⁵⁰ Bond. 2003.
- ⁵¹ Putnam. 2002.
- ⁵² See for example New Zealand Government (2002).
- ⁵³ Simon Kuznets cited in Hamilton (2003: 13).
- ⁵⁴ Simon Kuznets cited in Hamilton (2003: 13).
- ⁵⁵ For example see PCE (2002c), Eckersley (1998), Hamilton (2003) and www.gpiatlantic.org; www.pembina.org; www.anielski.org.
- ⁵⁶ For examples see Eckersley (1998) and Hamilton (2003).
- ⁵⁷ Strasser. 1999: 15.
- ⁵⁸ See Background Paper 1: Summary of interviews.
- ⁵⁹ Hawken. 1993: xiii.
- ⁶⁰ Eckersley. 1998: 5.
- ⁶¹ See Background Paper 1: Summary of interviews.
- ⁶² See for example OECD (1997).
- ⁶³ See for example Hawken et al (1999).
- ⁶⁴ See for example Scrimgeour and Piddington (2002).
- ⁶⁵ Ryan. 1997: 70.
- ⁶⁶ Department of Prime Minister and Cabinet. 2003: 23.

Chapter 7

- ¹ See also PCE (1998a).
- ² Sefton. 2003: 162.
- ³ See PCE (2002a: 131).

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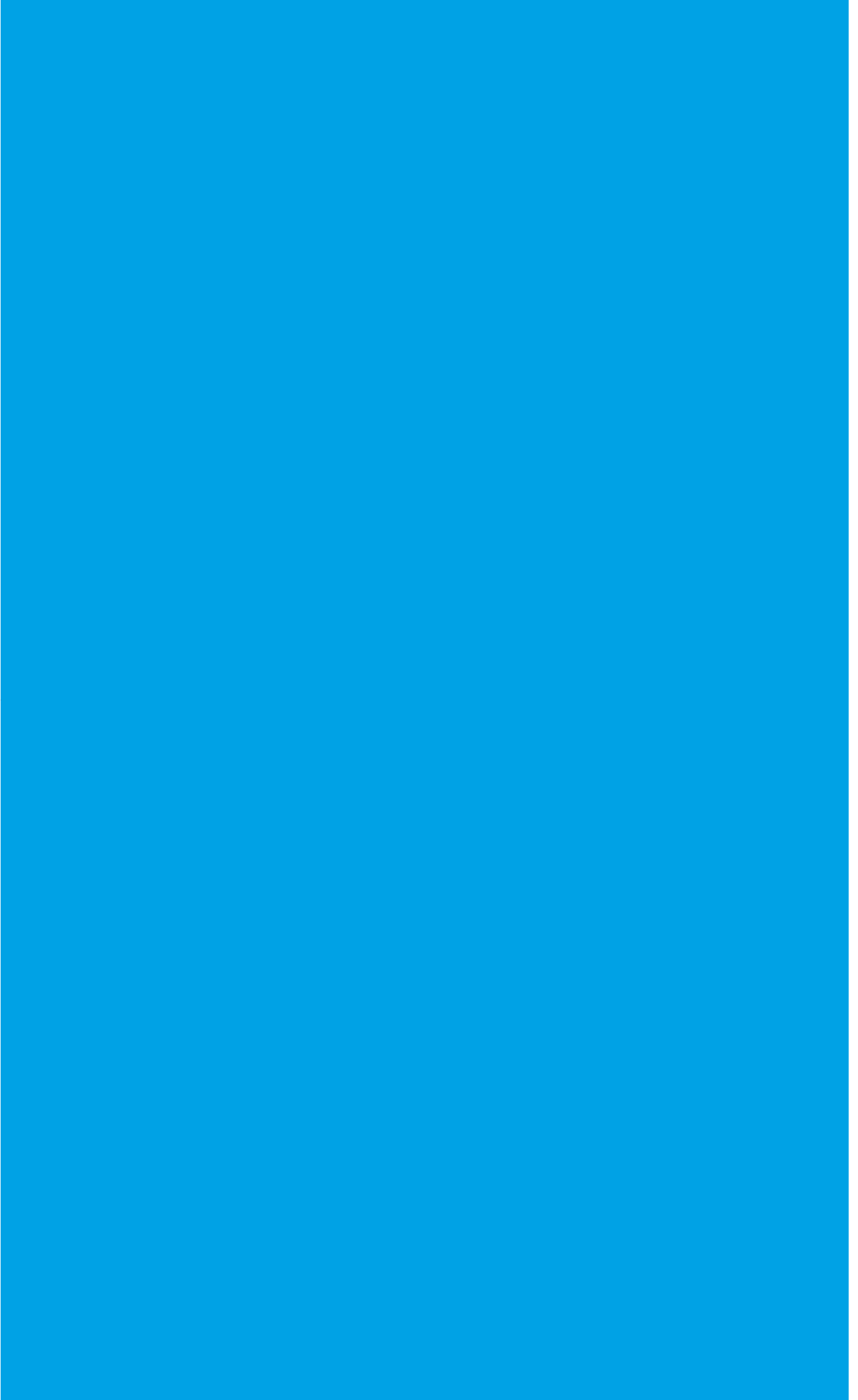
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