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Pathways to Resilient Futures:
Distilling Principles to Guide Landscape Policy Decisions

A thesis submitted in partial fulfilment of the requirements for the Degree of
Doctor of Philosophy in Landscape Planning
at

Lincoln University

by

Dennis Kinyanjui Karanja

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ABSTRACT

Abstract of a thesis submitted in partial fulfilment of the requirements for
the Degree of Doctor of Philosophy in Landscape Planning
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New Zealand landscapes are changing from both local and global economic drivers with contemporary changes causing conflicts tensions and unease as different interests assert their understandings, ideologies, meanings and interpretations at the local landscape level. Regional councils and territorial local authorities have to deal with challenges of managing natural and physical resources, and in particular landscapes, in this rapidly changing environment. To manage, they require stable principles of landscape change decision making acceptable to a range of stakeholders and, applicable at landscape policy level and at the everyday landscape level. Using an interpretive case study of Central Otago, three alternative futures of landscape change were presented to key informants to provoke decision making on landscape change. Through a reflexive inquiry and discourse analysis the key informants' accounts were analysed and compared with literature, and the findings and their theoretical and policy implications are discussed. The findings show that, one, principles of landscape change decision making are expressed, and conceptually framed around three categories; substantive, governance and process types, and three levels of specificity; generic, benchmark and operational. Two, there are significant tensions, gaps and tactical silences in these principles, and three, landscape change is a discursive work framed by among other things competing discourses, power and scale relations. Key policy implications include first, managing adaptively to account for episodic nature of change including dysfunction and obsolescence, second, expressing policy goals at the landscape level and third, ensuring continuity of community engagement. The latter two, it is suggested, are met through local landscape strategy making.

Key words: Landscape change, landscape policy, decision making, principles, discourse analysis, contests, tensions, silences, discourses, power, scale relations, landscape strategy making.

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Abbreviations and Māori Terms

CODC - Central Otago District Council

DoC - Department of Conservation

EIA - Environmental Impact Assessment

EIS - Environmental Impact Statement

ELC - European Landscape Convention

IMP - Iwi Management Plan

MCWSG - Manuherikia Catchment Water Strategy Group

NEPA - National Environment Protection Act

NZILA - New Zealand Institute for Landscape Architects

ONFLs - Outstanding Natural Features and Landscapes

ORC - Otago Regional Council

Participant designations:

C#-Community key informant

I#- Initial key informant

P#- Professional key informant

R#- Reference key informant

RMA- The New Zealand Resource Management Act 1991

RPS- Regional Policy Statement

SEA- Strategic Environmental Assessment

TLA- Territorial Local Authority

Iwi -Tribe.

Iwi authority - The authority which represents an iwi and which is recognised by that iwi as having the authority to do so.

Kāi Tahu - Descendants of Tahu, the tribe.

Kāi Tahu ki Otago - The four Papatipu Rūnaka and associated families and groups of the Otago Region.

Kaitiakitaka/ Kaitiakitanga - Exercise of customary custodianship in a manner that incorporates spiritual matters, by takatawhenua who hold Manawhenua status for particular area or resource.

Kotahitanga - Unity or solidarity - consensus in decision making (Aotearoa-New Zealand Landscape charter)

Mahika Kai - Places where food is produced or procured.

Manawhenua - Those who exercise customary authority or rakatirataka.

Rakātirataka/ Rangātiratanga - Chieftanship, decision-making rights.

Rohe potae - Traditional tribal area.

Rūnaka/Rūnanga - Local representative group or community system of representation.

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Tangata whenua/Takata whenua - The iwi or hapū that holds mana whenua in a particular area.

Taoka/ taonga - Treasure.

Wāhi Tapu - Places sacred to takata whenua.

Preface

This thesis seeks to identify principles to guide decision making upon landscape change. The investigation is focused upon principles that can be applicable to policy making for the Otago Region and useful in the day to day management of the territorial local authorities in the region. The research has potential relevance beyond the study setting.

The thesis is presented in two parts. Part one comprises Chapters 1, 2, 3 and 4. Chapter 1 introduces the research approach, explains the rationale of the study, presents the research problem, states the research questions and the aim, objectives and assumptions of the study. In Chapter 2 theories and models which inform the inquiry are discussed. The theory of principles of decision making and landscape change management from science and planning literature are examined. Chapter 3 explains the methodology used in the study, while Chapter 4 introduces Central Otago - the case study context- and the alternative futures used in the interviews.

Part two comprises Chapters 5, 6, 7, 8 and 9. In this part written sources and key informant accounts are analysed to draw out principles of landscape change management. The conceptual framework developed from an early analysis of key informants' accounts is explained and applied throughout the rest of the thesis. In Chapter 5, normative principles from science and planning literature, and international practice are explained. Chapter 6 examines principles of landscape change from New Zealand statutes, instruments and professional practice. Chapter 7 presents the case study field findings. Chapter 8 compares the findings from Chapters 5, 6 and 7. Chapter 9 discusses the implications of the study; conclusions are drawn with reference to literature, significance of the findings is shown and contribution to knowledge considered, and possible avenues for future research are suggested.

PART ONE

Chapter 1: Introduction

1.1 Background and context

As humans seek to expand and prosper, they manage landscapes in ways that favour increased production of food, fibre, and promotion of commerce while minimising exposure to danger (Kareiva, Watts, McDonald, & Boucher, 2007). Landscapes are products of economic and socio-cultural actions, and they in turn influence both economy and society, implying that changes in economy or society are often reflected in the changing character of landscapes (Wood & Handley, 2001). As people interact with their environment, including landscapes, they seek ways and strategies to manage shared natural resources (McKinney & Harmon, 2004), and to reconcile competing values while reaching acceptable solutions (Weber, 2003). The search for principles of landscape change management and decision making is an expression of such strategies. To understand the principles of landscape change decision making, it is important to understand the concept of landscape, landscape change, and how people collectively make decisions on landscape change.

The focus of this study is landscape change, and the starting point is the concept of landscape. In New Zealand professional usage, landscape “reflects the *cumulative* [my italics] effects of physical and cultural processes” (NZILA, 2012). This is similar to the European definition of landscape as an “... area, as perceived by people, the character of which is the result of the *action and interaction* [my italics] of natural and/or human factors ... ” (Council of Europe, 2000, p. 3). Change is therefore fundamental to landscape. However, there are tensions within the landscape concept, for example between landscape as place and landscape as the polity and its laws (Olwig, 2002, 2009) and between landscape as experienced and shaped by humans, and concepts of landscape that emphasise its functions and spatial characteristics as a biophysical system (Farina, 2006; Wu, 2013).

In New Zealand, there is a further bi-cultural reason why it is important to understand the different conceptions of landscape. To the indigenous people, Māori, ‘landscape is who they are and what shapes their identity (Menzies & Ruru, 2011, p. 141). Landscape is animated and alive—concepts which are expressed both in everyday language and in Māori creation narratives. Landscape is thus fundamental to both cultural identity and social wellbeing (Menzies & Ruru, 2011). To the South Island Māori, for instance, the landscape has deep cultural and spiritual significance due to its use for resource collection, mahika kai, and other historical associations.

Landscape may also have deep cultural attachment and identity for European New Zealanders, developed from inter-generational ties to farming, living or recreation in particular places (Swaffield & Hughey, 2001). High country families, for example, are intricately and inseparably connected to the landscape through skills and knowledge, practices and experience (Dominy, 2001). Landscapes therefore embody physical cultural heritage as well as metaphysical associations, elements that are critical in the formation of identity, place and wellbeing (Strecker, 2011). The study therefore assumes that understandings of landscape, as place, polity and system all underlie discourses of landscape change.

It is also important to define the role of landscape policy. According to the European Landscape Convention landscape policy means ‘an expression by the competent public authorities of general principles, strategies and guidelines that permit the taking of specific measures aimed at the protection, management and planning of landscapes’ (Council of Europe, 2000 p 3). Many public policy initiatives for New Zealand have been economic, for example, pasture quality improvement, conservation of soil fertility and structure, and pest control policies (Swaffield & Hughey, 2001). Hence ‘landscape’ policy is embedded in wider policies about the way land is used, and features in established local narratives of use and occupancy (Swaffield & Brower, 2009). The narratives of the South Island have been predominantly pastoral use, sheep and beef farming mainly, although there are other competing narratives such as gold mining in Central Otago, scenic tourism, and wilderness.



Figure 1.1: Old and new uses - tailings contrast with vineyards in the background at Northburn station, Cromwell (Carpenter, 2015).

Although the landscapes of New Zealand have been modified by the earliest activities of Māori and later European settlers (Brooking & Pawson, 2007; McWethy et al., 2010), it is the more recent changes to both special and ordinary landscapes that have caused particular unease (Stephenson, 2008). Currently, New Zealand landscapes are responding to global economic and technological drivers which often transcend local political constituencies. The effects of globalisation on these landscapes are negotiated through political processes and expressed through policy at different scales (Swaffield & Brower, 2009). Bowring (2013) has identified three scales used in responding to landscape change; the global, the regional, and the local. A global focus tends to deny particularities of place, while the local seeks to oppose or avoid homogenising tendencies. The regional, the in-between, offers a more viable scale of mediating globally driven change to the landscape. However, these nested scales are not sufficient in governance of environment, including landscapes, where there are multiple networks (Bulkeley, 2005) and centres of influence. New Zealand landscapes are influenced by a number of statutes, particularly the nested hierarchies of the Resource Management Act 1991, i.e. national and regional policy statements and district plans, are administered through political territories established under the Local Government Act 2002, as well as being influenced by global market drivers, for instance wool and milk markets. A resilient landscape policy response implies employing both nested scalar aspects and networks in landscape policy formation.

The different scales and networks also embody power relations in landscape change. Several authors (Egoz, 2013; Kong & Law, 2002; D. Mitchell, 2008) have argued that power contests in landscapes are about different interests seeking to emphasise their versions of ideologies, understandings, meanings and interpretations, and therefore their identities on the landscape. New Zealand landscapes are therefore sites of contests about the different understandings and ideologies of the nature of landscape change, and contests between public and private rights framed around land ownership (Swaffield & Hughey, 2001). The dynamics are further complicated by influence of experts' assessments which often identify qualities significant to 'outsiders' and less important to 'insiders' (Stephenson, 2010), thus amplifying identity contests.

Individual and collective identity is intimately bound up with events, and historical associations with the landscapes and, like culture, is not only about social relationships but is profoundly spatial (Stephenson, 2008). Egoz (2013) argues that landscape plays a role in shaping individual and collective identity in response to the human need to belong. Identity can be used to reinforce certain landscape ideals and include, and aggregate people around such landscapes. Equally, it can be used to marginalise and exclude certain stakeholders (Egoz, 2013; Stobbelaar & Pedroli,

2011). As globalisation becomes more influential, people get a keener urge to identify with their local landscapes (Stobbelaar & Pedroli, 2011). In this way, identity at the local scale is being used to oppose globalisation, not merely for the sake of it but because of the uncertainty it represents (Bowring, 2013). Identity here plays a role of gatekeeping by appealing to scale- seeking to privilege the small scale of locality against broad scale global influences.

The discussions above signify tangled relationships of landscape, power, identity and scale. This suggests that when landscapes change due to global or local economic drivers, it is real places, people and communities that change (D. Mitchell, 2008). It then follows that these should be considered in policy and decision making. Equally, the debate over landscape change management is loaded with cultural ideals which critically influence public policy formation (Swaffield & Brower, 2009). However, it is not clear what principles can be used to manage landscape change or construct resilient responses to such global and local change, while recognising cultural ideals, power and scale relations.

The diverse meanings, interpretations and debates make landscape policy and decision making over landscape change a discursive work, involving diverse players in what Williams, Penrose and Hawkes (1998) have called shared decision making. Moreover, decision making for landscape change can be understood from the expressions of what is acceptable, desirable or unacceptable change (Quétier et al., 2010). Bearing in mind the diversity of interests (for example, Kong & Law, 2002; D. Mitchell, 2008; Swaffield & Brower, 2009) these different expressions suggest contests of (Quétier et al., 2010) and between multiple, competing but at times overlapping discourses that reflect the diversity of the life worlds from which they are drawn (Allmendinger & Tewdwr-Jones, 2002; Healey, 1993, 1996). These therefore, require new and inclusive ways of thinking, valuing and knowing (Allmendinger, 2009; Healey, 1999).

Several authors, (for example, Feindt & Oels, 2005; Leibenath & Otto, 2014; M. Scott, 2008; Usher, 2013) have highlighted the significance of discourse in socially constructing and comprehending environmental and planning matters, and in particular landscape. Gailing and Leibenath (2013) have argued that landscape is socially constituted through discourses, involving contested structures of meanings. The implication for landscape change is that, first; landscape and the problems in landscape are socially constructed, although the disputes are about real physical landscapes, second, the struggles between interests, understandings, meanings and interpretations form a vital element of landscape policy; and third, the discourses affect and are also affected by material practices and power relations (Leibenath & Otto, 2014; Usher, 2013).

To understand landscape change decision making contexts, this study adopts an interpretive approach using discourse analysis (Leibenath & Otto, 2014) in which concepts of discourse, power and policy are intertwined. Unlike the everyday use where discourse and discussion are interchangeable, discourse as used in this study means an assembly of ideas concepts and categories used to express meaning through language (Hajer & Versteeg, 2005). The study is therefore theoretically grounded in the broader concepts of decision making for planning as communicative or discursive practices (E. R. Alexander, 2001; Allmendinger, 2009; F. Fischer & Forester, 1993; Forester, 1999; Healey, 1997, 2007).

The location of the study is the Otago Region, covering over 30,000 square kilometres with a third of this being more than 100 metres above sea level. This southern landscape with its high mountains and lakes, upland plateau and broad pastoral basins has become iconic in branding, locally and globally (Lough, 2005). By 2005, the region had attracted more than two million visitors (Cairns, 2005). However Otago landscapes are changing, particularly those in Central Otago, from extensive pastoral beef and sheep farming to intensive dairy production and from agricultural to viticulture and amenity/ lifestyle migration, and there has been a notable increase of tourism, residential, energy and resource extraction projects (Hall, 2006; Lough, 2005). For example, attention for Cromwell in Central Otago has significantly changed from its natural and recreational values to commercial value in viticulture and winemaking as a new cast of local and international players infuse capital. This has the effect of improving the regional brand, and spawns increase in migrants, tourists, new service industry, real estate and a knock on effect of attracting even more migrants and capital resulting in what has been termed globalising countryside (Perkins, Mackay, & Espiner, 2015). What has been observed in Cromwell is replicated elsewhere, for example in Queenstown (Woods, 2011). Tenure review and the resulting expansion of conservation estate and subdivision of freehold land are important local dynamics which enable formerly pastoral high country farm lands to be released to new uses (Swaffield & Brower, 2009) such as to be subdivided for more profitable forms of agriculture and lifestyle housing. These changes and the uncertainty they bring are the source of significant conflict within the planning system.

The Resource Management Act 1991 (RMA) is a performance based approach to planning, but its application to date has proven to be ineffective in managing cumulative landscape change (Parliamentary Commissioner for Environment 2004). The emphasis of policy and decision making has been upon defensive strategies (preservation and protection of picturesque values and specified areas or features). Attempts by Territorial Local Authorities (TLAs) to develop policies to

meet those RMA requirements have met opposition from rural communities leading to prolonged legal contests in the Environment Court (Swaffield & Hughey, 2001) over what Higgs (2007, p. 62) terms very “difficult decisions”.

Under provisions of the RMA, the Otago Regional Council (ORC) is responsible for the sustainable management of natural and physical resources of the Otago Region, and as part of this is tasked with preparing a regional policy statement (RPS) on a range of matters (Otago Regional Council, 1998, 2015). These include management of landscape change, and to improve its practice ORC seeks improved understanding of landscape change and to identify principles that can be incorporated into the Regional Policy Statement to guide Territorial Local Authorities in their day to day decisions on landscapes. This practical need complements the theoretical issues already outlined in shaping the study.

1.2 Research question

Using Central Otago as a case study, the research seeks to identify principles of acceptable landscape change by asking the ‘why?’ of change, ‘who?’ should be involved, and ‘how?’ this change should happen. The research seeks to elicit from community, experts and professionals, principles that can guide landscape change decisions. The discussion so far frames a fundamental question that this research seeks to address which is; ***what principles might be used to guide landscape change, in a way which can be acceptable to a range of stakeholders?***

1.3 Aim

The research aims to examine landscape focused decision making by professionals and communities, and to distil principles of landscape change management which can be used in a regional policy statement.

1.4 Research objectives

1. To establish a conceptual framework for understanding and deliberating upon landscape change.
2. To identify substantive principles to guide decision making upon landscape change in rural landscapes. These principles are to be focused on enabling land use change in a way and at a rate that is acceptable to the communities with an interest in the affected landscapes.

3. To use the Central Otago District as a case study in distilling principles that can be applied more generally in the Otago Region and beyond.

1.5 Assumptions

In framing this research the following specific assumptions were made:

First, landscape change can be managed in a way that is acceptable to stakeholders within the existing legislation. However, the study does not limit focus upon the RMA in its current form, but upon its general principles as details are always open to statutory amendments.

Second, the study assumes that the community and professionals can make rational decisions when presented with plausible scenarios of landscape change.

Third, decisions made on landscape change are based upon values, intentions and assumptions that can be articulated within discussion over landscape change as decision making principles.

Chapter 2: Principles of decision making for landscape change

Introduction

There are three theoretical pillars in this thesis namely, decision making and public policy, public discourse, and concepts of landscape change. The study is specifically informed by the discursive nature of late modernity and its focus on deliberation and democracy. This milieu is also characterised by different rationalities and tensions between diverse players, roles and value systems which require reflexive approaches (Beck, 1992; Dryzek, 1990, 2000; Giddens, 2013).

The purpose of this chapter is to examine theoretical understandings of how public policy decisions are made and to consider how they might be related to landscape change. The chapter is therefore divided into two sections. Section 1 examines decision making, public policy, and public discourse with reference to landscape. Section 2 examines scientific and professional understandings of landscape change and its management.

Section 1: Decision making and public policy

This section will focus on understanding the meaning of decision making and principles of decision making; examine rational decision making in policy and identify the tensions and rationalities of landscape change within a modern democratic environment, and the relevance of discourses to shaping principles of landscape change management.

Decision making is the process of making choices or selecting preferred options (Parsons, 1995). Decisions can be unique, one off occasions, or be iterative with recursive, mutually reinforcing and constraining influences on future decisions (Brehmer in Chermack, 2004). While everyday individual decision making involves making simple choices in immediate situations, public policymaking typically focuses on longer term outcomes that require public discourses (Majone, 1989), although the nature of public decisions varies from the long-term and complex, for example, developing a policy for treatment of serious medical conditions, to short-term and routine (Lehto, Nah, & Yi, 2012).

Public policy is the government expressed intention or chosen course of action, and sanctioned by legal instruments such as laws, regulations or orders (F. Fischer, 2003). Public policy has to do with spheres designated public in contrast to private ones (Parsons, 1995). The distinction between public and private spheres will be examined in a later section dealing with interests. Public policy implies then making decisions in the interest of the public.

Decision making in a public policy context often involves mediating the conflicts arising from diverse interests, and evaluating alternatives (Bouchart, Blackwood, & Jowitt, 2002; Stone, 2012). In public policy making, decision making involves distribution of resources and prioritising of values, which are not single acts but series of actions across the policy cycle, for example, what information to choose, what options to consider, what strategies to apply in implementation and how to evaluate policy (Parsons, 1995). Rating or evaluating alternatives is termed judgment, and is closely allied to decision making (Lehto et al., 2012). In spite of the growing significance of global institutions such as the UN, the primary locus of decision making regarding most public policy is still within nation states. Here, decisions are made at different arenas and levels, with varying degrees of significance, in multi-layered networks. Decision making may need to be explained through diverse frameworks with multiple facets or from multi-disciplinary sources (Parsons, 1995).

2.1 Rational decision making in a democratic society

In the public sphere, decisions are often complex as they involve multiple stakeholders, serious consequences across socio-political and economic spectra, and the impacts are long-term. This study has assumed that three broad tenets define modern public politics namely, democracy, rationality and communication. Dryzek (1990) argues that these tenets are either honoured or vilified in equal measure, and often accommodate each other tentatively. Therefore, to understand decision making in a democratic society, this study will first examine several concepts which inform the process. These are democracy, public policy, public decision making and principles of decision making.

2.1.1 Democracy and public policy

Democracy means literally ‘government by the populace at large’ derived from Greek *dēmokratīā*, *demos* ‘people’ and *–kratīā* ‘rule’. *kratīā* from the noun *krátos* ‘power, authority (CREDO, 2013). Democracy is the rule by the people, a system where people govern themselves, a community government based on collective decision making about issues affecting them (Christiano, 2006; Cohen, 1971; Song, 2012). Democracy is characterised by direct or indirect public participation in collective decision and policy making and public deliberation on what matters to the community. They deliberate on alternatives, and enact the choices preferred by the majority. Other pillars of democracy are governance by consent, equality and transparency (Cohen, 1971; Song, 2012; Stone, 2012; Whelan, 1983).

Public participation in collective decisions is based on equality, meaning that eligible participants have equal say in a matter, or the interests they advance count equally in decisions and policy making (Christiano, 2006; Stone, 2012). For the participants to feel they have equal status, the processes of democracy are exercised transparently (Christiano, 2006). Eligibility implies defining the people or *demos*, that should participate in decision making, and why, and suggests spatiality of democracy. This raises two principles of inclusion in decision making by *demos*, the principle of 'all affected interests', and the coercion principle.

The principle of 'all affected interests' implies that all those affected by a decision or policy should have a say in making that decision or policy. This implies whoever they are, wherever they are. However, this principle presents a circularity problem because it is often difficult to determine who will be affected by decisions or policies before they are enacted (Arrhenius, 2005; Christiano, 2006; Saunders, 2012; Song, 2012). For example, a policy to allow agricultural intensification in a particular way might affect dairy farmers in Otago, New Zealand recreationists and conservationists with an interest in the conditions of rivers, Asian investors in milk production systems. Which of these should have the right to participate in decision making on intensification, and effectively on landscape change?

The coercive principle implies that those under a territorial state's power- that is the citizens of a particular state- should have a say in decision making. However, a state policies might bind even those outside its contemporary jurisdiction, for example, those who will be born in and reside in the state's territory in future. It is not possible to include them in current decisions or policy making. If all those affected were to make decisions, the constituency becomes too large and unmanageable. If only those under the state's jurisdiction participate, it excludes some of the affected outside territorial boundaries and of course those who may become future citizens. These are problems of size and stability in defining the *demos* involved in decision making (Arrhenius, 2005; Christiano, 2006; Saunders, 2012; Song, 2012).

These inclusion principles both imply global *demos* and *demos* in flux, that is, different *demos* for different decisions. This makes the principles unstable and difficult to determine who are affected or coerced, and therefore who should make decisions or policies. Furthermore, democracy has to meet two conditions: political equality as a constitutive condition, and solidarity as an instrumental condition. These conditions cannot function if democracy is only procedural. Equality means no one is superior to another, and vests similar moral worth, rights and liberties, including equal political influence in all. Solidarity means mutual concern and giving weight to each other's interests in reasoning, and it derives from shared culture, history and values.

Solidarity therefore implies a community, a group of people with shared values, way of life and identity, and who mutually recognise each other as belonging to the group. Solidarity therefore gives stability to the *demos* and a *demos* in flux would not allow these conditions to be met (Song, 2012).

The conditions of democracy therefore presuppose a stable spatial territory, or state which bounds the *demos* (Song, 2012). This conforms with the historical development of democracy in Europe which indicates formation of a territory as a precondition to democracy (Mazzuca & Munck, 2014). The state or territory provides the fundamental conditions of democracy. States have been the historical and moral custodians of the means for safeguarding rights and liberties that constitute democracy. They support democratic function through legislation, executing the laws and mediating conflicts. States act as the primary site of solidarity and trust, which form the basis of democratic participation and representation. In instances of indirect decision making, representatives act on behalf of the constituents. The links between the two are established on solidarity and trust (Song, 2012).

Democracy then, drawing from its definition, also presupposes rationality, community and communication. These facets are illustrated in Figure 2.1 below. If the conditions of rationality, community and communication are not met, democracy cannot happen (Cohen, 1971). Rationality is about the nature of the members of a community which implies that they can form or apprehend rules of judgment for action and apply these to situations and also be able to communicate and reason with one another effectively about common matters (Cohen, 1971). It also entails making choices and decisions based on sound reasoning, or resolving issues through individual cognition and social interactions (Dryzek, 1990) and includes giving reasons for the decisions or choices made (E. R. Alexander, 2006).

A community is a group that shares a commitment to a way of life, belonging and history and a shared space (Song, 2012). The community, as a collection of people, is the primary site at which democracy operates. Democracy implies the process of this group's participation in governing itself. For this governance to function, the community must be identifiable and have common concerns (Cohen, 1971) issues or interests (Song, 2012). Communities may have varied sizes, duration or geographical boundaries, may be non-political or political. However, individuals often belong to more than one of these communities simultaneously (Cohen, 1971). The distinction between non-political and political communities is explained further under the concept of communities of interest and communities of place in section 2.3.4.

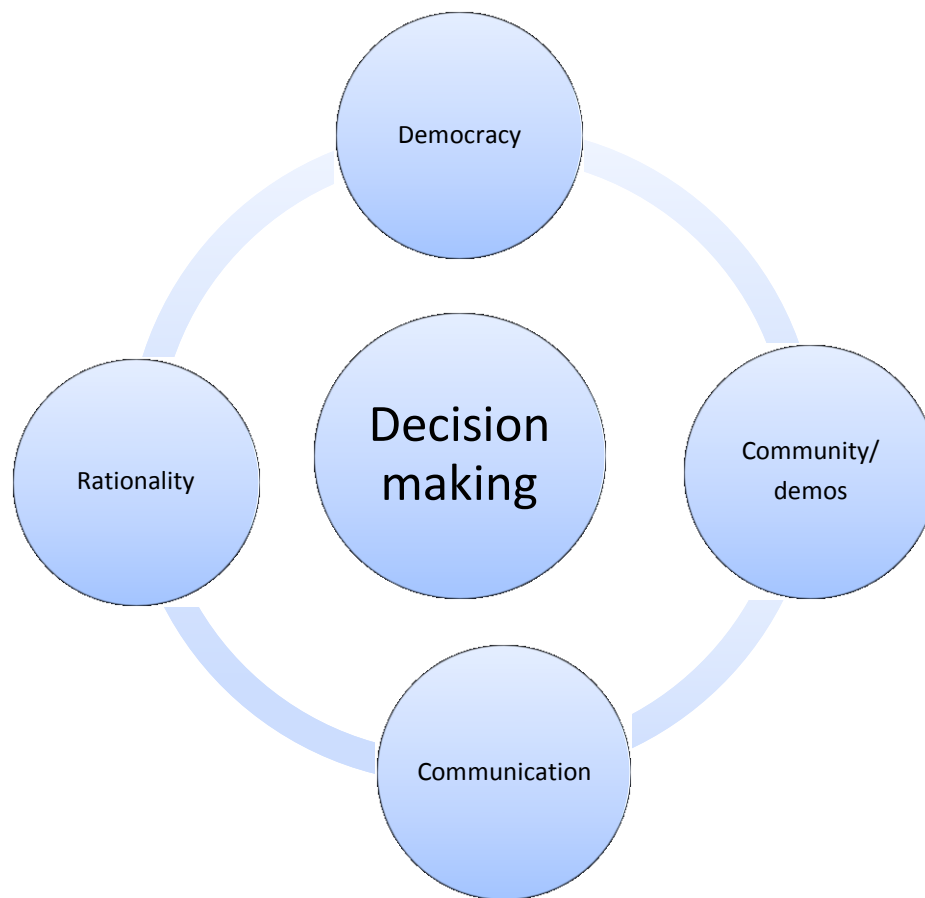


Figure 2.1: Facets of democracy framing modern public politics

Communication is transmission of information between individuals or groups (Merriam-Webster, 2013), for understanding or agreement. Communication in the public sphere, termed communicative action, involves making, expressing and testing claims, including appeals to meaning, truth propositions, and norms (Dahlberg, 2004). In critical theory, undistorted communication between participants is fundamental to deliberation. Communication is used to organise and co-ordinate action (F. Fischer, 2003) and enhances co-operation between individuals and between groups which share common concerns (Carpini, Cook, & Jacobs, 2004). The conditions of communication will be revisited under the concept of communicative rationality.

Democracy exists when a community collectively constructs and aggregates values and preferences, and applies voting or representation to assert political authority. This implies making collective decisions upon matters of public interest. However, Dryzek (1990, 2000) argues that the modern process of democracy shifts the focus from just mere aggregations of interests, voting and self-government, to focus on discussion and deliberation processes. This shift has produced two different approaches, namely deliberative and discursive democracies (Dryzek,

2000). The actors, communication and scope are the main factors that are used to distinguish the two.

In deliberative democracy, individuals mull over decisions in a non-social process, and they do not always need to communicate to others. Deliberation connotes a calm and reasoned argumentation (Dryzek, 2000). Deliberation can also be a conversation in dyads- one-on-one dialogues, with two people discussing a matter between them. In this context, individuals question others, and are open to questioning and challenge about their positions. In public settings deliberation takes the same concept of dyads (Gundersen, 1995, 2000), enormously increasing the time required for deliberation (S. J. Scholz, 2002). Additionally, deliberative democracy assumes the participants can be motivated by desire to promote the common public good. Through deliberation, they reflect and change their preferences or become aware of the common good. However, the goal is not to transform their preferences to this common good, but to filter non-public claims out of public discourse (Song, 2012).

In contrast, discursive processes are social and intersubjective, and are communicated to others, hence the term discursive democracy. Discursive democracy encompasses a wider scope, beyond the confines of state institutions such as constitutions, political systems and boundaries. It emphasises the construction of public opinion through contentions and disputation between diverse discourses, and communication through a variety of means, including rhetoric, storytelling, and even humour. The communication approach is open across differences, and reflexive, allowing questioning and challenging of positions, and even of the approach itself (Dryzek, 2000). The approach contends that democracy should not be confined to humans, but should extend to non-human and environment participants. This is an ecological approach where the interests of nature are aggregated alongside those of humans (Agyeman, Bullard, & Evans, 2003; Dryzek, 2000; Dryzek & Stevenson, 2011; Houser, 2014; R. E. Mitchell, 2006; S. J. Scholz, 2002). There is a large body of literature examining ecological democracy, indicating how non-human participants can be incorporated into discursive democracy, but given the thesis question, the study focuses on landscape democracy. This implies that landscape is not regarded as having a life of its own but is regarded as a decision making arena.

Landscape democracy is an emerging concept that has been coupled to discursive democracy in various ways. The European Landscape Convention, for example, envisages wide participation in what is termed a true landscape democracy (Council of Europe, 2000). Landscape democracy is "... the operationalization of democratic and good governance principles, such as transparency, accountability, participation, legitimacy and coordination, in multi-stakeholder processes at the

landscape level ... ” (Minang et al., 2015, p. 396). Landscapes involve diverse stakeholders with competing perspectives, interests and goals, and this multiplicity of interests raises the question of who should make decisions on landscape, why and how (Minang et al., 2015). This is not just a problem of landscapes. As Arler argues, although democracy implies communities governing themselves, the unanswered key question in politics generally, and in landscape change management in particular, is who should make decisions, where, how and why (Arler, 2011).

One way of answering this question is by providing a model for democratic decision making in landscape matters (Arler, 2011). Arler’s model is based on three democratic sets of values which are self-determination, co-determination and participation, and impartiality and respect for arguments. Self-determination implies independence of individuals in decision making in electing and pursuing chosen ideals in the private sphere. Individuals decide privately free from coercion and elect to promote and pursue what they conceive as right and good. Autonomy does not suggest doing whatever one wishes. However, there are contests over whether determination of what is good can be left to the private sphere. The implication is that, what is good for individuals might not be the same for groups, so this good ought to be determined corporately. Participation ensures equal influence in deciding public affairs. For example, common goods such as management of landscapes cannot be left to private spheres (Arler, 2011; Arler & Mellqvist, 2014).

Since co-determination and participation mean the involvement of all community members in determining the common good, this good may result from aggregation of private preferences or publicly deliberated outcomes. A third value set, impartiality and respect for arguments, is drawn on to qualify what counts as common or private. This is a procedural set applied in negotiating co-determined outcomes. Here participants act communicatively rather than strategically by subjecting their arguments to test and scrutiny by fellow participants. Ensuring all arguments are examined through the same impartial procedures promotes equity (Arler, 2011; Arler & Mellqvist, 2014).

From a discursive democracy perspective therefore, discourses as understood in this thesis are not prisons, static ways of thinking or behaviour, but are means and positions to raise and challenge arguments (Dryzek, 2000). Argumentation in turn requires some basis for making choices. Environmental issues, including landscape change and management, are complex and involve diverse public and private interests, values and preferences, and discourses, and thus require principles by which to compare alternatives. Dealing with public decisions means therefore that the principles which apply in public context are discursively generated.

2.1.2 What are principles?

Principles are self-evident truths or truth propositions which form comprehensive and fundamental bases of assumptions and foundations for systems of beliefs (Merriam-Webster, 2013; "Oxford English Dictionary," 2013) and therefore significant considerations or grounds in support of or in opposition to actions. They indicate what is valuable and what is not (L. Alexander). The main feature of principles is being very clear and self-evident by not needing explanation by more manifest truths (ARTFL The University of Chicago, 2014).

Principles are interpretively derived from logic, common sense and utility (Alpa, 2010) meaning they are influenced by inference, empirical and pragmatic considerations. However, regardless of the mode of origination, humans do not distinguish between them in application (Colyvan, 2013). Principles are often interpreted through disciplinary lenses, for example, doctrinally by science, jurisprudential principles from the courts and legislative principles from legislators (Alpa, 2010). When used in law, principles imply specific abstract rules applicable to particular concrete situations (Alpa, 2010; Berryman, 2003), meaning they are conditionally constrained to function only in those specific situations, therefore not universal. Laws are logically deduced from one or more principles (Berryman, 2003). When used in jurisprudential context they are used to reinforce application of rules and assign internal consistency to motivation (Alpa, 2010). This is the context of interpretation of RMA by the Environment Court in New Zealand. Other renditions include public policy principles, environmental management principles, landscape ecology principles, and the subject of this study, principles of decision making for landscape change management.

In public policy, principles are generally accepted norms, valid across a wide range of issues and different levels or scales (Ringius, Torvanger, & Underdal, 2002). Broadly speaking, when termed universal, principles lend themselves to general acceptance. Moreover, they make persuasive influences on people regardless of declared beliefs (ARTFL The University of Chicago, 2014). Policy principles at general, comparative and operational levels can be translated into rules and brought to bear on particular policy issues such as climate change (Ringius et al., 2002), and landscape change. Therefore Ringius et al (2002) argue, principles are central in forming a platform from which to manage policy issues.

Principles when extracted from generalisations and abstraction are called normative principles and they describe how situations ought to be (Alpa, 2010). In contrast descriptive principles accurately express empirical behaviours as they are, to allow prediction and control (CREDO,

2013). More specifically in landscape change, normative principles are analogous to normative models, and the descriptive principles to descriptive models (Nassauer, 1995). Because descriptive principles are based on descriptive models which highlight existing patterns, they might not address conflicts of socio-political and ecological values. Normative principles in contrast are proactive 'oughts and shoulds' which do not leave translations of scientific and cultural concepts of landscape change management to be directed by political circumstance or momentum of custom (Nassauer, 1995).

The aim of this study is to specifically seek normative principles to guide decision making upon landscape change, implying a proactive rather than description or characterisation of landscape change. Therefore this is a search for universally accepted influences regulating the operations and changes in the landscape. However, Lindenmayer & Hobbs (2007) have cautioned that in seeking generalisations we must recognise that landscapes are contextual and products of unique processes, therefore the same sets of principles will not be applicable everywhere or at all times. By this argument, Lindenmayer and Hobbs are emphasising that principles have levels of generality or specificity in application. Ringius et al (2002) have classified principles into three levels of specificity namely, general, comparative formulae or rules, and operational indicators with specific reference to particular contexts which in this study are expressed as general, benchmark and operational principles. General principles apply widely; for example sustainable management. Benchmark principles are used to compare similar situations in different places and contexts, for example, water quality standards in a landscape. Operational principles are specific to particular contexts, for example, protection of a specific feature in a specific landscape.

2.2 Decision making tensions

Decision making in a democratic society is characterized by several tensions; among them public versus private interests, and associated collective values versus individual preferences. The process also involves non-experts and experts playing diverse roles. These tensions also may find expression in various groupings in decision making, here termed communities of interests and communities of place. These broad concepts will be explained in the following sections.

2.2.1 Concepts of public and private interests

The idea of public policy presupposes a sphere held in common that is separate from the individual. The public implies the context which is open to governmental or social regulation, community modification and common actions (McHugh, 2007; Parsons, 1995). Conversely, the private is that part that is not subject to governmental or community regulation and view

(McHugh, 2007). As has been noted from a variety of fields, the distinction is helpful but there are interpenetrations of these spheres in everyday practice (McHugh, 2007; Outhwaite, 1996; Parsons, 1995).

Public interests are those things including goals held in common by the community. However public interests are not always enduring and may change with time, effectively meaning public interests are those things currently held through consensus. Among major reasons for communities to rally around public interest are the desires for survival, self-defence and perpetuation. Private interests include an individual's own welfare, which in market economies might include their wellbeing, that of their friends and families (Stone, 2012).

Public interests may also involve organised private interests which have come together in some way (Outhwaite, 1996; Stone, 2012). When private interests are organised around gain, this can be termed a market, in contrast to a polis primarily driven as a community. Often, what the individuals or private interests desire for themselves and for the community might be in conflict (Stone, 2012). While organised private interests have become active in the political realm and public sphere, equally, functions of the private sphere are subject to regulation by public authorities, creating semi-public and semi-private spheres (Outhwaite, 1996). Parsons (1995), McHugh (2007) and Dunn (2004) have highlighted the fluid nature of this distinction noting, however, that the duality has persisted for practical reasons only. This flux is resolved when preferences and values are examined later in this chapter. The distinction, however, implies differences in decisions framed by the two perspectives, and it is important to distinguish between public decisions and individual decisions, and the role of argumentation in each (Majone, 1989). Public interest decisions are framed to garner support and often in an inclusive way and cater for social, ethical, and moral values and norms of the public in contrast to private sphere decisions driven by profit and or utility (Lehto et al., 2012; Stone, 2012; Wickersham, 2011). However, although individuals base their decisions on preferences, they still draw on social norms of the groups they belong to. Since it is impossible for a group decision to maximise the preferences of each individual member, trade-offs are made to arrive at acceptable public decisions (Lehto et al., 2012) and cater for the multiple legitimate stakeholders laying claim to collective goods and sharing accrued social costs and benefits. These imperatives make it difficult to apply the same logic in both public and private sphere decision making (Dunn, 2004).

Contemporary decision making in the public sphere in democratic countries requires openness and accountability in decisions exposing explicit criteria and the logic of approaches (Gregory & Keeney, 1994), and therefore requires joint decision making methodologies which assist in

making 'better considered, more equitable, public policy decisions (Pidgeon & Gregory, 2004). Since decision judgments are explicit, they allow auditing and analysis, further providing a rational perspective of judgments made, and thus can generate principles to guide further decisions (Goodwin & Wright, 2004). Decisions in turn can be retrospectively used to identify preferences and values (Pidgeon & Gregory, 2004). Decision makers if presented with alternatives will evaluate and make decisions when the implications of alternatives are different enough, and they do this primarily to achieve more in value terms. It can therefore be argued that the primary drivers for decision problems are values (Bell, Raiffa, & Tversky, 1988). Hoversten (2013) for example, has shown that landscape alternatives presented in decision making are themselves value laden and cannot be separate from value but are expressions of what is valued. It is on such bases that this study will seek to use decisions made on alternative scenarios to elicit value based principles. The following section will examine how values and preferences relate to decision making.

2.2.2 Collective values and individual preferences

Preferences are those things deemed to have superior worth over others (Oxford English Dictionary, 2012) while value is the worth of something. Values can also be referred to as impersonal preferences when made in the interest of other than self (Sagoff, 1986). To distinguish between their operations in the private and public spheres, this study ascribes preferences to individuals, and values to communities or groups.

Values are the ideals and principles people consider important in their lives, ideas that give purpose and meaning to their thoughts and actions (Murphy, 2005). In this study values are conceived as group or societal constructs of the desirable or positive choice, goals and intentions subscribed to by the group or community (Hitlin & Piliavin, 2004; Sagoff, 1986). The groups are made of members who agree to the intersubjective intentions which define and bond the group (Sagoff, 1986). Values pose what are the socially preferable end states, transcend situations, and in guiding evaluation or action, they are ordered by importance. In the environmental context, values influence both individual and collective decisions with a major concern in this line of thought being that changes of values, lead to changes in decisions and behaviour towards the environment (Dietz, Fitzgerald, & Shwom, 2005). It has been argued that commonly held values provide a reference base for management, policy and decision making on environmental matters (Reser & Bentrupperbäumer, 2005).

Values can be derived from beliefs, and equally, they can shape beliefs (Hitlin & Piliavin, 2004). Values in groups are framed through negotiations (Majone, 1989). When values are used to mediate, they are conceptual norms derived through a reflective process and not quick judgment (Dietz et al., 2005). This reflection allows formulation and reformulation of ideas, giving stability to the resulting values (Shiell, Hawe, & Seymour, 1997). The stability of values therefore supports decision making in instances of conflicted preferences (Dietz et al., 2005). When pursuing values, a person does so as a member of a group not as an individual. In so doing they act as judges of policy decisions (Sagoff, 1986).

Preferences are often applied in measuring welfare in utilitarian terms, meaning welfare is assumed to have been provided if preferences as ranked by the individuals have been satisfied (Sagoff, 1986; Shiell et al., 1997). The institutions of democracy and markets use aggregated individual preferences to influence policy and resource allocation. In democracies, individuals exercise their preferences through voting. In a market people assert their preferences and negotiate with others to reach mutually satisfactory positions in exchange of goods and services. In such settings, policy is preference based (Hovenkamp, 1994). However, meeting preferences may not be always desirable since some of the preferences are not amenable to existence of a community, for example sadistic or unjust preferences (Sagoff, 1986). Moreover, many preferences, such as consumer tastes, may be arbitrary, unstable and changing (Sagoff, 1986; Shiell et al., 1997).

Although it has been argued that the purpose of public policy is to satisfy individual welfare (Stokey & Zeckhauser, 1978), democratic participation based on one person-one vote, and market policy based on willingness to pay, are not sufficient measures to guide public policy formation. Instead of preferences, public policy gives greater weight to objective judgments of shared outcomes (Hovenkamp, 1994). This can be done through value based policy formulation, because individual preferences, although legitimate, are fairly unstable (Sagoff, 1986; Shiell et al., 1997), and although individuals change their preferences of public policy, they still subscribe to stable collective public values which differ from their individual opinions (Page & Shapiro, 1992). This means public policy should be formulated through communally shared values and common intentions, hence framed in public terms (Sagoff, 1986).

2.2.3 Non-expert and expert roles in decision making

Majone (1989) argues that policy making is neither purely political nor purely scientific, but trans-scientific. This means questions of fact asked through scientific language may not be entirely

answerable through science but through procedures involving non-experts and experts. However, the interaction of these groups often exposes confrontation in unstated assumptions, and conflicting interpretations of facts. Although in some instances experts know better than non-experts it might not be proper to cede decision making to experts, as this would violate the equal voice tenet of democracy (Stone, 2012). Instead decision making should embrace participatory approaches which include non-experts and experts tackling complex policy arguments together (F. Fischer, 1993b).

Participation is the act of sharing in group decisions, design and delivery of policies by citizens, a legitimate decision forming partnership between the community and planning agencies (Fagence, 1977). Public participation as a democratic ideal is agreeable to all decision makers, however, the level at which they should participate is a highly charged debatable issue (Arnstein, 1969). Figure 2.2 below compares the different levels of influence in citizens' participation against the shift from sole expertise driven command and control, to non-experts and experts co-determining outcomes.

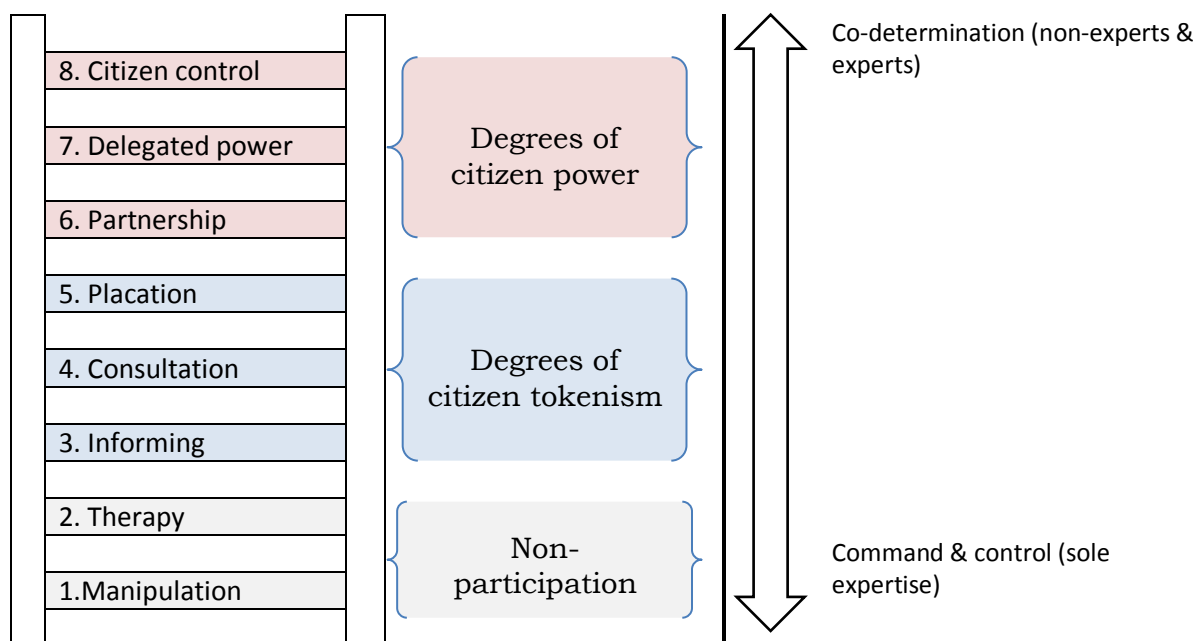


Figure 2.2: Modified Arnstein's ladder of participation reflecting co-determination

Arnstein's ladder has eight levels of participation and non-participation, each rung showing the influence of the citizen in determining decision making outcomes. The bottom rungs 1, manipulation, and 2, therapy, are not really participation, but are used by power-wielders to educate, and cure, the participants. These are diversionary methods meant to gain support from the participants for whatever the power wielders decide is appropriate. Rungs 3, 4, and 5 are

different degrees of tokenism – symbolic participation. At rung 3 (informing), experts inform the citizens in a top-down approach without negotiation or feedback. Both the information and answers given to questions are superficial. Rung 4 (consultation), is the first genuine step to participation. Here, participants can voice their concerns; however, no assurances are given that these will count in decision making. At rung 5 (placation), there is a higher degree of influence through hand-picked participants. Much more than being heard, their concerns are considered by the decision makers. The citizens have an advisory role; however, the power wielders retain the majority influence, and the final say in decision making (Arnstein, 1969).

Rungs 6, 7, and 8 represent genuine citizen focused participation. At rung 6 (partnership), there is authentic participation where decisions are reached through negotiation, and there are clear mechanisms to make trade-offs and resolve stalemates. At rung 7 (delegated power), negotiation is a main feature, and the citizens retain the dominant influence in decision making. At rung 8 (citizen control), the community has full control of decision making on plans and programmes (Arnstein, 1969).

Arnstein focused on participation of have-nots in decision making, who are analogous to non-experts in this study. Used this way the ladder of participation can depict how participation in decision making has shifted over the years in the developed world. The shift, for example, in the UK (Moore-Colyer & Scott, 2005), and New Zealand (Ministry for The Environment, 1999), show change from non-participation and decisions being made on behalf of the community by experts, to co-determination of outcomes by both the non-experts and experts.

Non-expert public participation in decision making has not always been possible. In the UK, for example, for most of the 20th century, the public played a minor role in determining landscape change matters since professionals and the elite viewed them as incapable of appreciating landscape aesthetics. Currently, however, this has changed to discourses defined by inclusivity, involvement and empowerment (Moore-Colyer & Scott, 2005). Many traditions have emphasised the role of experts instead of non-expert public in problem solving. Since environment problems involve complexities which have for long been investigated by natural scientists, it seemed natural for most governments in the developed world to use experts in framing policy in such domains (Dryzek, 1997). However, in New Zealand the enactment of the RMA 1991 placed environmental decision making within the domain of communities via the requirement for consultation on adverse effects of developments on resources (Ministry for The Environment, 1999). The arguments above may point to the public as non-experts, a position tentatively held in this study, however, with the recognition that there are experts embedded within the public.

As the nature of public policy changes from the traditional command and control archetype to the emergent facilitative and collaborative management protocols, increasingly the public is being involved in decision making (Sevenant & Antrop, 2009). These planning approaches encompass political objectives and public participation based on knowledge, validated against current technical, political and moral imperatives, and future risks, and done by public agencies in public interest (Faludi, 1973; Healey, 2009; Rydin, 2003). The focus of planning therefore, shifts from the process and procedures orientation to become more fluid, uncertain and reflective embracing contemporary discourse and its emphasis on democracy, race, gender and culture (Allmendinger, 2009) among other issues.

Stirling (2006) has highlighted broad motivations for participation which are normative, substantive or instrumental, but maintains that participation does not fall neatly into any single one of these classifications. Normative considerations seek the involvement of the widest possible constituency as an end in itself, with the aim of countering incumbent power and allowing those affected by decisions to participate. In contrast, substantive imperatives seek public participation to increase knowledge and information for decision making. It is assumed that with the bases of diverse and extensive knowledge, social learning is fostered and robust evidence base provided for better policy outcomes. Instrumental considerations use participation as a means to an end in justifying decisions. The goals are to improve public trust and confidence in policy makers. Justification is considered strong where the policy makers favour a certain decision or weak where the initiators are flexible as to outcomes but keen on managing the administrative and political backlash of the outcomes (Stirling, 2006).

Renn recognises the roles of non-experts and experts in decision making, however, neither can influence public decision making robustly if used independently. Participation should therefore involve non-experts voicing public concerns, and experts (Renn, 2004) to reduce adversarial decision making which breeds distrust and alienation between the public and policy makers (Gregory & Keeney, 1994). Open transparent decision making processes translate to successful consensual and sustainable ends. Local opinions and idiosyncratic knowledge gleaned from experience and observation should augment expertise (Milligan, O’Riordan, Nicholson-Cole, & Watkinson, 2009) with trust-building and co-determination- deciding together as a community as the end goal (Renn, 2004). The integration of non-experts and experts in procedural frameworks of decision making, enables consensual generation of policy (Renn, Webler, Rakel, Dienel, & Johnson, 1993). This also means a shift in focus from outcomes to process and from sole expertise to public-inclusive mechanisms (Garmendia & Stagl, 2010).

This implies in the broadest sense the replacement of expertise based instrumental and objectivist approaches with discursive approaches. This involvement of experts in public policy is termed democratization of rationality and signifies democracy rather than hierarchy (Dryzek, 1990). The role of experts is one of knowledge mediators and brokers who offer their knowledge resources in accessible and useful ways in the discursive processes (Healey, 1997).

Decision making in complex systems should be validated by democratic processes which embrace continuous change, uncertainty and multiple legitimate views (Garmendia & Stagl, 2010). Overall, public participation in decision making improves procedural and substantive quality, legitimacy and accountability while enhancing the participants' trust, capacity and understanding, both of the process and among themselves. Premium is placed on facts and values, and especially values of communities affected by decisions (Dietz & Stern, 2008).

2.2.4 Communities of interest & communities of place

Policy making presupposes existence of communities which are striving to achieve something as coherent groups (Stone, 2012). However, although the community metaphor has been useful for planning, it might give the false impression of an integrated place-based social world (Healey, 1997). Conflicts arise within communities about goals and membership, which are critical in determining who participates in decision making (Stone, 2012). This is because current society is characterised by groups sharing particular places but with social links beyond those particular locations (Healey, 1997). When groups of people share common social resources, frameworks and perspectives they are a community of interest. They are not confined to a particular location but might even be spread globally. One may belong to several communities of interests simultaneously, but these allegiances may change over the course of time (Wenger, 1998). Communities of interest share common concerns, problems or passions (Hearn & White 2009). In contrast, a community of place, (at times termed people-in place) shares a particular location (Healey, 1997). The two notions of communities of interest and communities of place may magnify the tensions which face not just policy makers, but the communities themselves in decision making. This is critical in this study due to the nature of landscape change and also the case study context.

2.3 Rationalities

In public decision making, the purpose of policy is not just to make the right choices but to establish the appropriate, plausible and defensible bases for decision making (Anderson, 1979). This study terms these 'rationalities'. In public decision making and planning, rationality is used to

account for the decisions and actions taken (E. R. Alexander, 2006), and link knowledge with actions (Perera, Euler, & Thompson, 2000). Actions are termed rational if they conform to the ideals of the people concerned (R. W. Scholz, 1983). All public policy arguments are framed by sets of value principles, which also determine how policy problems are expressed. To further understand the principles that underpin decision making in a democracy we need to examine several rationalities. These are substantive, procedural, instrumental and communicative rationalities, which are shown in figure 2.3 below.

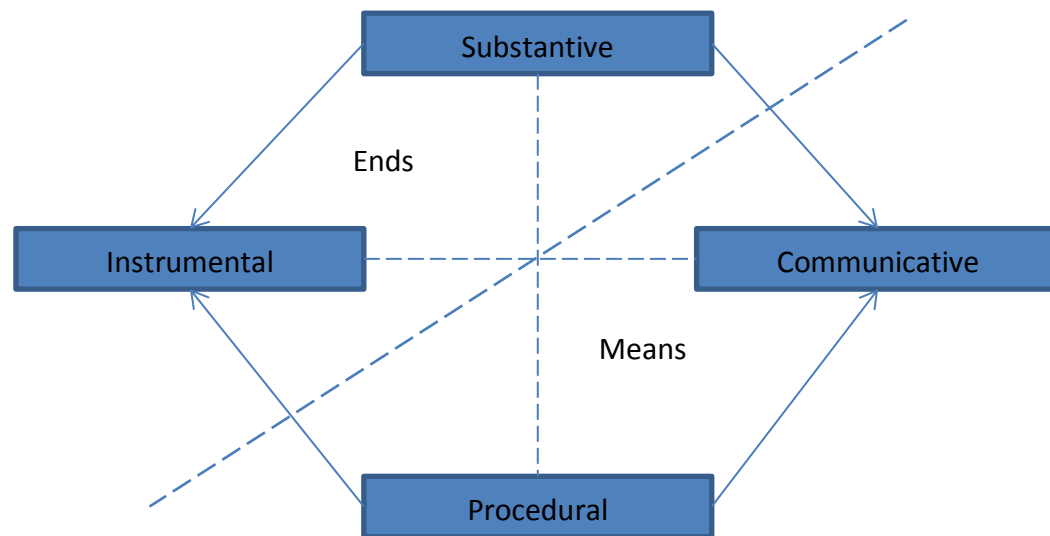


Figure 2.3: Broad rationalities of planning and decision making

The rationalities are distinguished by the value principles and the weight, emphasis and significance given to these values. The rationalities, as ideological thinking might take similar terms, for example public interest, freedom, and community, vest them with different meanings and give them different degrees of emphasis (Anderson, 1979). Therefore, these rationalities should be regarded as a spectrum rather than 'either or' alternatives (Perera et al., 2000).

2.3.1 Substantive rationality

Substantive rationality involves consideration of goals, selecting among options and defining their priorities (E. R. Alexander, 2006) based on value postulates or cluster of values which are accepted as plainly true and fitting within the particular worldview (Kalberg, 1980; Kolb, 1986). These values are not judged by consistency or efficiency (Kolb, 1986) but are ordered into patterns to enable value-rational actions (Kalberg, 1980). Therefore behaviour is described as substantively rational and is justifiable if it leads to achievement of stated goals within particular contextual conditions and constraints (Simon, 1976). This is an outcome focus which succeeds where situations are clear and unambiguous (Majone, 1989). For example, the Water Plan

Change 6A (PC6A) developed by the Otago Regional Council sets out the numerical limits for acceptable water quality for all catchments in the Otago region (Otago Regional Council, 2015). This is setting of ends.

2.3.2 Instrumental rationality

Instrumental rationality conceives what can be achieved and defines the best and most effective means to achieve that, and or works towards set goals logically. The focus is on progress, rational efficiencies and consistency in realizing goals, products and outcomes (E. R. Alexander, 2006; Amdam, 2010; Kolb, 1986; Perera et al., 2000) in both individual matters and public policy (Dryzek, 1990, 1993). This rationality implies objectivism with universally applicable rules and procedures for establishing causal relationships. It requires that matters of fact, and values be judged through criteria accessible to all people (Dryzek, 1990, 1993).

In this approach, choice is rational if it is the best means to achieve given objectives. Consequently, policy makers specify desired objectives and outcomes, and examine these against alternatives and their consequences, choosing the path of maximum benefits (Majone, 1989). Among its assumptions are, unitary and limited actors, calculated choices and clear alternatives (Majone, 1989), a predictable future, and the assumption that the focus in public interest is to attain the maximum utility (Allmendinger, 2009). The result is what has been termed clean, calculating and homogenizing approach exposing a world of clarity and orderliness (Dryzek, 1993). These assumptions consequently lead to failure of the approach (E. R. Alexander, 2006; Allmendinger, 2009; Dryzek, 1993; Majone, 1989) because, today's society is characterised by diverse interests, objectives and multiple viewpoints framing competing issues (Kure, 2010; Majone, 1989). Although valued for its simplicity, instrumental rationality cannot suffice in complex programmes and situations which are not reducible to single goals (E. R. Alexander, 2006), and which spread into political and administrative domains, making it difficult to delink these domains or entirely remove the interferences (Dryzek, 1990).

2.3.3 Procedural rationality

In contrast, procedural rationality focuses on the processes or mechanisms used to choose and align actions to specific goals (Simon, 1961, 1976). Majone argues that, in conditions of uncertainty, substantive and instrumental forms of rationality cannot be achieved and are replaced by consistency in the valuation of consequences of multiple alternatives and their consequences. If the subject issues are based on debatable facts and values, or the rightness of outcomes is contestable, procedure becomes of critical importance. To succeed in such instances,

decision making should focus on processes rather than outcomes (Majone, 1989). When negotiating complex issues characterised by high uncertainty, the substantive rationality focus on optimal solutions should be put aside and instead prominence given to procedural rationality which focuses on quality of decision process (Garmendia & Stagl, 2010). What Majone, and Garmandia and Stagl are suggesting is a shift of emphasis from substantive rationality to procedural rationality in public matters.

2.3.4 Communicative rationality

(Fischler, 2000) argues that whereas Habermas calls power the capacity of the public to effect change, Foucault terms it resistance to power. These two conceptions of power reveal the assumption that humans resolve problems through struggle. Communicative rationality proposes a shift from influence or control of the public through state power and coercion, to free discourse. Through such free and open discursive ways, conflicts and social problems can be dealt with effectively (Dryzek, 1990). As Habermas argues, humans are not autonomous subjects competing for personal preferences, but the sense of ourselves and our interests are socially constructed communicatively (Healey, 1996). Communicative rationality, framed by decentralization and experimental approaches, is proposed as an approach that can perform robustly and thrive in the face of complexity, future unpredictability (Dryzek, 1990) and diverse interests. Communicative rationality happens where the conditions of ideal speech are met.

Ideal speech is a discourse where claims are interchanged, free from compulsion, domination, deception or strategic interaction, and where disagreements and conflicts are resolved through the force of the better argument (Crossley, 2005; Dryzek, 1990; Pusey, 1987). Since there is no restriction on participation, the only authority is that of the better argument based on veracity of empirical claims, explanations and understanding, and validity of normative judgments (Dryzek, 1990). In ideal speech, the actors are communicatively competent meaning they are equally capable of making and questioning arguments (Dryzek, 1990). Furthermore, the actions of agents are not guided by egocentrism but by the desire to attain intersubjective understanding in social settings. However, individuals can still pursue their goals, while harmonising their actions with negotiated common interests (Outhwaite, 1996).

The key characteristic of communicative rationality is that it is discursive, meaning people reach common understandings, experiences and mutually beneficial outcomes, through honest communication and listening (Beauregard, 2012; Pusey, 1987), and the socialisation of the community members with their diverse values, practices and beliefs (Dryzek, 1990). Through

deliberation among the community members, they decide upon ends and means, and resolve conflicts of values arising in the discursive processes (Perera et al., 2000). The values are not regarded as arbitrary or idiosyncratic, however, the actors may be required to logically justify their claims (Dryzek, 1990) or the inferences deducible from their claims (Crossley, 2005). Social interactions and quality of communication among actors, with consensus based on reciprocal understanding of the legitimate opinions and conceptual frameworks of other actors are emphasised and valued more than individual actions and decisions (E. R. Alexander, 2006; Dryzek, 1990) and more than making good decisions by individuals. This rationality assumes that knowledge is not perfect, empirical or individual but a social construct (E. R. Alexander, 2006). This implies a focus on intersubjective discourse rather than individual maximization (Dryzek, 1990). The purpose of communication is to reach understanding, and language is used as a medium to reach this understanding. The goal of understanding is to foster agreement, shared knowledge, trust, and accord (Outhwaite, 1996).

The implication of this approach is that through listening and learning processes actors are able to distinguish between deep concerns and superficial rhetoric. Effective deliberation encompasses substantive issues and interrelationships of the actors framing such issues. Attention is given to both product and process, argument and argumentation within a wider framework of institutional rivalries, conflicts and uncertainty (Forester, 1999). Although deliberations can be heated and combative, they are only framed using rhetoric, reasons and argument; however, this does not make them any less dispassionate (Crossley, 2005). Communicative rationality therefore draws from and expands the other three rationalities.

Fischler (2000) argues that although communicative rationality may point away from centralised power, political institutions and material resources are vital and integral parts of planning and public policy. Often these are vested in state agencies, meaning the intervention of the state in consensual decision making and the support of distributive mechanisms will follow. The state's role is to provide a measure of coercion and normalisation to ensure it is the better argument that prevails not necessarily the strongest sentiment.

Landscape change is influenced by diverse and competing interests (e.g. Egoz, 2013; Kong & Law, 2002; D. Mitchell, 2008; Swaffield & Hughey, 2001). It therefore cannot be managed through a single rationality, for example, substantive rationality which assumes clear and unambiguous states, or by instrumental rationality which assumes clarity, orderliness and predictability of the world, with unitary and limited actors. The value of communicative rationality for landscape change decision making lies in its key characteristics of deliberation where different interests

decide upon matters of interests to them and resolve conflicts of value through discursive processes (e.g. Beauregard, 2012; Perera et al., 2000) and valuing consensus more than individual decisions (E. R. Alexander, 2006; Dryzek, 1990). The significance of this approach is not just for its common understandings, experiences and outcomes (see Beauregard, 2012) but also its focus on the process of reaching such positions. In sum, communicative rationality is ideal in shaping principles of landscape change decision making as it addresses itself to the 'what?', 'why and who?' and the 'how?' of decision making. This is an ideal process for a case study focused on identifying principles of decision making upon landscape change because of the contested nature of landscape change and multiple competing interests, which would be fruitfully engaged in an argumentative setting.

2.4 The communicative turn in planning

The communicative turn in planning (Allmendinger & Tewdwr-Jones, 2002) also called the argumentative turn (Dryzek, 1993; F. Fischer & Forester, 1993; Healey, 1996) is a range of theories framed together through different schools of thought, but which draw broadly on the arguments set above. The main influences are the shift from instrumentality to new ways of thinking and knowing proposed by Habermas, the focus of language and meaning by Michel Foucault and the examination of human relations through networks and co-existence proposed by Anthony Giddens (Allmendinger, 2009).

Current society is diverse and characterised by distrust for political systems, fragmentation to single-issue politics and a plurality of positions (Allmendinger, 2009). Declining confidence in the resolution of conflicts or setting management strategies through political structures is compounded by socio-economic changes which have generated linkages of people in diverse places but not necessarily networks within the same locality. This generates tensions and conflicts between the diverse relational networks (Healey, 1996) since relationships significant to one social group might be viewed differently by another (Healey, 1999). With such phenomena and settings, planners face the challenge of working with diverse communities and interests to formulate plans (Allmendinger, 2009), and the argumentative/ communicative turn in policy and planning was proposed to aid this endeavour (Allmendinger & Tewdwr-Jones, 2002; F. Fischer & Forester, 1993; Healey, 1996).

Communicative planning is driven by the desire to make sense and plan for the future in highly dynamic and complex conditions (Allmendinger, 2009). Like rationalistic planning, it is procedural but with more reflexive focus (Healey, 1996; Huxley & Yiftachel, 2000). In this process participants

collectively and interactively address and work out actions on common concerns agreed on across the diversity of material conditions, culture or ideologies, meaning the process is contextual to time, people and place (Healey, 1993). Through collaboration awareness and understanding of local relations, tensions and conflicts can be acquired, and strategies for resolving conflicts and responses to change developed (Healey, 1999). The resulting strategies are not aggregations of interests but creative encounters where interests are reformed around new ideas and new public discourses of collaboration across differences and inclusionary practices are constructed (Healey, 1996) allowing people to live together but differently in common environment (Healey, 1993). Such discourses allow the participants to recursively, through experimentation, reflection and consensus, define their politics and processes (Dryzek, 1990). This approach is a shift from conventional professionalism models based on citizen-expert hierarchies to citizen-expert collaboration models (F. Fischer, 1993a).

Healey (2007) quoting Woltjer (2000) notes that there is no one discursive or communicative model for policy processes, arguing that all policy processes involve interactive and communicative aspects, and it is through discursive processes that foci are identified, and frames of references set, 'reinforced, shifted and transformed'.

2.4.1 Propositions of communicative planning

This discussion examines three propositions of communicative planning namely, reflexivity, inclusion of multiple discourses and, new ways of thinking, valuing and knowing. The communicative turn offers an interactive and interpretive processes drawing from multiple life worlds rather than single formal dimensions, for example urban form or scientific rationalism. Its presentational forms are therefore not constrained to formal technical discourses, but embrace the dialects of everyday narratives. These dialects reflect the diverse discourse communities or communities of interests with their unique systems and forms of meaning, knowledge, reasoning, and valuing. These communities may be fluid and with overlapping discourses. Although it is not possible to attain completely homogenous discourses, this planning approach seeks to achieve mutual understanding but retain awareness of what is not agreed on (Allmendinger & Tewdwr-Jones, 2002; Healey, 1993, 1996). These communicative discussions involve respectful and empathetic dealings across discourse communities implying recognising, valuing, listening to and searching for translatable possibilities across discourses (Allmendinger & Tewdwr-Jones, 2002; Healey, 1993, 1996).

Communicative planning therefore introduces new ways of thinking, valuing and knowing; stimulating social, intellectual and political capital within communities. It is inclusionary and tackles problems of common concern engaging lay people as well as experts in non-competitive ways. It envisages value based outcomes, reached through free, negotiated and open discussions which are iterative and open to indeterminacy, complexity and multiplicity of outcomes. In this process planners are facilitators in a participatory process (Allmendinger, 2009; Healey, 2009).

Communicative planning focuses on both the programme and the public arenas where strategies are mooted and evaluated, and conflicts mediated. The diversity implies multiplicity of policy claims, understandings and values. The inclusive process allows participants to speak, be listened to and their claims respected. The goal of communicative action is to embrace these claims without dismissing or devaluing them. However, these claims are evaluated and critiqued using the Habermas criteria of comprehensibility, integrity, legitimacy, and truth (Allmendinger & Tewdwr-Jones, 2002; Healey, 1993, 1996).

As people interact and articulate, evaluate and reconstruct their claims, new relations, values and understandings are defined and new discourses emerge. The process focuses on openness and transparency without simplification- therefore, allowing ambiguities to enrich the discourse. The focus on critique and demystifying process allows the participants to change conditions and challenge power relations therefore creating new arguments, alternatives, and perceptions. The approach encourages participants to understand, draw on, and critique the understandings brought to the arena. Planning in this context is about collaboratively framing change in mutually acceptable terms. These terms are not hastily agreed unified code, language or objectives that would limit further innovation. Instead they form a starting point for exploring future possibilities (Allmendinger & Tewdwr-Jones, 2002; Healey, 1993, 1996).

The inclusionary ideal envisaged in communicative planning (Allmendinger & Tewdwr-Jones, 2002; Healey, 1993, 1996) downplays and might be challenged by the unevenness of power, knowledge and resource distribution in heterogeneous networks. For example, evidence from an Australian case study has shown that entrenched networks may often frustrate the participation of minorities. It may also be difficult to frame minorities as equal stakeholders or their issues as important in polarised networks (Bugg, 2013).

2.5 Engaging principles of landscape change communicatively

In the preceding sections it has been suggested that successful decision making processes are based on, amongst others, consensus, co-determination and deliberation where there are multiple legitimate but competing views, (Garmendia & Stagl, 2010; Healey, 1997; Milligan et al., 2009; Renn, 2004). This discursive process seeks commonly valued principles, and Alpa (2010) has called the generation of principles an interpretative process. The communicative planning approach offers a consistent and relevant approach for this study in several ways. First, communicative planning as a reflexive approach to managing landscape is vital in generating principles of landscape change since it is inherently discursive and interpretive. Second, diverse interests are inclusively engaged in discussions of landscape change by way scenarios of alternative futures where non-experts and experts are expected to argue in non-competitive ways, allowing the better argument to prevail. This allows open-ended teasing out of principles of landscape change and indeterminacy, meaning there are no preconceived principles of landscape change. It therefore might generate new ways of thinking, valuing and knowing landscape change. Third, the process is not expert or government driven, but a collaboration between non-experts and experts and therefore embraces multiple discourses. The varieties of discourses engaged are broadly termed here informal and formal discourses.

2.5.1 Informal and formal discourses

Discourse is 'a particular way of talking about and understanding the world and aspects of the world (Philips & Jorgensen, 2002) and also an assembly of ideas concepts and categories used to express meaning through language (Hajer & Versteeg, 2005). Discourse also means a 'language in use', and a medium for connecting language and the environment in varied contexts (Gee, 1999; Van Dijk, 1997). In contrast to linguistics where discourse may refer to a single group of utterances, in social theory it has a wider scope of meaning and use. In both notions, however, there is a common investigation of how language recursively interacts with social settings, for example language and power (Hastings, 2000). Discourse is used in assigning identities and meanings, ordering meaningful links between experiences and assigning hierarchies to symbols, systems and the ways of knowing within particular worlds (Gee, 1999; Van Dijk, 1997). What the authors here have argued for is a contextual understanding of discourse. It is important to understand discourses since as Wetherell and Potter (1988) argue the world is already endogenously constructed and interpreted by the participants and expressed through discourses. As Gailing and Leibenath (2013) contend, people constitute the landscape in discourses through contested structures of meaning.

In policy making, discourses are plural and contradictory with multiple players competing to shape and constitute issues which will be framed into policy (Bacchi, 2000). Landscape policy draws from and is embedded in competing local narratives (Swaffield & Brower, 2009) and discourses. Besides framing policy making and analysis (F. Fischer & Forester, 1993) discourses set the limits, wittingly or unwittingly, for what does or does not qualify as policy (Bacchi, 2000) a form of power expression (Howarth, 2010). Discourses are not neutral, but are used to actively construct and shape our realities, argue for, justify status quo, blame or challenge and dispute positions (Chase, 2008; F. Fischer & Forester, 1993; Jorge Ruiz, 2009; Van Dijk, 1997; Wetherell & Potter, 1988).

Within discourses, sometimes same individuals use different languages in varied settings, effectively grounding meanings to specific contexts (Gee, 1999). This is linked to the notion of 'people belonging to several different social networks simultaneously, and therefore subscribing to contextual discourse groupings. Two such groupings in this study have already been identified as 'communities of interest' and 'communities of place'. As this study envisaged engaging community and professional key informants it is important to examine informal and formal discourses.

Discourses can be distinguished as informal, implying spoken, and formal, meaning written. But this distinction does not affect the way we understand language (Rivera, 2004) but is more important when we consider why and who use them. Informal discourses are conversational, additive and participatory in contrast to written discourses which are hegemonic and facilitate political systems, record keeping, and bureaucratic organisation (Jahandarie, 1999). Within informal discourse Jorge Ruiz (2009) points out two more strands of discourse which are; spontaneous discourse arising from the everyday living of the actors, and, induced discourse produced within research frameworks. The latter is provoked by the researcher therefore granting them better control of conditions of discourse and is evident in in-depth interviews and group discussions.

How different discursive communities approach phenomena eventually affects their interpretive stances, (Epstein, Heidt, & Farina, 2012; Hampton, 2009) which in turn may influence policy decisions on landscape change. Abrahamson & Rubin (2012) alluding to the different discourses argue that there is a clear difference of communicative goals between non-experts and experts. When communicating, non-expert discourses are ideally about motivating and enabling. The non-expert public use personal experiences and appeal to rhetorical narratives for communication of their daily arguments and decisions, and persuasion on held positions (Epstein et al., 2012; Fisher,

1984, 1985, 1987). Through narratives, they understand, frame issues, decide what is true and give reasons by way of storytelling. From this perspective, the key issues are fidelity and coherence of the stories (Fisher, 1984, 1985, 1987).

According to Abrahamson and Rubin (2012) expert discourses are mainly focused on subject matter such as informing or relaying information. Experts conduct and account within their specific disciplines with decisions premised on structured arguments (Fisher, 1984, 1985, 1987) or formal discourses and fortify them with reference to impersonal and empiricist evidence. They often disregard or suppress contingent repertoires within their domains, giving a picture of coherence (Burchell, 2007; Edwards, 2004; Epstein et al., 2012; J. Rouse, 1990). However, this paradigm might be used to misrepresent public matters (Fisher, 1984, 1985, 1987). From both perspectives, discourses are used to provoke action such as persuading listeners that the dilemmas posed and the solutions proffered are accurate reflections of the way the world is or ought to be (Ryfe, 2006).

Therefore, discourse is a medium through which the world including landscape is constructed, interpreted and articulated (Leibenath & Otto, 2014; Potteiger & Purinton, 1998). To understand language and discourse in landscape, is to understand how particular landscapes function. In the context of this study, discourse analysis deconstructs the medium of landscape to help us understand landscape change and shaping principles of landscape change management. The study draws from informal discourses using interviews framed through alternative future scenarios, and examination of formal argumentation discourses of the RMA, the Regional Policy Statement for Otago, the operational plan for Central Otago District and case law from the Environment Court with specific reference to landscape change. However, it is noted that as people talk they draw from a wealth of formal discourses as well as their experiences.

2.5.2 Accounts, stories and discourses

Discourses of landscape change are made from overarching storylines, which in turn are made of a series of accounts. Tracy calls accounts elaborate chunks of talk and a way of categorizing views of selves and others including social networks, and their inter-relationships. The overarching storylines made of stories, counter-stories and non-stories (Hyvärinen, 2008; E. M. Roe, 1994; Soliva & Hunziker, 2009) are socially situated and are not mutually exclusive - meaning individuals flexibly, variably shape and frame their stories depending on context and audience, even having different stories for the same event (Chase, 2008; Daoudi & Barakat, 2013). There are individual discourses coloured with personal meanings and viewpoints, (Antaki, 2008; Chase, 2008;

Hyvärinen, 2008) and community discourses, also affected by individuals. This highlights important scale relation issues in landscape linked to identity which are partly highlighted in chapter 1 and discussed comprehensively in chapters 8 and 9.

Generating principles of landscape change involves what Antaki (2008) describes as assembling storylines by galvanising and unifying patterns from distinct stories. As a reflection of diverse sectoral views in decision making, it is also possible to get contradictory storylines, which, however, can be accommodated through development of meta-discourses (Hampton, 2009). Figure 2.4 below shows how landscape change can be interpreted from non-expert and expert perspectives. Accounts are the voiced interpretations of phenomena. Stories are built from several such accounts, with several accounts coalescing to form a story. Several stories in turn begin to form discourses, for example local discourses and applied professional discourses. Social and policy discourses are informed by local and professional discourses and influence them in turn. Principles emerge from asking what, who, and how of decision making from accounts, stories and discourses, informal and formal, including science discourses.

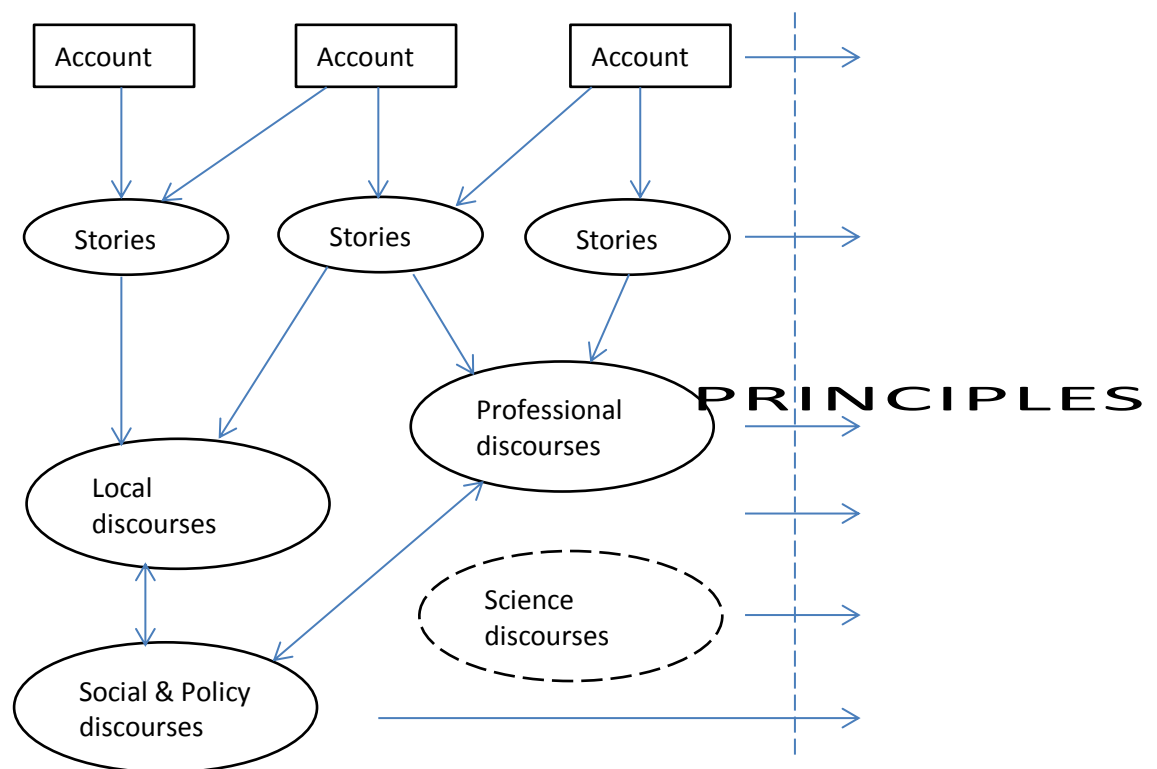


Figure 2.4: Accounts, discourses and principles

Professionals, policy makers and non-experts have different knowledge and therefore limited shared repertoires (Epstein et al., 2012; Hampton, 2009). Public policy has relied heavily on technical data and expert opinion and less on non-experts, therefore concealing biases and generalities, blinding policy makers to the knowledge held by non-experts (Epstein et al., 2012).

Existing barriers to decision making, can therefore, be diminished when the two kinds of knowledge, technical expert based, and the non-technical public based, are recognised and sanction decision making (Epstein et al., 2012; Hampton, 2009).

Within democratic practices, contests or conflicts are managed through public debate and negotiated definition of shared meanings. These meanings are translated into plans and programmes which form the issues for the next cycle of decision making and meaning construction (Hoppe, 1993). Telling stories, making arguments and justifying them bring the research back to argumentation. As Parsons (1995) contends, the argumentative approach to public policy examines how language shapes the way people make sense of the world. This is a contest of how and in what discourse problems should be framed in. To understand policy making, including landscape change policy, it is important therefore to analyse and understand discourses (for example, Leibenath & Otto, 2014; Parsons, 1995).

2.5.3 Discourse analysis

Discourse analysis as applied in the study goes beyond analysing talk and text in context and everyday discussion (Hewitt, 2009; Van Dijk, 1997) and instead attempts to illuminate the intertwined concepts of discourse, policy and power (Howarth, 2010). Discourse analysis asks 'questions about how language is used, why, by whom, in what circumstances and to what effect' (Hastings, 2000). Discourse analysis illuminates the reflexive relationship between social practices and discourse- i.e. the role of discourse in making rules of social practices and the social practices informing discourse (Hewitt, 2009) including power contestations, inequalities and how policy is interpreted by the intended audience (Jacobs, 2006). The reflexive relationship between discourse and power where language not only reflects reality, but actively constructs this reality in certain ways (Gee, 1999; Jacobs, 2006) goes beyond linguistics to policy where several authors, for example, Bacchi (2000), Fischer and Forester (1993), and Howarth (2010), have demonstrated this reflexivity between discourse, policy and power. While discourses are expressions of power in deciding what to include or exclude in decision making, power also determines which discourse prevails and, effectively what qualifies as policy or not. Since landscape is constituted through discourses, through contested structures of meaning (Gailing & Leibenath, 2013) discourse analysis is a significant resource to use in teasing out and understanding the discourses of landscape change in Central Otago and therefore the embedded principles of decision making concerning landscape change.

Section 1 conclusion

This section focused on understanding principles of landscape change, framed by the logic of arguments and public decision making in a democratic society. Principles to guide landscape change are generally accepted norms across a wide range of issues and different levels or scales. They derive from different discourses and are significant considerations in support or opposition of actions. To be useful in guiding landscape change decisions, they should be framed normatively. There are tensions of competing interests, diverse rationalities and different discourses in framing landscape change. Therefore, models which focus on ends only or means only are not sufficient in articulating the reality of landscape change or shaping principles of landscape change management. One way of addressing this is using a discursive approach envisaged in communicative rationality and landscape democracy, meaning diverse interests, facets and discourses are able to argue free from coercion to arrive at mutually acceptable principles of landscape change decision making.

Section 2: Understanding and managing landscape change

This section will examine the nature of landscape change and complexity in managing landscape change from the perspective of science and practice. Management of landscape change is not a recent phenomenon, since the earliest initiatives in the form of legislation to manage landscape took root in Britain and the USA, for example, in the 1960s and 1970s. These initiatives led to development of guidelines for identifying and managing landscapes, scenic beauty and amenity. They also included assessments of impacts of developments on land, coastal zones, aesthetic values and natural resource planning (Zube, Sell, & Taylor, 1982). Although over the years there have been several initiatives to generate landscape assessment criteria, for example, landscape perception by Zube et al. (1982), these have focused on the value of landscape and not the principles for decision making on landscape change management. Generating such resilient principles is therefore essential. However, to elicit principles of landscape change management, we need to understand landscape change and its management.

2.6 The nature of landscape change

Landscape change is examined here as an integrated concept. The nature of landscape change, dynamics, types of change and change drivers will be investigated, as well as the outcomes of landscape change, and how they relate to management of landscapes as complex systems.

Landscapes are the combined products of nature and culture, and can be understood both as objective biophysical reality and as socio-cultural phenomena. However, both understandings recognise the primacy of human agency in construction of landscape and the influence of landscapes on society (Antrop, 2000; Corner, 1999; Council of Europe, 2000; Farina, 2006; Görg, 2007; Palang, Helmfrid, Antrop, & Alumäe, 2005; Potthoff, 2007; Selman, 2006; Vos & Meekes, 1999). Apart from the understandings, landscapes are expressed through different discourses, such as ecological and semiotic discourses (Cosgrove, 2003) which have implications on how landscape change can be managed. Ecological discourses prioritise natural processes over human activities which are often viewed as detrimental to nature, a common approach in landscape ecology sciences. In contrast, the semiotic landscape discourse assumes science cannot effectively represent the processes around us. The discourse focuses on cultural context and processes which are invested in, and shape landscapes. It consequently implies that landscapes are primarily known and interpreted through human cognition and therefore represented by humans culturally (Cosgrove, 2003).

Landscape is therefore a powerful framework for integrating policy and action (Matthews & Selman, 2006; Selman, 2006). Tress & Tress (2003) argue that landscape is a seam where distinct natural and cultural values meet. It is an interface of common interest, a medium of exchange evolved and embedded in both the biophysical and the socio-cultural (Corner, 1999; Potthoff, 2007).

2.6.1 Landscapes are dynamic

Landscapes are distinctive combinations of social, economic and biophysical components interacting together and are organised through temporal and spatial hierarchies. These can be understood as systems with particular change dynamics. Landscapes exhibit what Holling (1978) terms ecological behaviour, characterised by dynamism, diversity and interconnectedness. In particular, all landscapes have temporal dimensions framing interactions between humans and nature including how people influence nature, how they react to nature and how humans react to emerging changes (Ermischer, 2004; Johnson et al., 2002). The diverse components forming landscape also have their particular dynamics of change (Antrop, 1998; Ermischer, 2004; Johnson et al., 2002; Matthews & Selman, 2006). Since such settings defy linear cause-effect logic, with multiple uncertain and surprising outcomes, landscape change cannot be examined using traditional methodologies (Waltner-Toews, Kay, & Lister, 2008) which use heuristics and reductionist approaches.

Palang and Fry (2003) have therefore criticised approaches which treat landscape as static units. Landscapes are in a constant state of flux, and cannot be fossilised in structure, function, pattern or behaviour (Hull IV & McCarthy, 1988; Selman, 2006). Landscapes are inherently active and subject to change with or without human influence, or the intervention of driving forces. When not under human influence landscapes change or develop through natural processes. While human influences are actions meant to steer the landscape to particular ends (Bürgi, Hersperger, & Schneeberger, 2004; Ermischer, 2004; Wood & Handley, 2001), increasing randomness and unintended outcomes persist, rendering prediction, planning or steering of changes difficult (Antrop, 2003).

Landscape change can therefore be termed “... the alteration of structure and function over time through mutual influence and interaction ...” (Johnson et al., 2002, p. 316). It includes both purposeful and inadvertent modifications of land use, land cover and land experience (Wescoat Jr., 2008).

2.6.2 Factors of landscape change

To understand change one has to answer the questions of what is changing, the frequency, and magnitude of these changes, and both of these against a time scale indicating when these changes occur (Antrop, 1998). Landscapes change in response to the influence of landscape change drivers.

Changes emanating from natural processes and human-induced mechanisms affect the physical landscape and also influence the perception and representation of the landscape (Hull IV & McCarthy, 1988; Potthoff, 2007). Other factors include the magnitude- spatial scale and intensity, and the temporal dimensions of landscape change (Potthoff, 2007). To determine if change has happened, one has to ascertain the character and conditions of the landscape at the first instance, and at the second state after application of drivers by comparative means (Antrop, 2003; Bürgi et al., 2004).

Examining landscape against individuals’ perceptions and representations may concern changes that occur in the biophysical landscape or changes in the one perceiving the landscape (Hull IV & McCarthy, 1988). Since several studies over the years have addressed the issues of landscape perception (for example, Zube et al., 1982), instead of a detailed examination of meanings and perceptions, this study focuses on the actions and intentions of people on the landscape to generate principles of landscape change.

2.6.3 Change drivers

The concept of 'change drivers' is used to connect the process of landscape change to the management of change. Change drivers are used to frame what is happening, why it is happening, and what the solutions might be. The drivers of change could be natural or anthropogenic. The main anthropogenic driving forces are socio-economic, cultural and political. Change drivers impact landscape directly or indirectly, therefore, it is important to use nested scales to distinguish primary, secondary and tertiary forces. For example, socioeconomic drivers such as a market economy and globalisation, act jointly with politics, including laws and policy, to frame the interactions of economies and societies. Technologies such as transport and communication networks, and farming techniques, in turn shape and enable the changes (Bürge et al., 2004; Wood & Handley, 2001).

Landscape is not passive or benign, but a process that provides opportunities which align competing political, economic and social processes, and programmes into new associations. Sometimes it may evoke memories which demand preservation or re-creation of past landscapes; in such instances the nostalgic and consumerist conceptions may subdue motivation for invention or experimentation, seeking to retain the familiar (Corner, 1999). Opportunities and changing land ownership are also drivers of change. Often land ownership changes as people seek to invest for various reasons, among them, agricultural production and lifestyle-oriented settlements. Other objectives might be ownership of a second home or tourism-related income (Sorice, Kreuter, Wilcox, & Fox III, 2014).

Wood and Handley (2001) have identified obsolescence and dysfunction as two broad drivers operating in post-industrial landscapes. Obsolescence is a situation where landscapes have lost function as a result of socio-economic shifts including the development of service industries and reorganization of industrial and agricultural production economies. Dysfunctions by contrast are the disturbances occurring when land uses and the character of subject landscapes are mismatched including from, among others, rapid urbanisation, and intensification of land uses (Wood & Handley, 2001). Both obsolescence and dysfunction are seen as negative and measures of the degree to which landscapes fail to meet desired outcomes (Benson & Roe, 2007). Purposeful positive changes in contrast result from intentional interventions in planning design and management of landscapes (Wood & Handley, 2001). However, Antrop (1998) cautions that the outcomes are not always as intended. Figure 2.5 below shows the trajectories of change associated with obsolescence, dysfunction and opportunities.

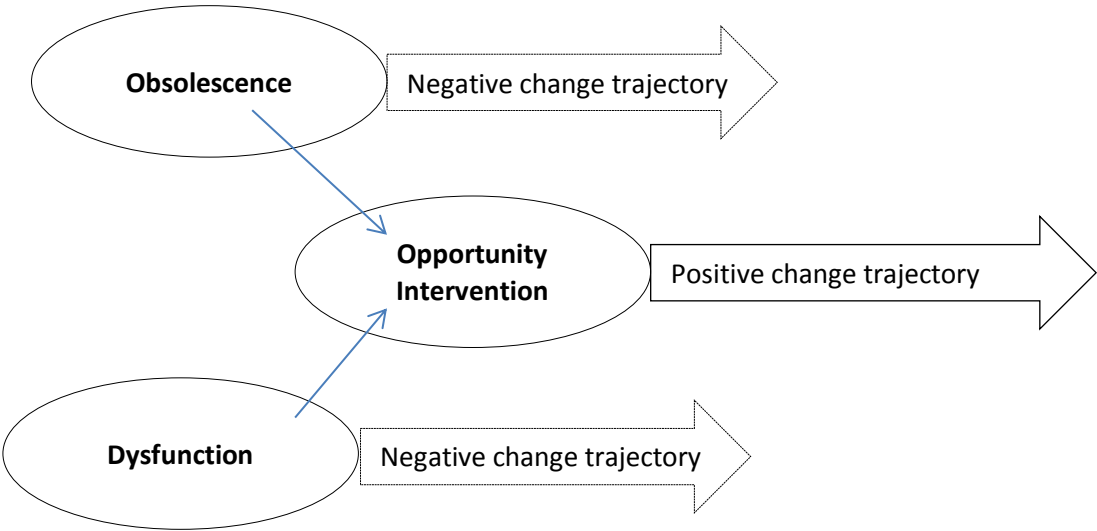


Figure 2.5: Obsolescence, dysfunction and opportunities impacting landscapes

Change drivers can be distinguished broadly as intrinsic or endogenous and extrinsic or exogenous as illustrated in Figure 2.6. This distinction is scale-dependent, but valuable when explaining changes in particular landscapes. For example, when dealing with a territorial local authority, local regulations are intrinsic while national and international regulations are extrinsic (Antrop, 1998; Bürgi et al., 2004). In the section below the types of change that result from direct and indirect influence of these change drivers will be discussed.

National scale	National regulations e.g National policy statement	International agreements e.g. Convention on Biological Diversity, European Landscape Convention Global markets demands
Local scale	Local regulations Community landscape aspirations	National regulations e.g National policy statement International agreements e.g. Convention on Biological Diversity, European Landscape Convention National and global markets demands
Intrinsic/endogenous drivers		Extrinsic/exogenous drivers

Figure 2.6: Relationship of scale and landscape change drivers

2.6.4 Types of landscape change

When drivers impact on a landscape, changes can be characterised on a continuum from fast to slow. Fast changes can be acute and abrupt. Slower changes can be gradual, almost indiscernible. Changes could also be ephemeral, such as wildlife transiting through a landscape, and also seasonal or generational for example, shedding leaves by deciduous trees in autumn (Antrop, 1998; Kapustka, Landis, & Johnson, 2010).

Using magnitude of change one can also characterise the change types by intensity or on a spatial scale (Kapustka et al., 2010). Intensity suggests profound and discontinuous changes, which might alter the landscape to an entirely new phenomenon, for example, a volcanic eruption with lava covering a large area may suddenly alter an area, structurally and visually, into a new landscape. In contrast, incremental or continuous changes proceed in small stable steps. Stability indicates that the processes are reversible, robust and allow continuity. Generally they do not alter the landscape rapidly (Antrop, 2003; Kapustka et al., 2010; Wood & Handley, 2001). Spatial scale indicates change from the local i.e. site, reach and watershed scales, regional to the global (Kapustka et al., 2010). Figure 2.7 below illustrates the relationships of speed and magnitude of landscape change.

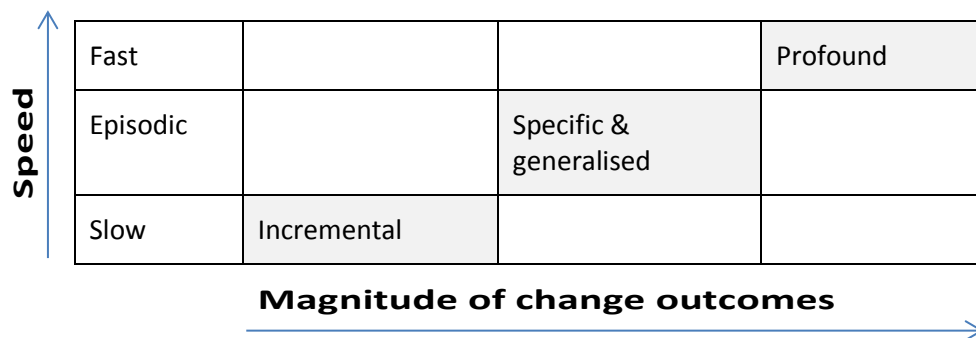


Figure 2.7: Speed and magnitude of Landscape change

2.6.5 Change outcomes and the cumulative nature of change

Landscapes evolve continuously over time, driven by intrinsic or extrinsic impulses. Past processes produce current structure, which in turn influences the current functions, eventually determining future structure (Wood & Handley, 2001). "... every change to a landscape produces consequences or reactions that are, themselves, changes ..." (Muir, 2003 p. 384), with every change instance impacting and compounding other changes and socio-ecological systems in multiple interactions and feedback relationships (Wescoat Jr., 2008). Landscape change is therefore cumulative although episodic events tend to be more apparent. As the rate of change increases, the initial

causes become less perceptible and the trajectories of change less predictable (Muir, 2003). The consequences of change are felt across the scale of organisms, through populations, communities and ecological systems (Kapustka et al., 2010).

Landscape changes result from complex interaction of natural processes and from human actions (Forman & Godron, 1986). The complexity emanates from the nature of the environmental characteristics and the competing interests on the landscape. Furthermore, management involves trade-offs across scales, relationships and contexts with multiplicity of values, pathways and endpoints (Kapustka et al., 2010). Often, landscapes left to inherent autonomous processes result in chaotic changes, which reflect uncertainty about the state of the landscape. Although humans intervene through planned actions to control and steer these changes towards desired ends, the outcomes are not always as intended (Antrop, 1998) but are unpredictable both on the temporal and spatial dimensions (Cramer, 2007).

2.6.6 Complexity and adaptive management of landscape change

Managing landscape change implies dealing with complex changing systems. Systems are termed complex when the components and their activity cycles are distinct, their interactions interdependent, and the outcomes unexpected, opaque or not straightaway understandable (Parrott & Meyer, 2012; E. Roe, 1998), and their impacts go beyond disciplinary and geopolitical lines (Allan & Stankey, 2009). Complexity is the chief feature of non-linear systems (E. Roe, 1998). Landscapes, as complex socio-ecological systems, are characterised by uncertainty, and surprising patterns and processes. These features arise from interaction of the diverse constituent elements (Parrott & Meyer, 2012).

Landscapes are characterised by interactions of human and bio-physical processes over diverse scales and across time (Parrott & Meyer, 2012). Although landscapes are complex and non-linear, management policies have often assumed linear, clearly defined and bounded problems. The resulting simplification has generated approaches which are ineffective in managing fragile and vulnerable landscape ecosystems (Cramer, 2007). Although such approaches are premised on the possibility of predicting and anticipating consequences of decisions (Skjeggedal, Arnesen, Markhus, & Thingstad, 2004), the reality of multiplicity of interacting elements, ill-defined domains, and unpredictability suggest that policy, including landscape change policy, should incorporate uncertainty, and ignorance (Hodge, 2013).

Landscape change therefore requires integrated management actions that do not separate the components and processes into independent entities (Parrott & Meyer, 2012). As shown earlier in

the discussion of discourse, other authors, for example Cosgrove (2003), and Lindström, Palang and Kull (2013) have proposed more inclusive discourses of landscape change that reject bio-physical and human/ cultural dichotomies of landscape.

To effectively manage across scales and boundaries, simplification, stasis, and reductionist methods are substituted (Allan & Stankey, 2009) with adaptive methods. The adaptive management concept deliberately envisages and accommodates complexity and uncertainty in design. It adjusts to benefit from surprises while allowing learning as an outcome which informs consequent actions (Holling, 1978) meaning that the entire project or policy and their implementation are experiments to learn from (Argent, 2009; Holling, 1978). Figure 2.8 below, illustrates this learning-by-doing concept.

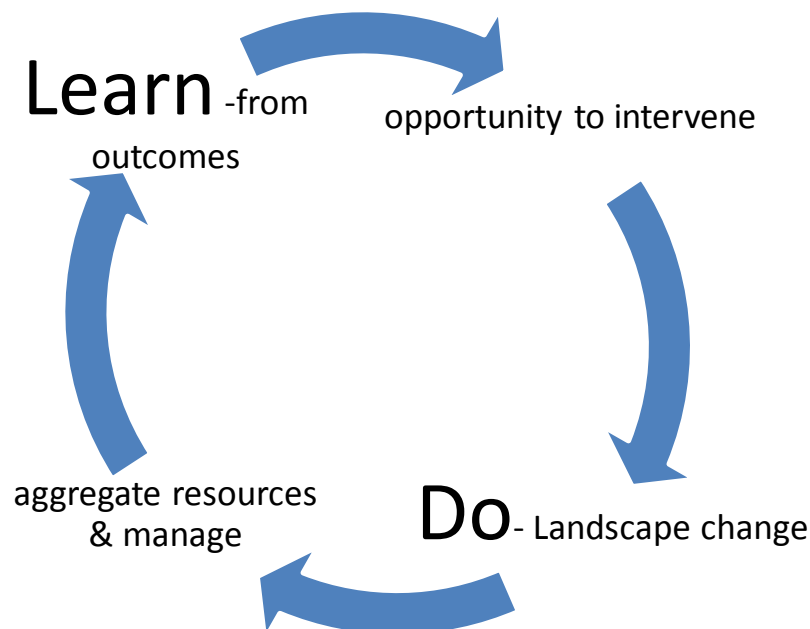


Figure 2.8: Adaptive management of landscape change; Holling (1978) & Argent (2009)

The concept works with adaptive cycles that aggregate resources and restructures cyclically to create innovation opportunities (Allan & Stankey, 2009). Adaptive management is not focused on producing answers but asking questions whose answers trigger reorientation from certainty to prepared responsiveness (Holling, 1978). To contextualise adaptive management in landscape change discourses, two models of landscape change management are examined below.

The prevailing economic and social changes are often reflected in the changing character of the landscape (Wood & Handley, 2001). Landscapes change as a result of interactions of structures, functions and processes. The resulting patterns influence the change management options available (Selman, 2006; Wood & Handley, 2001). Furthermore, the discourse adopted, for

example ecological or semiotic also play a role in the management options investigated (see for example, Cosgrove, 2003; Lindström et al., 2013).

Selman & Matthews (2006) have proposed two models of landscape management namely ‘action for landscape’ and ‘action through landscape’. The action for landscape approach is characterised by a focus on protection. The resulting landscape management has often been sectoral, with a narrow focus, therefore producing policies and designations to protect landscapes in their current conditions. This suggests protective and defensive planning strategies (for example, Ahern, 1995; Brunckhorst, 2005; Matthews & Selman, 2006). In the UK for example, the system has been used, in conjunction with land use planning, to safeguard areas of outstanding natural beauty from unacceptable change. However, the implementation has been unsatisfactory and opaque due to overreliance on land use planning and lack of a common framework with other rural based activities (Matthews & Selman, 2006).

‘Action through landscape’, by contrast, views landscapes as spaces, places and networks of holistic systems providing ecosystem services. These systems are made of natural units, such as water catchments, which frame decision making and land use planning. This model is useful in region-based conservation, catchment planning and rural development. When applied to ecology this approach has also been called bioregionalism. If narrowly ecology oriented, it might not be optimal when dealing with decision making for both production and governance activities (Matthews & Selman, 2006).

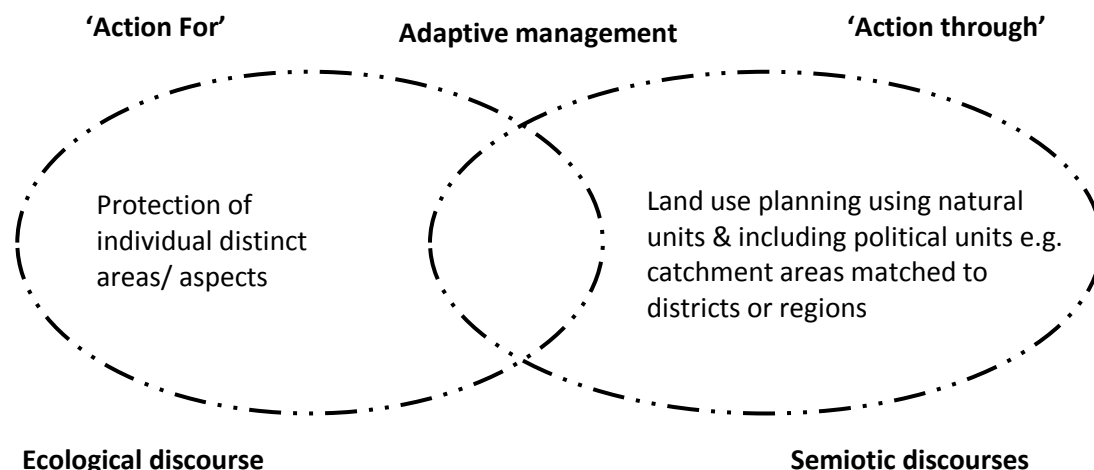


Figure 2.9: Approaches to landscape change management

Other factors such as political units, often override regional boundaries affecting the approaches to landscape management. Additionally, landscapes are not always congruent with political realities, and scales. This broad view positions landscape as a framework for socio-economic

activities and policy administration (Matthews & Selman, 2006; Meadowcroft, 2002; Selman, 2006; Wood & Handley, 2001). Figure 2.9 illustrates 'action for', 'action through' landscape and adaptive management concepts and the analogous ecological and semiotic discourses.

Landscape management is fraught with paradoxes. First, highly valued landscapes have resulted from past practices which are now obsolete. While these practices were predominantly local, current drivers of change are increasingly global resulting in homogenised landscapes. Resistance to landscape change emanates from the attachment to, and value people have for, their surrounding landscape and retention of the familiar. In addition, some actions such as conservation might be seeking to maintain that which must of necessity change.

However, it should be noted that landscape change is endemic and inevitable (Cramer, 2007; Matthews & Selman, 2006; Moore-Colyer & Scott, 2005; Selman, 2006), complex, dynamic and cumulative, and increasingly under pressure to respond to new realities of global and local drivers of change. Diverse discourses and approaches attached to sectoral understandings of landscape influence how we respond to landscape change. Traditional responses influenced by experts, which have simplified phenomena to ease management are not sufficient in a complex globalised world. Instead landscapes require continuously evolving management regimes. Adaptive management techniques embrace inclusive discourses and whole landscape approaches. However, the approaches are not a panacea for landscape change but must be applied in a reflexive learning-through-doing approach. This makes them open to uncertainty and indeterminacy, flexible but resilient enough to cater for the unknown future.

2.7 Chapter summary

This chapter provided a theoretical basis for examining principles of decision making for landscape change by using three theoretical pillars-namely decision making, public policy discourses and landscape change. These were discussed within the broader understanding of democratic context, and highlighted the reflexive relationship between decision making, power and discourses of landscape change. There is a general shift from top-down instrumental approaches to policy to more inclusive and democratic mechanisms in decision making.

Landscape change management is contested and controversial because it deals with multiple conflicting interests each with their own rationalities, motivations and discourses. This means that the decisions of the public realm, for example landscape change, cannot be fully represented by a single model since they too are multifaceted and complex, requiring multidisciplinary approaches. However, it is assumed, they can be framed by principles based on stable, shared

values, and not individual preferences, and can be expressed through public discourses. Decisions reached on landscape change will also exhibit diverse understandings, multiple ways of deciding, multiplicity of outcomes, and uncertainties. The decision making approaches need to be framed by negotiation between the competing discourses and discursive communities or interests, such as landowners, professionals and government agencies. To have lasting impact, the processes need to be grounded in deliberative terms rather than top-down directives and framed in communicative rationality. A natural expression of this rationality in landscape change is the concept of landscape democracy.

Landscape democracy, coupled to discursive democracy, offers robust possibilities by envisaging wide participation in what is termed a true landscape democracy by operationalizing democratic and good governance principles, among multi-stakeholder processes at the landscape level. The concept involves diverse stakeholders with competing perspectives, interests and goals. It shares similar ideals with democracy such as communities governing themselves, but also raises similar questions. In particular, it raises the questions of ‘what decisions should they be?’, ‘why?’ and ‘who should make decisions on landscape change?’, ‘how?’, and ‘where?’ This implies that landscape democracy is interested not just in substance, but in governance and processes, and places as well. One way of answering these question is by using Arler’s (2011) model for democratic decision making in landscape change involving three democratic sets of values; self-determination, co-determination and participation, and impartiality and respect for arguments. This is the operationalisation of ideal speech on the landscape, where individuals can make decisions free from coercion, determine what is good for the public corporately through argumentation, and participate and have equal influence in determining public policy including landscape change decisions.

One possibility of distilling principles through landscape democracy is to examine how the discursive communities argue, make decisions, and construct narratives when presented with hypothetical or real problems of landscape change. Since these communities operate with distinct discursive frameworks, discourse analysis will be applied in a case study to elicit acceptable value based principles of landscape change management.

The next chapter describes the methodology used in this study.

Chapter 3: Methodology

3.1 Introduction

The methodology for this thesis adopts an interpretive framework, which is applied to a case study in Central Otago. The purpose is to elicit principles of decision making for landscape change management. In the interpretive approach, participants experience, understand, and interpret phenomena to make meaning. Decision making involves understanding and interpreting phenomena. To identify principles of decision making, alternative futures are presented to participants who are asked to make decisions, which are mined for principles. In this chapter, the case study framework is presented and justified followed by an examination of the techniques of sampling, data collection and analysis.

3.1.1 The research challenge

This is an interpretive case study aimed at developing a conceptual framework for considering landscape change management in Central Otago, and eliciting decision making principles to guide landscape change management and policy making. This chapter builds on the previous chapter, which argued that negotiation and deliberation between competing discourses frames public policy issues, including decision making on landscape change. This discursive approach expresses a shift in planning practice, from the normative-substantive, and procedural traditions, to communicative planning framed by argumentation, which involves participation of multiple constituencies in articulating and deciding upon the issues, through giving reasons, justifying positions, and persuasion (see for example, Allmendinger, 2009; Allmendinger & Tewdwr-Jones, 2002; Cosgrove, 2003; F. Fischer & Forester, 1993; Healey, 1997, 1999; Lindström et al., 2013). More specifically in landscape change, this is expressed through landscape democracy (Arler, 2011; Arler & Mellqvist, 2014).

Scott (2011) has argued that landscape management is controversial and contested as are identities and meanings, thus the need for discourses of inclusion. Similarly Demeritt (1994) argues, the merits of concerns in environmental issues cannot be arbitrated by science, moral or political positions in isolation. Instead, they should borrow from these, and be framed in approachable, and contestable public discourse. McCann (1997) concurs by arguing that idealism does not work, and instead contests between different discourses should be embraced as a reflection of social life framed by diverse discursive practices, which recognise context and

materiality. What these authors are highlighting are the qualities offered by communicative rationalities and landscape democracy.

The use of discursive approaches in this study is appropriate for four reasons. One, the landscape of Otago Region has been shaped by different discursive communities. For example, the Central Otago landscape was a seasonal route for food collection by Māori in the earlier times, followed more than a hundred years ago after European settlement by mining, orcharding, sheep, beef, and now, dairy farming. These uses have left enduring marks on the landscape and both the historical and contemporary activities continue to raise contestations and commentary from both critics and proponents.



Figure 3.1: Dam wall, water races and tailings, enduring marks on landscape, Pipeclay Gully, Banockburn (Jones, 2001)

Two, the arid climate of Central Otago makes water a scarce but highly valued resource. Its use for over more than a hundred years has been a negotiated process between the competing users. New government imperatives and new land uses have provoked legislation and vibrant debate on not just water but land as a resource, two key elements which continue to shape the direction of the landscape. The tenure review for the high country, and the Water Quality Rules- Plan Change 6A proposed by the Otago Regional Council, are examples of such imperatives.

Three, the RMA requires public participation in decision making on management of resources. Landscape, a resource itself, and host to other resources, has become a key field of contestation

as is evident from the numerous cases handled by the Environment Court in the last several years. Some of the contests are about values embedded in particular discursive communities.

Four, when uses of land are in question, there are both informal and formal discursive processes of argumentation and justification. When a proponent applies for consent to a council for instance, the council has to engage, privately or publicly in these discursive processes. Further, if the public have to submit their views, this is done with a view to disputing or justifying congruence with existing policy.

These realities highlight the discursive nature of planning and policy making, and by implication landscape change management, with diverse perceptions, claims, contentions and interpretations in the process of deliberation. What is significant here is the social construction of landscapes through discourses (for example, Feindt & Oels, 2005; Leibenath & Otto, 2014; M. Scott, 2008; Usher, 2013). Such a rich discursive field requires a qualitative approach to understand, interpret and represent the findings, and some authors have highlighted the interpretive approach as a viable way to examine discourses, for example Majone (1989), Fischer & Forester (1987, 1993), Dunn (1993) and Stone (2012). The interpretive approach will be discussed next.

3.2 Interpretive approaches

The study adopts an interpretive strategy. Deming & Swaffield (2011) suggest that an interpretive strategy is reflexive, situated between inductive and deductive stances. The deductive dimension seeks to describe and explain relationships through experience and evidence. In contrast, deduction develops explanations from theoretical premises, and uses experiments, evaluations and arguments to test these explanations. The strategy is also termed constructionist since, unlike objectivism it does not presume a researcher independent of the phenomena being studied (Deming & Swaffield, 2011).

The interpretive approach examines human meanings and intentions, and interprets human behaviour in terms of such meanings (Gerring, 2007). It holds that meanings, far from being plain, require the interpretation of the researcher. The researcher therefore elicits knowledge through "... identifying, naming and assigning new significance or meaning ..." to data (Deming & Swaffield, 2011 p. 51), because all data require interpretation as evidence is not always clear and needs explanation. This requires judgment by the researcher as they draw facts from meanings. These in themselves are interpretive acts (Gerring, 2007). Through the data, the researcher draws interpretations and meanings and constructs arguments from the particular to the generic. Theory is then inductively developed from the patterns, consistencies and meanings, rather than

imposed (Creswell, 2009; Gray, 2014). Since the process shows traces of the researcher's inclinations (Deming & Swaffield, 2011), the latent philosophical influence of the researcher should be made explicit (Creswell, 2009).

The study used a reflexive approach to research and theory-building which began with very general concepts informed by literature and practical policy needs from Otago Regional Council. The concepts were examined and revised sequentially as more data sources (e.g. more key informant interviews and literature) were engaged. This allowed methodological development alongside examination of the initial phenomenon (Castells, 1983). In this interpretive setting the researcher makes sense of the findings by moving reflexively between observed data and theoretical positions (Deming & Swaffield, 2011). Figure 3.2 illustrates the reflexive research approach applied in the study.

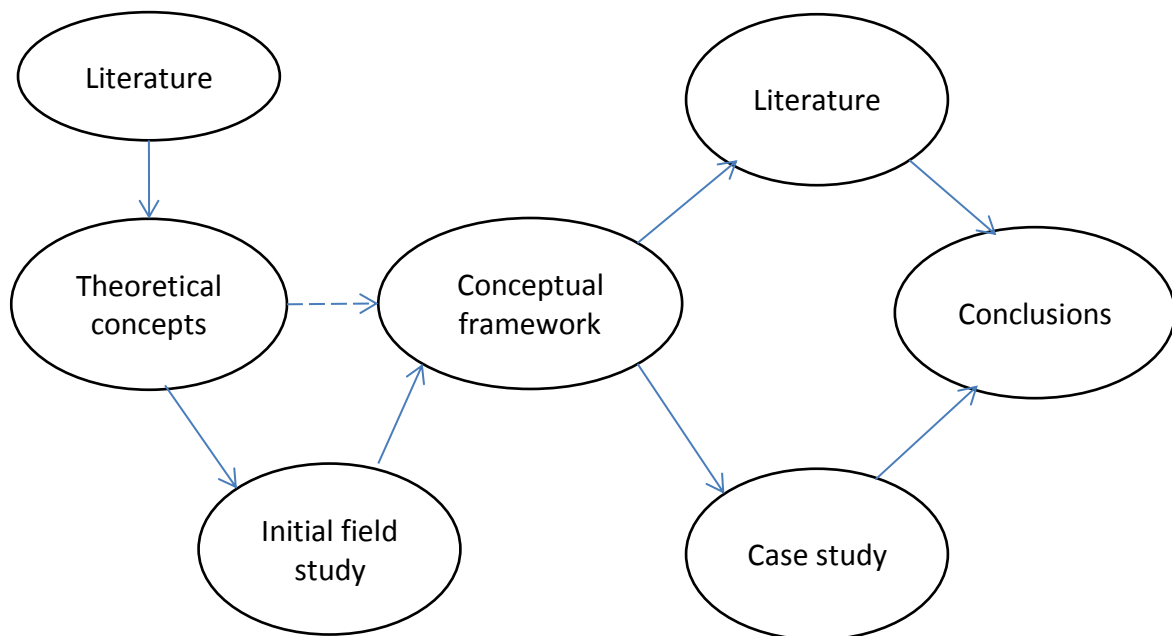


Figure 3.2: Research approach

The interpretive approach in this study implies making meaning from accounts, stories and discourses of key informants. Meanings are embedded in discourse through language, and it is through discourse analysis that their latent principles can be elicited. Principles are not always articulated explicitly but may be resident within the discourses. To understand how decisions on acceptable landscape change are made, a decision making environment was provided by creating alternative futures to provoke decision making acts. From these acts, participants would be asked for justifications and reasons, which would consequently expose value based principles used to make those decisions. Although the futures were speculative, they drew from practical issues in Otago namely, water scarcity and the 2021 expiry of existing water rights, historical and current

small scale mining and the slow change into intensive irrigation for dairy and dairy support. This required a case study design.

3.3 Research design

The research design is based upon a case study to identify and explain the substantive principles of landscape change decision making and management. These principles were drawn from two distinct discursive communities or groups of informants, community and professionals including policy makers, using three sets of alternative futures for the Manuherikia River valley. The following discussion outlines the rationale and the processes applied in the case study.

3.3.1 The case study approach

A case is a spatially delimited phenomenon from which a researcher draws inferences or propositions (Gerring, 2007). A case could be a situation, an individual, an organisation, a nation or other subject of interest to a study (Gerring, 2007; Gray, 2014; Robson, 2002). A case study is an empirical investigation of contemporary events in their real-life context, where there are unclear boundaries between the phenomenon being investigated and the context. It is the quality of maintaining complete and meaningful features of their contexts that makes case studies extremely valuable (Yin, 2014).

Case studies are specific and seek to understand the variety of issues or phenomena within single settings (Eisenhardt, 1989; Gray, 2014). They involve in-depth examination of a small sample of interest from particular perspectives or from a focused range of people (Gray, 2014; Tight, 2009). For example, in landscape architecture a case study is “ ... a well-documented and systematic examination of the process, decision-making and outcomes of a project which is undertaken for the purpose of informing future practice, policy, theory, and or education ...” (M. Francis, 2001 p 16). However, case studies are not just descriptive, but can be applied to explicate causal relationships, or to clarify relationships between phenomena and the settings where they occur (Gray, 2014). Case studies are ideal when asking how and why questions about events which the researcher has no control over (Yin, 2014).

Case studies are ideal when dealing with real world phenomena where contextual variables are too numerous to tease apart (M. Francis, 2001) or as Deming & Swaffield (2011, p. 84) argue when ‘... the focus of interest of the discipline is typically complex, multidimensional, and embedded in a wider context, and thus hard to separate into discrete factors ... “. Francis (2001) further argues that, with such phenomena, experimental approaches to reveal causal

relationships are not feasible. In architecture, landscape architecture and planning, for example, such controlled empirical studies are difficult to mount. Furthermore, case studies are able to address broad questions at the interface of design and policy, and can therefore be useful in conditions of participatory planning, dealing with culturally sensitive situations and when testing or refining emerging concepts or ideas (M. Francis, 2001).

Case study may be single case or multiple cases. In a single case study the examination focuses on an individual case, the insight from observations within the case and with secondary focus on outside variations. In contrast, multiple-case studies focus on cross-case variation and any within-case variations are granted secondary status (Gerring, 2007). Recognising these options, Yin has classified case study designs into four categories, as outlined in figure 3.3 below.

	Single-case design	Multiple-case design
Holistic Single unit of analysis	Type 1 Single-case holistic	Type 3 Multiple-case holistic
Embedded Multiple units of analysis	Type 2 Single-case embedded	Type 4 Multiple-case embedded

Figure 3.3: A matrix of case study types adapted from YIN (1995, 2014)

A single-case holistic approach examines a single case only universally and not its individual elements. This approach is useful in very unique or sensitive cases. In the single-case embedded approach, there are multiple levels of analysis within the same case. In the multiple-case holistic approach several cases are investigated from an all-round perspective, while in the multiple-case embedded design, multiple units of analysis within multiple cases are compared (Yin, 2014). This study applies the single-case embedded design.

Case studies can be generalised to theories but not populations. Theory development in a case study has the role of analytic generalisation which implies using existing theory as a template to compare empirical results of the study. Where two or more cases support a theory, replication can be claimed. With statistical generalisation in contrast, inferences are drawn from empirical data on a sample and generalised to a population. Analytic generalisation seeks to generalise a particular set of results to a broader theory (Yin, 2014). The scope of generalizing and particularising in case studies is a continuum. Therefore, inferences drawn may show aspects of

both the general and the particular. However, inferences should not be unduly general as to lose the uniqueness of the individual case study (Gerring, 2007).

This study seeks principles of landscape change management, which implies asking questions of values; ‘why did you choose that?’, ‘What are your reasons?’ The case study offers an invaluable approach in asking questions of values as it allows in-depth investigation. However, case studies are not perfect and have been criticised on several accounts. One, they fail to demonstrate sufficient operational sets of measures, and are subjective in data collection. However, this is corrected by using multiple sources of evidence, such as documents and interviews among others, and establishing a chain of evidence and preparing case reports which are then reviewed by key informants (Yin, 2014). Triangulating these different sources of evidence provides stronger substantiation of constructs (Eisenhardt, 1989). However, to ensure the researcher is not overwhelmed by data, a priori developed theoretical position is adopted to direct the development of questions (Eisenhardt, 1989; Gray, 2014).

To counter the charge of non-reliability, a study should provide clear protocols such as databases to allow auditing if necessary. Therefore in this study, all interviews were stored in digital audio format and transcribed, which allowed revisiting and auditing. Furthermore, the study allowed a reflection and validation phase, where key informants were revisited with initial case report in form of draft principles, and engaged in discussions on the outcomes’ consistency with earlier inputs from themselves and other key informants. Embedded case studies may fail if they focus more on sub-units of analysis ignoring the wider unit of analysis, which leads to loss of universal aspects of the case (Yin, 2014). This case study used community and professionals as two distinct discursive communities and the key informants as units of analysis. However, within these, group interviews were conducted with smaller groups and individuals. Pattern matching was used within the wider discursive communities to build up coherent stories with a universal overview of the case. The rationale for using groups will be highlighted shortly.

3.3.2 Selecting the case

The brief from Otago Regional Council sought to identify substantive principles to guide decision making upon landscape change in the rural Otago landscapes. The principles were to be focused on enabling land use change in a way acceptable to the communities. Of the five districts within the region, Central Otago stands out as the driest and most vulnerable to water shortages. Several areas in the District were considered including Manuherikia River valley, Ranfurly and Tarras. However, Manuherikia River valley was selected as the most suitable case study site

because it has a defined community and both the community and the landscape are changing. Furthermore, there were ongoing projects seeking to secure water resources in anticipation of the 2021 renewal of water rights in Otago Region. Water has played a major role in shaping land use in the district, therefore the study engaged with an ongoing vibrant discourse in the study area. The ongoing projects, presented an opportunity to model alternative futures, based on water availability, and stimulate discussions around the resource and its impact on the landscape. Other changes occurring in the valley include retirement of high country land to DOC estate and freehold ownership, and also change of farming practices in the valley floors. Moreover, a review of the Regional Policy Statement for Otago was forthcoming, making the engagement all the more relevant to policy.

3.3.3 The case study process

The case study was performed in three phases; initial engagement with select key informants, fieldwork with community and professional key informants, and finally, a validation stage, where select key informants were re-engaged in evaluating the findings.

The first phase involved interviewing key informants to understand the nature of decision making in landscape change matters, and also, to understand the historical and current issues around landscape change in Central Otago in general. The outcome of this phase informed the development of alternative futures for landscape change in the case study area. Following this, the alternative futures were tested in a pilot study at Lincoln University. The outcomes of this process helped with understanding and further refinement of alternative futures for the fieldwork.

The second phase involved conducting interviews with two categories of key informants. These were from two broad discursive communities identified in Chapter 2. These are community participants, and professional key informants. The latter included landscape architects and planners, resource planners and managers and policy makers. As mentioned in Chapter 2, communities of interest overlap. It is noted here that some of the professionals interviewed had more than professional interest in the case study area and in Central Otago more generally.

In the third phase, a select group of key informants was engaged in a reflection and validation exercise where together with the researcher they looked through a collation of principles drawn from international and local literature, and from professional, community interviews. The goals were to validate their views as well as show them how they compared to other sources.

3.3.4 Data sources

In addition to interviews, archival documents provided data on discourses. Archival data included scholarly literature, statutory documents and instruments. As noted by Yin (2014), documents can be reviewed repeatedly. They are unobtrusive since they are not created for the case study; they are exact and cover broader spans of events, time and territory. Interviews on the other hand are targeted directly on the case study issues and are insightful in making plain perceived causal inferences. Figure 3.4 shows the different sources of evidence and their interrelationships.

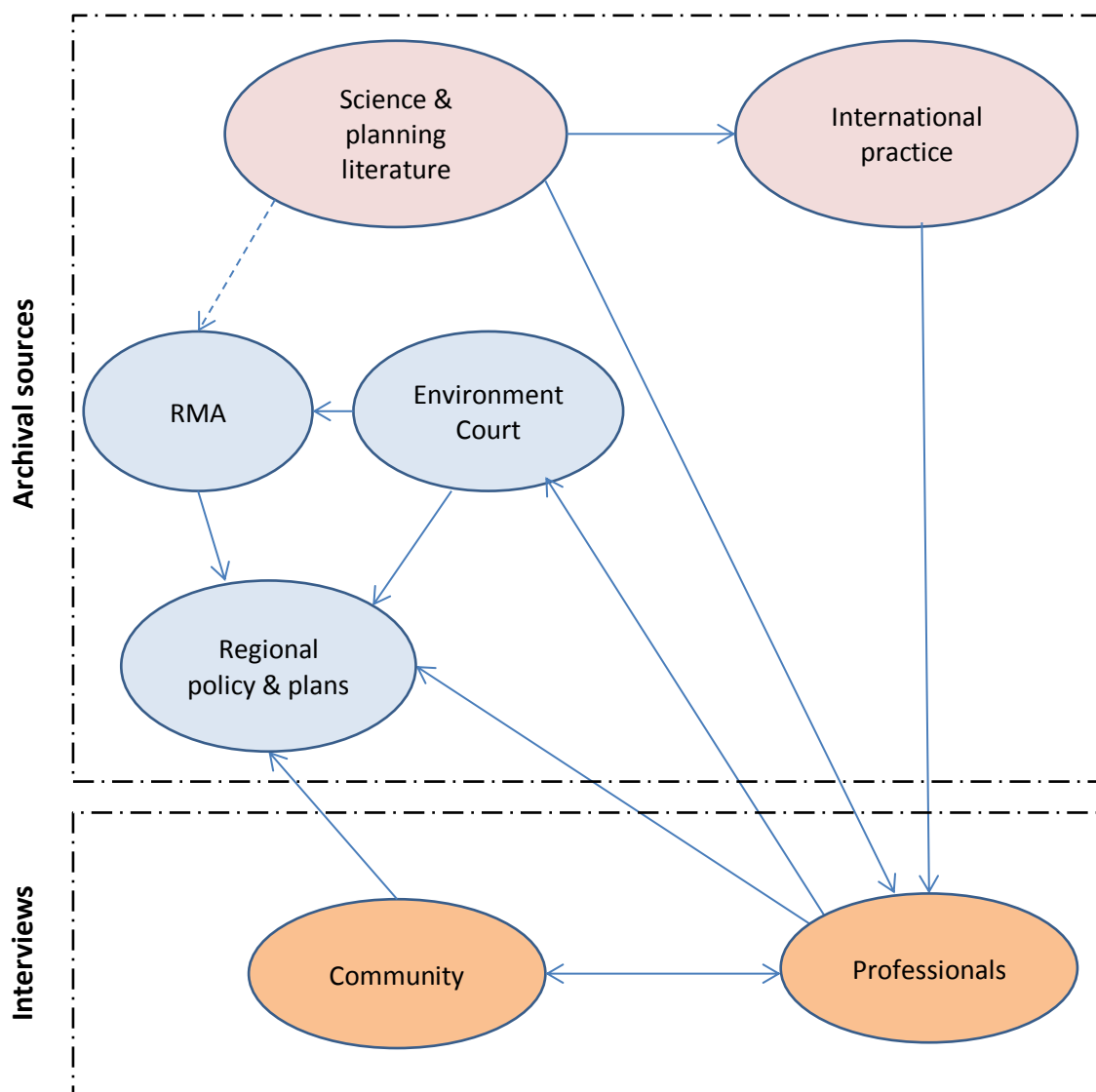


Figure 3.4: Archival and interview sources of evidence and their relationships

Examples of documents used are; literature on planning, landscape ecology and planning, and international practice literature such as environmental planning acts and professional practice literature from Australia, Europe and North America. Locally, the RMA 1991, case law from the

New Zealand Environment Court, the Kai Tahu Ki Otago Natural Resource Management Plan of 2005 and the Proceedings of the High Country Landscape Forum of 2005 were examined.

3.3.5 Alternative futures

The study, in using the single-case embedded design treated the distinct discursive communities as different perspectives, but all focused on the same phenomena. This allowed examination of the same case from different perspectives, namely three alternative futures, and an intra-case comparison of outcomes, meaning, for example, the stories from different informants within the professional cohort were compared within that group to elicit principles important to professionals. The same was done with the community cohort. Alternative futures and scenarios are valuable for framing alternate possibilities, decision support, and in envisaging the outcomes of choices made, all with assumptions of varied conditions and complexity (E. R. Alexander, 2006; Millett, 2003; Wiek, Binder, & Scholz, 2006; Wilburn & Wilburn, 2011). This argument influenced both modelling and presentation of the three alternative futures used in the pilot study, and later in the fieldwork.

Alternative futures were used here to show several trajectories of change. The assumptions were that when participants are presented with alternatives they take positions, which they defend, justify or persuade others to adopt. In decision making context, the reasons given for these stances are embedded in discourses, resources from which principles of landscape change management are identified. Three main alternatives were presented, with three stages (scenarios) in alternative 1, two stages in alternative 2, and one option in alternative 3. The theory of alternative futures, and the specific scenarios applied to this case study are highlighted in Chapter 4.

3.3.6 Pilot study

The pilot case study was a rehearsal of the full case study to gauge feasibility (Robson, 2002) and, as Yin (2014) adds, to help in refining the content and processes of data collection. It was used by the researcher to refine questions. Pilot cases or participants in a pilot case are selected based on convenience, access and proximity to the researcher. Pilot studies can be broader and less focused than the ultimate study and also allowing reflection on both substantive and methodological aspects

A pilot case study was conducted at Lincoln University with two groups of two people, and one of three people, a total of seven participants. The interview guide for the pilot is shown Appendix B.

The pilot study allowed refinement of the study questions and made the researcher aware of the tendency of agenda setting implied by the order of presentation of alternative futures. This is a situation where the presentation of alternative futures builds up to suggest a certain preference. To avoid agenda setting, it was clarified verbally to participants that the alternative futures did not seek choice of preferred states, but examined the logic behind decisions, regardless of choice. To address the issue of bias towards any one alternative, they would be ordered differently in alternate interviews. Also the participants were discouraged from comparing the scenarios and this was enhanced by keeping them out of sight unless they were the subject of discussion. The researcher also verbally made it clear to the participants that they were not required to choose one scenario over another.

3.4 Methods and techniques

3.4.1 Sampling strategy: Purposive sampling and theoretical saturation

A non-probabilistic purposive sample was used in this case study. Purposive sampling involves selecting information-rich cases. The researcher speculates and selects the participant who they feel will provide the best perspective of the investigated phenomena, and then invites them to participate. They are selected since they would provide information which might not be gleaned otherwise. Within purposive sampling, homogenous sampling uses communities who share common experiences and purposes. This way meanings and patterns can be identified (Gray, 2014). Snowballing was used where participants nominated others for the subsequent cohort.

Researchers are seeking opinions and representations which depend on the richness of information. Two key issues to consider are adequacy and appropriateness of this information (O'Reilly & Parker, 2013). However, firm guidelines on the sizes of non-probabilistic samples have not been established, therefore researchers have relied on the concept of saturation to define their purposive samples (J. J. Francis et al., 2010; Guest, Bunce, & Johnson, 2006). Francis and colleagues posited what they called '10+3' criterion after noting that the number of shared beliefs in a study plateaued after the tenth interview, and adding three more interviews as stoppage criterion to test if saturation had been met did not elicit any new themes. They argue that though the process is not perfect it is robust (J. J. Francis et al., 2010).

Theoretical saturation or saturation is considered to have occurred when no new information emerges from data, or when collecting further information is counterproductive as it does not add insight to the matter at that point (Robson, 2002; Strauss & Corbin, 1998). It has also been termed data adequacy (Kerr, Nixon, & Wild, 2010). Saturation is not gauged from frequency of

appearance in the categories but by examining the variations within context to see if they are substantive and, if any, how they can be explained (Saumure & Given, 2008).

Although Saumure & Given (2008) have argued that samples of 15-20 people are sufficient to achieve saturation, it has been noted that lower numbers are adequate in three instances, which are; using cohesive samples where members share common demographic characteristics, and when the research focuses on context specific cases and issues, in which the informants are not randomly selected. On a similar account, if the research is of a continuous nature, saturation will emerge. Guest et al (2006) have demonstrated that if you intend to elicit shared perceptions, beliefs or behaviour in homogenous groups, a sample of twelve participants is sufficient. They further argued that by the sixth interview, meta-themes will already have emerged. To illustrate how different groups differ, it would then be necessary to sample twelve participants from each interest group. Romney and colleagues, in their consensus model, which estimated participants' knowledge of cultural domains, demonstrated that smaller samples even of four participants could yield stable and accurate results (Romney, Weller, & Batchelder, 1986). Kuzel recommends 6-8 interviews for a homogenous sample and 12-20 interviews when seeking disconfirming evidence or achieving maximum variation (Kuzel, 1999). This study utilised more than 12 interviews in each phase.

Guest et al. (2006) have identified three important and interrelated points in interviewing to reach saturation; structure, content and homogeneity. With regard to structure they posit that participants be asked similar sets of questions, otherwise it would be impossible to reach saturation with changing targets. For content, it is argued that the wider the distribution of phenomena or widespread agreement across a domain, the fewer the number of participants required since it is easier to reach consensus. Finally, homogeneity of participants is ensured from the onset, since they are chosen based on meeting common criteria. The more similar the experiences of the participants in the sample, the faster it is to reach saturation.

Based on Guest's argument above, the professional and community cohorts were asked the same questions based on the same alternative futures scenarios. The content was familiar to all the participants, since they were living, had lived, or had social interests in Central Otago. The preceding point also qualifies homogeneity of the participants. It should be highlighted that a number of the professionals too worked, lived or had close social ties to the district.

The study made the assumption that professional decision making is informed by, among others, common training, professional norms and practice, and prevailing policy. The assumption is that

with similar operational knowledge base and experience, it is possible to reach saturation sooner. In the community sample the researcher sought a similar number of informants. The communities in Central Otago have evolved from miners and later, farmers who have over the years adapted different techniques to remain robust and profitable, with farms passed down across several generations. Other farm related service industries have developed alongside. These community members share similar demographics. These facts informed my choice of twelve key informants for the various phases of the research.

3.4.2 Decision making in small groups

This study utilizes small group conversations as an interview unit. Ideas or concerns in a group are discussed through conversation. Barret, Dunbar and Lycett have highlighted the role of language in conversation including bonding the group through interaction, exchange of information and policing. Language allows us to interact with more people, simultaneously find out information we might never have had, and curtail non-contributors (Barret, Dunbar, & Lycett, 2002). This implies conversations have commonality, not just of language, but of interests too.

A group is a number of interacting individuals having a common interest, and the effectiveness of their conversation is premised on this common interest in the discussion topic (Goldman, 1962). In a group conversation the individual's opinions or ideas are exposed and submitted for consideration by the group, with the assumption that the individuals do not direct their opinions to the moderator but to each other (Goldman, 1962). When using groups, participants get to voice and justify their opinions while listening to those of others (Hare in Hare, Blumberg, Davies, & Kent, 1996).

The study used groups for the following reasons. One, groups possess a large wealth of skills and knowledge pertinent to a decision, while the sharing of tasks allows faster processing of large amounts of information (Larichev, 2000; Tan, Teo, & Wei, 1995). Two, there are opinions and ideas which emerge in group conversations which might be unvoiced in individual interviews. The group being a composition of equals evokes spontaneity and candour rare in individual interviews. In addition the researcher gets to observe the group members' action and reactions to ideas and opinions which might not be apparent in individual interviews. Groups also demonstrate the dynamics of attitudes and opinions in regard to origination and intensity with which positions might be held, and the willingness to or not to change. These dynamics might not emerge in individual interviews (Goldman, 1962).

However, in large groups dominant members tend to pull the group to their preferred positions, often excluding the less vocal or less dominant (Larichev, 2000). In very large groups, decisions tend to be aggregations of the ideal, with individuals shifting their opinions to conform to this ideal (Goldman, 1962). This is because they are striving for consensus and looking for what is acceptable to the wider group (Tan et al., 1995). To counter these challenges, the study proposed to keep the group size small.

Small group interviews are effective when using five to ten people and organised in a semi-structured and informal way, and focused on specific issues or interests (Taylor, Bryan, & Goodrich, 1990). Small groups of three to seven people are ideal in interactive conversations where each member is accorded 'equal status' (Padilha & Carletta, 2002). Since in a conversation group of ten, only four or five people generate the bulk of the speech (Fay, Garrod, & Carletta, 2000), Hare (1996) proposed an optimum number of five, which allows equal opportunity to speak, ease of control and with the odd number allowing resolution of any deadlocks that may arise.

However, Barret and colleagues have demonstrated that, ideal conversations have a speaker, with clear turn taking and an average of three listeners. A conversation group of four persons is robust. However, if a fifth person joins the group, though the members will try to accommodate them, eventually the group disintegrates into two separate conversations. In addition when there are more than four people in a group conversation separated by acceptable distances, the individuals across might not hear each other easily. Furthermore, as the background noise increases the number of people that can be heard in an audible conversation reduces. This has been attributed to the human speech detection mechanisms which are designed to be just efficient to accommodate four people in a conversation with normal background noise (Barret et al., 2002).

This study therefore engaged small groups of up to four people. This allowed in-depth interrogation of issues, equality in participation, and of course, ease of control by the researcher, aspects which would not be possible with larger groups. The discussion will examine the method applied in data collection next.

3.4.3 Methods of data collection

Data in this study were collected from two sources, one, archival data and two, in-depth structured interviews with informants. Key Informants are actors who are articulate and knowledgeable and can serve as a source of information about a subject. They are embedded

within a community, organisation or profession. They act as collaborators with the researcher asking, answering and probing together to better illuminate how and why things work as they do. Although they answer comprehensively, they may often meander and intersperse answers with their opinions or feelings but they reflect the wider patterns of a community (Fetterman, 2008).

In February 2012 the researcher made a tour through the Central Otago District familiarising with the landscape, followed by a briefing from the Otago Regional Council (ORC) on their goals and expectations for the project. A project proposal was prepared and presented to the ORC for approval and comment. Subsequently, the proposal was further refined and presented for review and approval by the Lincoln University Human Ethics Committee. After approval was granted, the initial engagement with a set of key informants began through a two pronged approach. One, an advertisement was placed in the NZILA newsletter, (Figure 3.5 below), informing readers of the research project and asking professionals who had interest in landscape change in Central Otago to contact the researcher for possible involvement in the research. Through those who responded the researcher was able, thorough snowballing, to build up a team of twelve key informants. Two, through engagement with the Otago Regional Council and the Central Otago District Council, the researcher was able to identify potential participants. Attending meetings organised by the District Council and Manuhierikia Water Strategy Group also opened more doors to contacts for the study.

Landscape Change!

Changing global markets as well as local initiatives are changing New Zealand landscapes, but different proposals for land use change and development are frequently contested. The challenge of making good decisions over proposed landscape change requires improved understanding of the principles that can guide acceptable change.

Dennis Karanja, a PhD student at the School of Landscape Architecture at Lincoln University is undertaking research into landscape change in Central Otago, and later in 2012 will be seeking input from professional landscape architects with experience and interest in the topic. Please get in touch with him for more details.

Contact details:

T: 03-325-3838 Extension 8970

E: dennis.karanja@lincolnuni.ac.nz

M: 021 0256 7306

Figure 3.5: Advert in NZILA Newsletter October 2012

A total of sixty one participants, either as individuals or groups, were interviewed. Figure 3.6 below shows profile of these participants. More detailed lists of participants are provided in Appendices H,I, J and K.

Participant type	Number	Comment
Initial Key informants (I)	12	A mix of professionals, community
Professionals (P)	20	Landscape architects, resource Planners, Engineers
Community (C)	18	Farmers, Lifestylers, Business people, Environmentalists
Reference group (R)	11	Selected from the groups I, P and C

Figure 3.6 – Profile of participants

The field interviews were structured in three phases, initial engagement with the research context and informant interviews, presentation of alternative futures and decision making, and after analysis a validation stage where the initial findings were presented to select key informants. Figure 3.7 below illustrates the interview process.

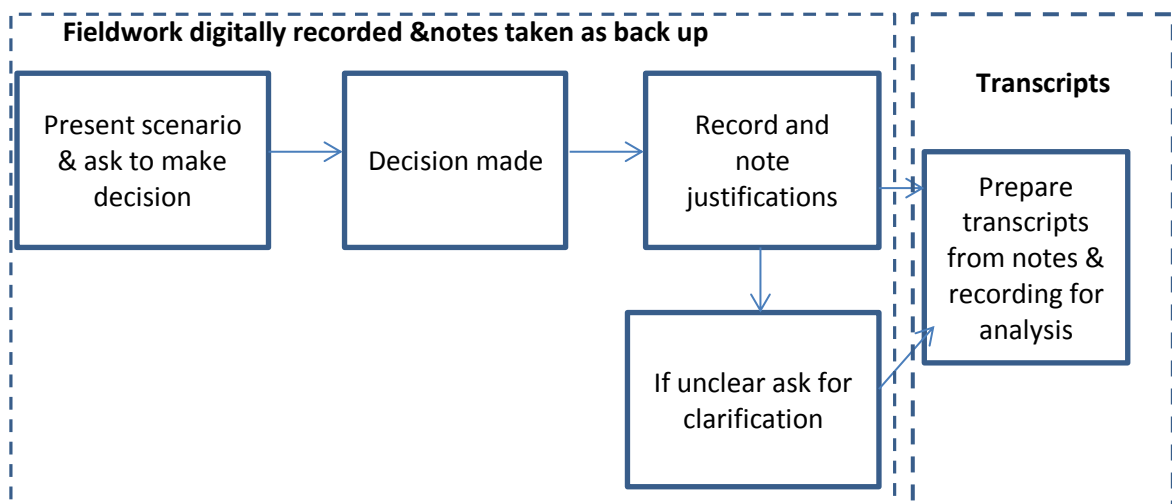


Figure 3.7 – Field methods recording

The three phases allowed the researcher to maintain a constant link and build valuable relationships with the key informants which made it easier for re-engagement in the reflection and validation phase. Data were collected between October 2012 and July 2014. The interviews were digitally recorded and transcribed by the researcher. Short notes were taken in the interview and expanded afterwards (see Appendix L). Some participants were not comfortable with recorded interviews; therefore note taking was used instead. Where further comments were voiced after the recording, notes were taken shortly after the interview. Phase I interview guide is shown in Appendix C. Phase II interview questions focused on three alternative future scenarios. The questions served as guides and the interviewer would inductively probe for further reasons to justify decision making. The interview guide is shown in Appendix D. Phase III interviews

focused on reflection on the principles synthesised from the previous two phases. A detailed interview guide is shown in Appendix E.

Documents in the form of scholarly literature in environmental management, landscape ecology, landscape planning, principles of landscape change management, landscape practice internationally were examined. In addition New Zealand statutory documents and instruments were reviewed together with publications on community aspirations and professional practice.

3.4.4 Analysing discourses

Discourse analysis was applied to both documents and interview talk for its value in revealing both the plain content and the latent repertoires and meanings within their context. An on-the-surface reading illuminates globally both the explicit main ideas and themes as the primary content whereas latent meanings are bound in the context (Mayring, 2004; Sarantakos, 2005; Walton, 2007). Since landscape is constituted through discourses and through contested structures of meaning (Gailing & Leibenath, 2013) discourse analysis is a significant resource to use in teasing out and understanding the discourses of landscape change in Central Otago, and therefore the embedded principles.

The study fieldwork examined data from two discursive cohorts, namely communities and professionals, including policy makers. Other thinking upon landscape change was identified from documentary sources. Similarly, the different archival data sources were examined separately. The first cohort was science literature together with international practice. These were from Australia, Europe, and North America. The second was made of New Zealand national policy and statutes, Environment Court interpretations of the RMA 1991, and community aspirations including the Kai Tahu ki Otago resource management plan and the proceedings of the High Country Forum 2005, and local professional practice.

Their accounts and stories, treated as text, were analysed and compared to identify the common themes, from which principles were elicited. The overarching themes were compared across the interview cohorts and the archival cohorts separately. In each cohort, emerging principles were clustered into common themes and compared using a conceptual framework developed in the initial stages of analysis to identify crosscutting themes. Finally, the principles from the interviews were compared with those from documentary evidence.

Figure 3.8 below illustrates the sequences of examining interview accounts and archival texts. In step one, each account/ text as a unit of analysis was examined for plain and explicit claims that

qualify as principles. If none were present, the accounts or texts with similar themes were collated into broader storylines which were examined for common discourses. The discourses were re-examined and inferences made of what principles they were concealing or expressing. If there were no common discourses, it suggested there were gaps or silences.

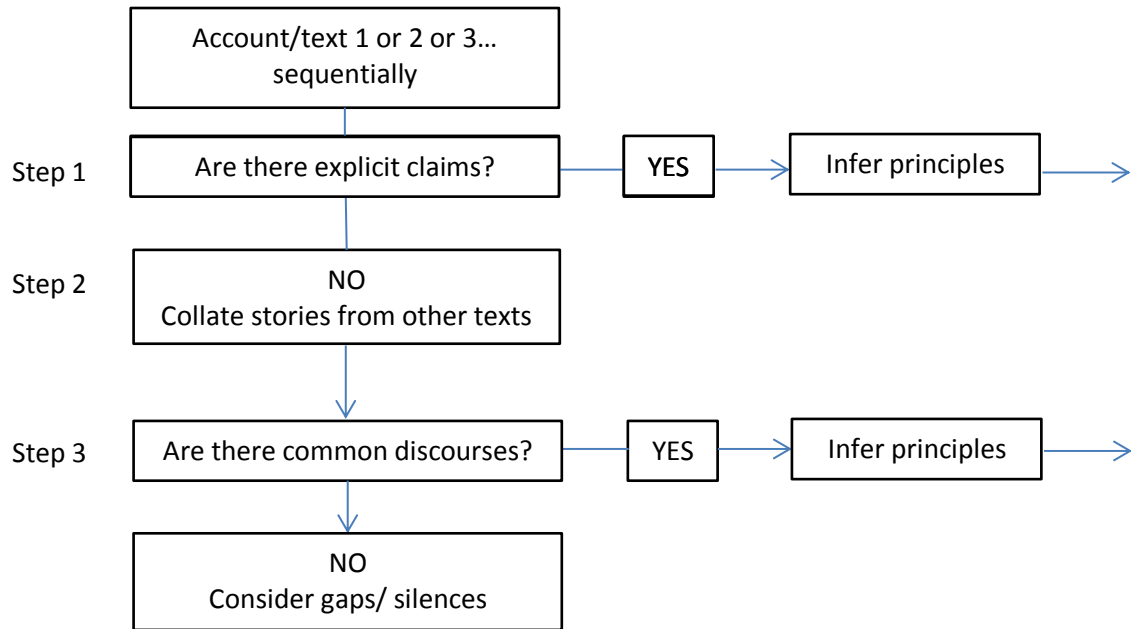


Figure 3.8: Discourse analysis process

Figure 3.9 below presents an example of how this technique was applied to real field data teasing out principles and discourses.

Text (accounts, stories & documents)	Claim	Inferred principle
Step 1 Single text		
-... biodiversity is fundamental...especially indigenous biodiversity ... P4		biodiversity
Step 2, 3 multiple texts/ stories	Common discourse	
<p>-[473] ... and it's not just trees, it's the wrong kind of tree, you know ,if it were Totara and Kauri I think we'd think a bit differently, but it is not. It is <u>an exotic that is obliterating indigenous communities and I [have opinions] very strong to say on indigenous character and preserving what we have got and stemming the tide of loss ... I 6</u></p> <p>-509]..., to come back to fundamental principles ... <u>is it expressing local identity, local character? ... is it bringing back the indigenous biodiversity and character?</u> Those are some of the fundamentals that I always put in front of me when am thinking about landscape change and my role in that as a decision maker...P5</p> <p>... <u>wilding trees are a threat]...yes, it's wind-blown, I mean, a lot of people say, 'but I like trees on the hills, I don't like the bare hills' well if you don't like the bare hills go and live in Canada or somewhere ... C15</u></p> <p>-[473]I don't like this dry barren grass and landscape '- and you sort of think 'why are you living here? If you like trees go and live in America or some...I 6</p> <p>-[60]A World of Difference' <u>infers to me, not to everybody, it infers that there are limits because if you exceed those limits then it's no longer a world of difference, it's just another place... I 9</u></p>	<p>1.Identity is built around <u>local biodiversity</u> and <u>local people</u> who identify with this landscape ... (see expanded view 1)</p> <p>2.There are differences in valued landscapes. Some people by virtue of their values do not belong in this landscape- this is signifying communities of place and interests ... (see expanded view 2)</p>	<p>-local identity</p> <p>-preservation</p>
<p>Expansion of the discourse emerging above</p> <p><i>View 1 (discourse)</i></p> <p>Enhancement and preservation of indigeneity is not an end in itself, but it means the preservation of identity, both place and species, that has developed around the landscape too. Whatever subtracts from the identity, for example, exotic plant species, rabbits and possums should be eliminated. In addition limits, to human activities, are proposed to preserve this identity.</p> <p><i>View 2 (discourse)</i></p> <p>It is strongly felt that those of opposing views threaten the identity, and are not welcome. The discourse also exposes claims, of what constitutes local identity, not just the landscape, but the way of valuing. A local should value the dry barren landscape; otherwise, they are not an authentic part of the community. The arguments against 'Canadian or American' landscape are a reaction to the growth of wilding pines, and conversion of the barren landscape to the alpine landscape.</p>		

Figure 3.9: Steps of discourse analysis to reveal principles

3.5 Ethical considerations

This study involved human participants as interviewees and therefore was reviewed and approved by the Lincoln University Human Ethics Committee (Appendix A). It followed the guidelines and procedures set by the committee such as maintaining proposed methods, informed consent in participation, providing confidentiality, and securing data. Separate ethics applications were required and obtained for the pilot phase. Three issues are important to highlight namely; consent, confidentiality and withdrawal from participation.

First, the study was structured in three phases, including re-engaging participants, therefore process consent (Corti, Van den Eynden, Bishop, & Woollard, 2014) was sought. Participants were informed of the three phases of the study and asked if they were willing to participate in consequent phases. However, it was not compulsory to participate in all phases. Participation in the study was voluntary. Participants were adequately informed and consent obtained before the interviews. The research information sheets and consent forms (Appendices F & G) were sent to the key informants prior to the interview, and again discussed before the actual interview. The participants signed the consent forms before the interview.

Second, confidentiality was maintained by ensuring that any identifying information was redacted from transcripts and by using pseudonyms in transcripts and presentation of research findings and storing consent forms and transcripts separately. The issue of confidentiality was challenging in small tightly knit rural communities where the research relied on snowballing techniques, since this required the researcher to identify the source of contacts to consequent participants or group of participants. Deming and Swaffield (2011) have noted the difficulty of making significant commitments on confidentiality in a group setting. However, the data were not shared apart from between the researcher and the supervisors.

Third, allowing withdrawal after a group interview was tricky. However, this was remedied by confining withdrawal after interviews to individual interviews only where conducted as such, as withdrawal would have significantly affected the accounts in group interviews. This was clearly indicated in the consent forms.

3.6 Chapter summary

This chapter discussed the research challenge, the design and the methods employed in this study. It was informed by the previous chapter that showed that there are distinct discursive frameworks in landscape decision making. It highlighted the value of discursive landscape

democracy in answering value questions of landscape change; 'what?', 'why and who?', and 'how?' of landscape change. It presented the discursive values of self-determination, co-determination and participation through impartial arguments. It proposed examination of landscape change decision making arguments through issues in a case study. What has been proposed in this research is an interpretive case study of Central Otago.

A study on principles of landscape change can benefit from interpretive approaches which sit in between deductive and inductive approaches. The researcher in the interpretive approach uses reflexivity where theory is modified as the researcher interacts with practice. This is an interpretative case study seeking to identify principles of landscape change decision making through discourse analysis. The single-case embedded design applied in this study used accounts from participants as units of analysis. Due to multiplicity of views, understanding and even contests over landscape change, discourse analysis is useful in revealing both the plain and latent meanings embedded in accounts, stories and discourses of the participants. To provoke decision making and discourses, it was proposed to use plausible scenarios of alternative futures informed by literature and initial key informants' accounts to small groups of decision makers.

The discussions were recorded and analysed using discourse analysis techniques. As this was a reflexive process, a conceptual framework was developed in the early stages of analysis and reapplied to both literature and field study findings. The strength of this study lies in using multiple sources of data and having a validation phase where select key informants were engaged to assess consistency of findings. Emerging patterns, consistencies and meanings in case study findings can develop into theory but this cannot be generalised to a population. However, generalising and particularising are a continuum indicating that inferences can reveal both the general and the particular. Those findings will be discussed in Chapters 5, 6 and 7. Chapter 4 explains the use of alternative futures in the context of Central Otago.

Chapter 4: Central Otago

4.1 Introduction to Central Otago

The Otago Region comprises five districts administered by territorial local authorities. These are the Waitaki, Dunedin, Clutha, Central Otago and the Queenstown Lakes District. The region's landscapes are iconic in branding - known locally and globally for scenic beauty, wilderness and tourism (Lough, 2005; Mackay, Perkins, & Taylor, 2014). However, these landscapes are changing - particularly those in Central Otago: from extensive pastoral beef and sheep farming to intensive dairy production and from agricultural to viticulture and lifestyle blocks, and there has been a notable increase in tourism, residential, energy and resource extraction projects (Lough, 2005). Some parts, for example Cromwell, have had notable shifts from traditional focus on natural and recreation values, and experienced cyclical patterns of capital infusion from new local and global actors, global visibility which attracts more residents and more capital (Perkins et al., 2015)

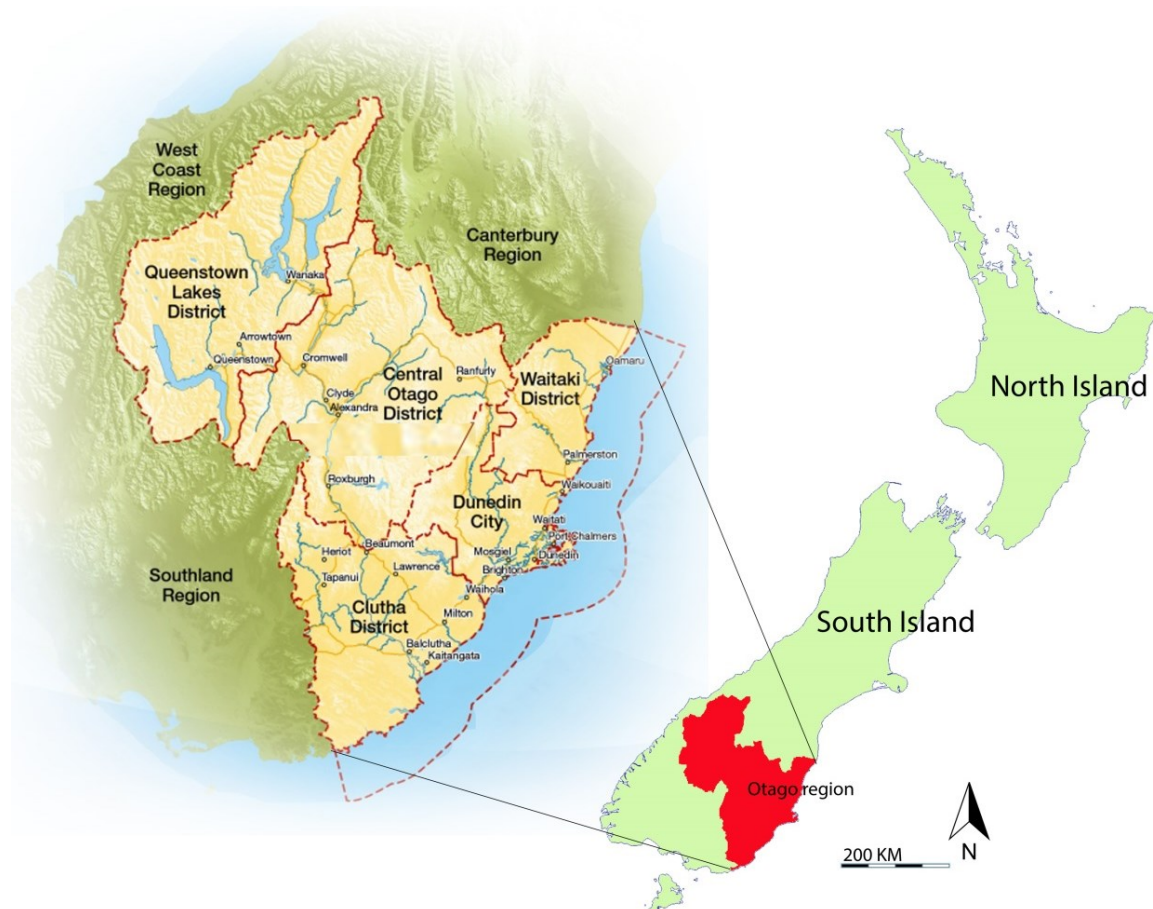


Figure 4.1: Otago Region in New Zealand context

Other change drivers are improved technology, including IT, migration including local and international amenity migration (Hall, 2006) leading to what has been termed a globalising countryside (Perkins et al., 2015). Tenure review and the resulting expansion of conservation estate and subdivision of freehold land are important local dynamics which enable formerly pastoral high country farm lands to be subdivided for more profitable forms of agriculture and lifestyle housing. These changes and the uncertainty they bring are the source of significant conflict within the planning system. Central Otago also faces other challenges such as the explosive growth of pine wildings, and a social influx from Wanaka and Queenstown particularly of transient worker populations (Lough, 2005).

4.2 Current policy framework in Otago

Policy in Otago Region, in common with other regions in New Zealand, is framed by the Resource Management Act 1991 or the RMA. The RMA influences management of natural and physical resources in New Zealand, including landscapes. It provides a framework for managing current uses of the environment sustainably and with the future in mind (Ministry for The Environment, 1999). A more elaborate discussion of the RMA and the landscape change principles it expresses will be examined in Chapter 5. The following section will examine the policy framework impacting on the case study from the national level to the district level. The elements of this framework include the regional policy statement, district plans and iwi resource management plans, and cultural heritage management. Other relevant mechanisms such as the tenure review, and processes such as Manuherikia water strategy are also examined.

4.2.1 The Regional Policy Statement (RPS)

The RMA requires regional councils to prepare regional policy statements (RPS) providing overviews of the region's resources management issues, and facilitate an integrated approach in dealing with those issues. The RPS gives effect to national policy statement and also provides direction for regional and district plans. It also considers iwi resource management plans (IMP) prepared by iwi authorities (Ministry for The Environment, 1999; Otago Regional Council, 1998; Quality Planning, 2015). The relevant iwi management plan for the Otago region will be discussed in the next section.

The RMA 1991 section 59 set the purpose of the regional policy statement as being;

"... to achieve the purpose of the Act by providing an overview of the resource management issues of the region and policies and methods to achieve integrated management of the natural and physical resources of the whole regions".

The regional policy statement is prepared under provisions of Section 60(1) of the Act (Ministry for The Environment, 1999; Otago Regional Council, 1998, 2015). Figure 4.2 below illustrates the RMA planning framework for the Otago region. The RPS enables the integrated and sustainable management of natural and physical resources of the region. The regional coastal plan, regional plan and district plans fit within the wider policy statement and cannot be inconsistent with it. The instruments assist the Otago Regional Council in performing its functions. The RPS is guided by the National Policy Statement prepared by the Minister for the Environment. The National Policy Statement expresses policies on matters of national significance relevant to the RMA. The other influence is the New Zealand Coastal Policy Statement prepared by the Minister for Conservation, which frames policies to be achieved in relation to the coastal environment (Otago Regional Council, 1998, 2015).

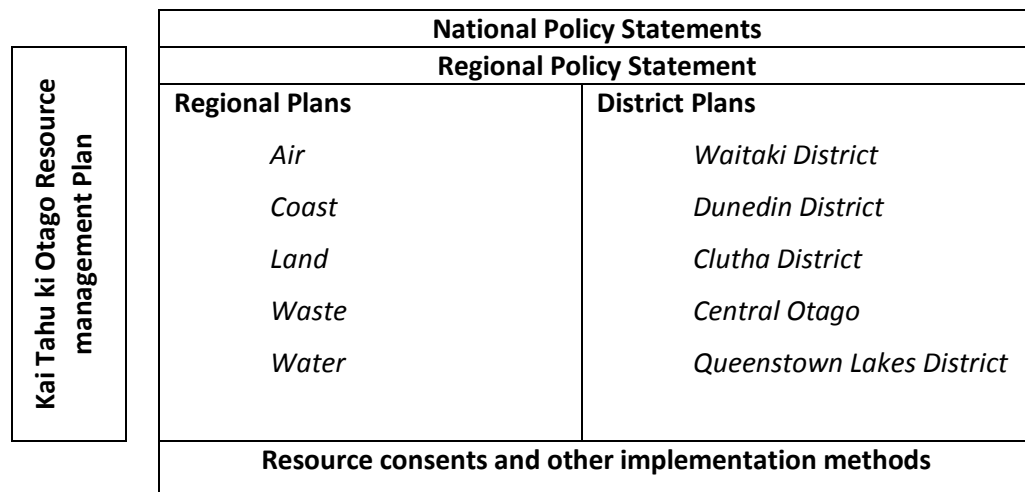


Figure 4.2: Policy framework for Otago Region (Otago Regional Council, 1998)

4.2.2 Central Otago District Plan

It is a requirement under the RMA for territorial local authorities – the district and city councils - to prepare plans for areas under their jurisdiction. These plans help councils to carry out their functions under the Act and give effect to both regional and national policy statements. Apart from highlighting the significant resource issues in the district, they set objectives, policies and rules around these issues, including anticipated outcomes of the plans. In the process of preparation they have to consider iwi-based planning documents. District plans cannot be inconsistent with the RPS (Ministry for The Environment, 1999; Otago Regional Council, 1998, 2015). As RMA section 74 requires the council to consider other plans and strategies prepared under other legislation. In this regard, beside the Kai Tahu ki Otago Resource Management Plan, the Central Otago District Council considered the Otago Conservation Management Strategy,

Molyneux Park and Pioneer Park Recreation Reserve management plans, and other plans, documents and guidelines produced by statutory authorities and industry groups (Central Otago District Council, 2008).

4.2.3 Kai Tahu ki Otago Resource Management Plan

Iwi management plans (IMP), are resource management plans prepared by an iwi, iwi authority, rūnanga or hapū for application within their rohe. While the RMA 1991 does not explicitly define the IMPs, it requires regional councils to consider planning documents prepared by iwi authorities (Ministry for The Environment, 1999; Quality Planning, 2015).

The Kai Tahu ki Otago Resource Management Plan document developed through consultation with the iwi in Otago region, and is the principal planning document for the Kai Tahu ki Otago. Its philosophy is holistic management of elements within and between catchments, air, land and coastal environments. The implementation of this philosophy requires a collaborative approach. The document seeks to provide information, directions and a framework from which to understand the values, concepts and concerns of the iwi in management of natural, physical and historic resource management in Otago. The plan's holistic approach means that not all issues it raises are amenable to current legislation or institutions implying there are expressed through multiple agencies. However, the document does not replace direct consultation with the iwi (Kāi Tahu ki Otago, 2005).

4.2.4 Cultural heritage management in Central Otago

Cultural or historic heritage includes those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures. They derive from archaeological, architectural, cultural, historic, scientific and technological qualities. They include historic sites, structures, places, and areas; archaeological sites, sites of significance to Māori, including wāhi tapu; and surroundings associated with natural and physical resources. The RMA Section 6 (f) under matters of national importance demands recognition and provision for the protection of historic heritage from inappropriate subdivision, use, and development (New Zealand Parliament, 1991). Heritage provides a sense of identity, belonging and nationhood to individuals, families, iwi/hapū and other communities (Creech & Clarke, 2015). However, this definition of heritage places does not relate well to heritage landscape concepts as there is no classification model for heritage landscapes. The Historic Places Act 1993 (replaced by the Heritage New Zealand Pouhere Taonga Act 2014) places particular emphasis on, among others, aesthetic, archaeological, architectural, cultural and technological values. Heritage landscapes are

those landscapes, or network of sites, with heritage significance to communities, tangata whenua, and/or the nation (Stephenson, Bauchop, & Petchey, 2004).

The management of cultural heritage is shared between several government agencies and private community groups (Central Otago District Council, 2012; Quality Planning, 2015). Territorial local authorities manage land-based historic heritage through district plan policies and heritage listings (Creech & Clarke, 2015). This is informed by the RMA, Local Government Act 2002, Heritage New Zealand Pouhere Taonga Act 2014 among other requirements as defined by the Reserves Act 1977, the Building Act 2004 and the Marine and Coastal Area (Takutai Moana) Act 2011 (Quality Planning, 2015).

In implementing the RMA, regional councils in their regional policy statements must have regard to the relevant entry on the New Zealand Heritage List/Rārangi Kōrero required by the Heritage New Zealand Pouhere Taonga Act 2014 (New Zealand Parliament, 1991). These requirements objectify heritage into discrete items, which explains the focus of district councils on detached items rather than landscapes. However, in 2002, the Department of Conservation (DoC) developed a methodology for heritage landscapes assessment that differed from that used in studying discrete heritage sites such as individual buildings or archaeological sites. The methodology facilitates the identification, management and interpretation of landscapes with multiple historic sites, embedded stories and close community relationships with the land, at a landscape scale. This methodology was tested successfully in Banockburn landscape in Central Otago (Stephenson et al., 2004).

A heritage landscape approach removes discrete demarcations in heritage management, allowing instead for an all-encompassing cultural landscapes approach (Wallace, 2015). Cultural and heritage landscapes are included under 'wider historical and cultural area' in the New Zealand Heritage List/Rārangi Kōrero. This guides territorial local authorities in identifying and protecting cultural and heritage landscapes under, for example, the RMA and the Heritage New Zealand Pouhere Taonga Act 2014. Although local authorities may use heritage strategies to manage cultural heritage, there is no statutory obligation to prepare such a strategy (Quality Planning, 2015). There is slow progress in recognising Māori heritage in regional and district plan heritage schedules with the deficiency more pronounced in district plans (McClean, 2013). Management of heritage has involved rules limiting private property rights, management of public reserves and assets. Since the majority of heritage sites are on privately held land, this can sometimes be a source of conflict. Good management involves incentives, education, support and regulation (Quality Planning, 2015).

There are three key areas of heritage that may have influenced key informant responses in the case study namely, built, natural and cultural heritage values, which are significant for the identity of Central Otago. Built heritage encompasses buildings, structures and objects, whereas natural heritage includes, among others, natural places, objects and their intangible attributes. Cultural heritage links the first two, and encompasses the tangible- including artefacts, buildings, landscapes, and historic places, and the intangible- customs, traditions, histories and notions of identity. For example, the pastoral and horticultural heritage is embedded in the landscape together with the architecture, innovations and methods drawn from the cultures and institutions of the first settlers (Central Otago District Council, 2012).

The Central Otago District Plan places particular emphasis on heritage buildings, structures, sites and trees. For example, the five towns of Clyde, St. Bathans, Ophir, Old Cromwell and Naseby have heritage precincts and are listed in the Heritage Register and included in the District Plan (Central Otago District Council, 2014). Throughout the district, many gold settlements decayed, however, some evolved and adapted to circumstances retaining active use in contemporary society. These can be termed 'continuing landscapes' in contrast to 'relict landscapes' whose particular use ended and they have not evolved. While there are other continuing landscapes in the district, Bannockburn was the first to be studied and documented. It showed several layers of history of occupation and use, including Māori settlements and early mining including various phases of different mining technologies (Stephenson et al., 2004).

Three significant elements- towns, railway track and water races - are still visible in the case study landscape, and formed part of everyday discourse. The towns and settlements such as St. Bathans, Lauder, Omakau and Ophir, are actively used. The former railway track has been redesigned into the Central Otago Rail Trail and has had significant impact on tourism in the district. However, the water races have continuously been in use in conveying water- initially for gold mining sluicing works and today for irrigation. The networks of water races can be said to be the most significant continuing landscape features that have transformed the landscape in the case study area. Although there are wāhi tapu and wāhi taonga sites within the district, none were directly identified in the case study area. However, in view of wider district, heritage landscapes have been identified, especially as mahika kai sites, and routes from such sites to the coastal settlements in the Otago region.

Less tangible but just as influential are the stories which have survived through the generations (Central Otago District Council, 2012). Community members identify their family heritage with the pastoral tradition and their identities are embedded in the landscape. The pastoral heritage was a

significant influence in the decisions of those who preferred incremental change or conservation discourses. The intangible notions of identity built over more than a hundred years were evident in the discussions, especially of those participants who had generational roots in the landscape. Surprisingly, even those who had settled into the area in the more recent past, drew on heritage values in forming their arguments and identities. The notion of identity is, therefore, a strong thread that links the majority of the participants with the case study area and the Central Otago landscape generally.

There are other institutional issues which impact on the case study location. Two examples are highlighted in the following section.

4.2.5 Tenure review and high country landscapes

Tenure review is a process under the Crown Pastoral Act 1998, which enables the discharge of high country land with conservation values from private lease into the public conservation estate to be managed by the Department of Conservation (DoC). At the same time, the leaseholder gains freehold ownership of the more productive areas of the land (LINZ, 2014; Parliamentary Commissioner for The Environment, 2009). Some positive outcomes of the tenure review process are, for example, increased protection of tussock grasslands, remnant forests and wetlands. The process has allowed maintenance of nationally significant landscapes, increasingly attracting local and international visitors. However, there are also tensions between different proponents of various management regimes for the land. Issues of contention have been around loss of ecosystems at lower altitudes, impact on landscapes and public access to the high country. While there are efforts by Land Information New Zealand (LINZ) and other agencies to remedy this, there are also other land-based issues relevant to landscapes, namely wilding trees and water quality (Parliamentary Commissioner for The Environment, 2009). While this case study works with the backdrop of tenure review, the focus will be everyday landscapes, which are primarily freehold land.

4.2.6 Water management and the Manuherikia Water Strategy Group

The second is the issue of water in the case study area. Irrigation in Central Otago grew in tandem with gold mining in early 19th Century, using mining privilege priorities to access water for irrigation. As early as the 1950s, it had been recognised that water was a valuable but scarce commodity, requiring consolidation and efficient use. The wider Manuherikia catchment, covering more than 3000km², hosts six irrigation companies, with four sharing Falls Dam storage constructed in 1935. The early development and expansion of irrigation allowed intensification of

farming systems, including development of horticulture in areas such as Clyde and Alexandra (KTKO Ltd, 2012; Opus International Consultants Ltd, 2012).

The desire to improve irrigation in the Manuherikia valley is intended to address several risks. These include; aging irrigation infrastructure with limited life span, low efficiency, and unreliable water supply. Other risks are limited opportunities for expansion of production. The changing legal framework also plays a role, for example, legislation under the RMA has set more stringent water management rules in terms of quantity of takes, quality of discharge among others. Additionally, mining water rights will expire in October 2021, implying that changes and improvements are needed now. The regional council has, however, encouraged formation of water management groups to assume local management of water resources for the benefit of users and ensure compliance with regulatory demands (KTKO Ltd, 2012; Opus International Consultants Ltd, 2012).

The Manuherikia Catchment Water Strategy Group was established to examine the most cost effective, efficient and sustainable catchment-wide strategy for managing water for irrigation and other uses. It is made up of multiple interests such as landowners, irrigation companies, and environment and conservation groups among others. Among the proposals considered in the strategy are raising Falls Dam by twenty seven metres, building other smaller dams in the catchment at lower elevations and drawing water from Lake Dunstan over the Dunstan ranges (KTKO Ltd, 2012; Manuherikia Catchment Water Strategy Group, 2014).

4.3 Alternative futures for Central Otago

Having examined the policy framework operational in Central Otago, and the dynamics of the case study area, this section will examine the alternative futures employed in the study. These are fictional but borrow slightly from the feasibility studies of the Manuherikia Catchment Water Strategy Group, and history of the area.

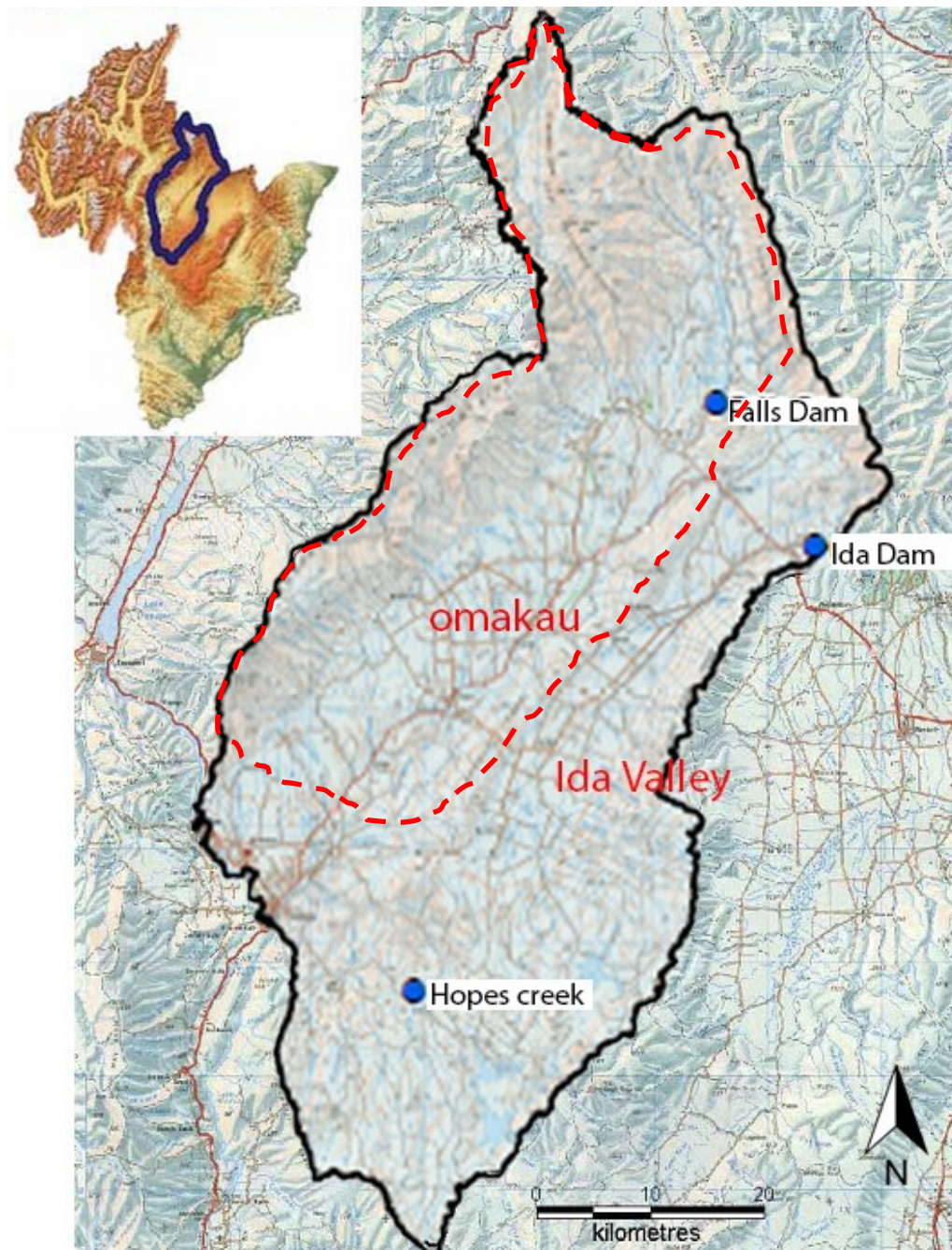


Figure 4.3: Case study area (dashed red line) within Manuherikia catchment (Otago Regional Council, 2011)

The Manuherikia catchment has a pastoral tradition and recently, lifestyle blocks have emerged in the lower elevations. The upper catchment, the higher country has a remnant of tussock. Historical settlements such as Omakau, Ophir, Lauder and St Bathans are within Manuherikia Valley. Selected from this area, the case study site is all that area bounded by Hills Creek to the north, Raggedy Range to the east, Chatto Creek to the south and the Dunstan Range to the west. For the purpose of this study, the area will be simply identified as Omakau and is highlighted in a red dotted line in Figure 4.3 above.

Alternative futures afford insights into planning and its consequences and are a powerful way of showing the trajectories of change. They describe changes that could, not necessarily that will, take place. They accommodate diverse assumptions and uncertainty (Swaffield, Primdahl, & Hoversten, 2013). These assumptions are based on probabilities and not facts. The high uncertainty leaves them open to diverse end-states (Shearer, 2005). Alternative futures examine postulated sequences of development, and evaluate these end-states against possible consequences (Berger & Bolte, 2004; Carl et al., 2003; Global Business Network, 2012; Shearer, 2005). They aid comparison of alternatives, help in decision making and taking actions for different paths of events (Swaffield et al., 2013). Alternative futures therefore help in illuminating and not obscuring decisions Schwartz (1992).

Alternative futures are therefore storylines outlining sets of future conditions (Huss, 1988) which offer decision makers information regarding potential outcomes of different policy alternatives while broadening society's perspectives (Kuhlman, 2008). However, alternative futures when they concentrate on few options, without clear choice among them, make it difficult to make decisions (Popper, J., & C., 2005). These authors advocate using very clear storylines across plausible conditions.

In this study, the purpose of having several alternative futures based on different trajectories of landscape change was to prevent anchoring bias. Anchoring bias happens where people lock into and are influenced by specific information given before a judgment or decision (Chapman & Johnson, 1999; Furnham & Boo, 2011). The alternatives were presented one at a time and others kept out of view to avoid comparisons. Furthermore, the key informants were explicitly asked not to make comparisons or choices between the scenarios. By presenting several plausible alternatives, and asking the key informants not to compare them, the researcher redirected the focus from the alternatives, to the values and principles of decision making held and expressed by key informants.



Figure 4.4 Falls Dam in Manuherikia catchment (Golda Associates, 2014)



Figure 4.5: Expanded capacity by raising Falls Dam by 27 metres (Aqualinc, 2012)

Three futures were developed and presented to key informants. Alternative 1 assumed the ongoing proposal to raise Falls Dam by twenty seven metres would be successful therefore providing more water for irrigation. Alternative 2 assumed a situation where raising the dam was

not successful and the climate has become hotter therefore straining the little water resources available. The third alternative assumed discovery of profitable gold deposits therefore shifting focus from ongoing dryland farming to mining, lifestyle and commercial operations. The three alternatives and their specific scenarios are explained below.

4.3.1 Alternative 1

Conversion to dairy farming and associated support cropping

Raising Falls Dam by 27 metres has created potential for enhanced irrigation of up to 35000 Hectares. For the irrigation scheme to recoup invested capital, landowners intensify farming practices on the flatter areas. The steeper areas are used for support cropping, pasture and less intense practices. Dairy farming is the dominant activity, the world milk market is growing and dairying seems the only logical farming option with guaranteed high returns. Small family holdings have folded up to pave way for corporate farming entities. Those who have sold their farms to dairy interests are purchasing lifestyle blocks. Small service centres have closed down as the population shifts to Southland and Canterbury. This alternative is presented in three stages or scenarios.

Scenario IA- Chatto Creek & St. Bathans

Approximately 10,000 hectares of irrigable land are utilised for intensive farming e.g. pasture for dairy and fodder. The rest is taken up by traditional dry-land farming, deer, sheep and beef farming.

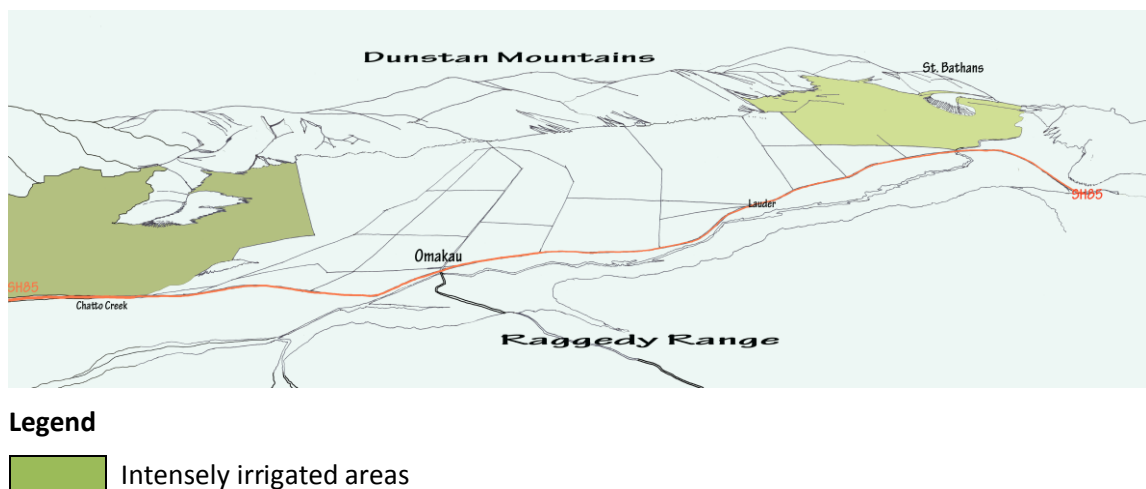


Figure 4.6: Scenario IA: Low scale intensification

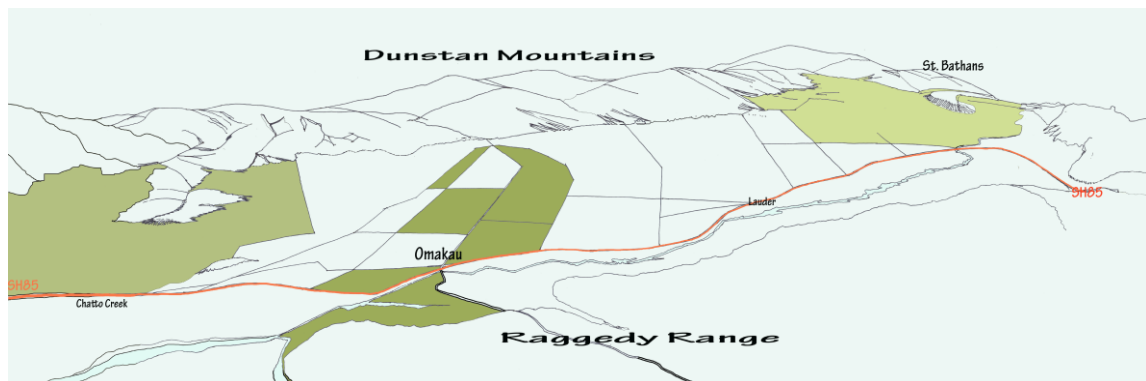
Figure 4.7 below shows the intensive irrigation already happening in some parts of Central Otago, and even within the case study area.



Figure 4.7: Centre Pivot irrigation in Central Otago (MCWSG, 2015)

Scenario IB- Chatto Creek, Omakau & St. Bathans

Approximately 20,000 hectares of the flatter areas are taken up by irrigated farming. The assumption here is that, Falls Dam has been raised, the farmers are converting land to intensive farming for higher returns per hectare to recoup invested capital.



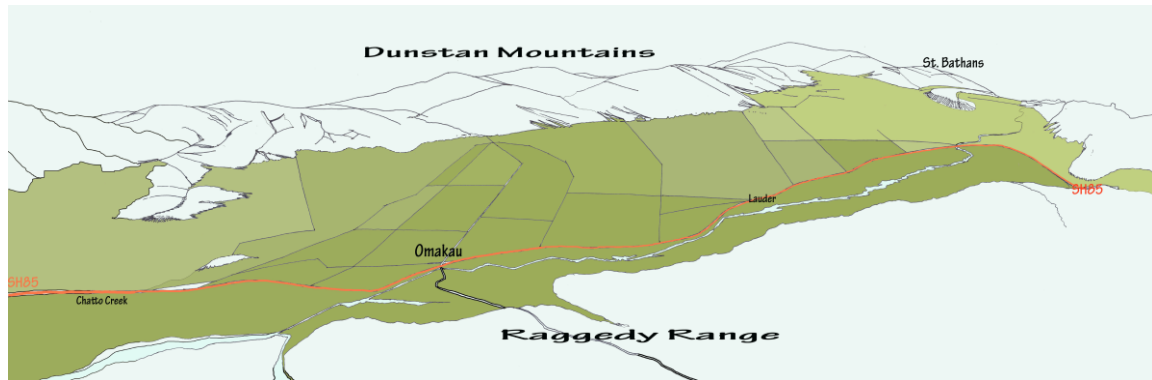
Legend

 Intensely irrigated areas

Figure 4.8: Scenario IB : Moderate intensification

Scenario IC- Whole basin irrigation

The whole basin is under irrigation. Approximately 35,000 hectares are under intense farming. Marginal areas above contour 600 and steep slopes are left to extensive grazing but fully utilised by farmers. Economic bottom-lines are important and the key drivers.



Legend

 Entire valley floor intensely irrigated

Figure 4.9: Scenario IC : Valley wide intensification

4.3.2 Alternative 2

The 'black swan'

The last few years have been very challenging for Central Otago. Persistent drought has decimated stock population and water resources are strained. The existing sources of water are depleted. There are no new sources and the little available water is barely adequate for domestic use. Summers are extremely hot with temperatures reaching 45°C while the winters have hostile lows. The Manuherikia River is mainly a dry riverbed most of the year. However, a bigger dam upstream and more efficient reticulation was not consented. One response has been to dam stream for water storage at the farm level. The areas with dams are farmed intensely throughout the year but the streams have dried up and the lakes levels are low. The population has reduced and settlements are clustered around water sources. This alternative is presented in two scenarios, IIA and IIB.

Scenario IIA- Early Innovator farms:

Falls Dam was not consented. Drought forces farmers to do farm-level water storage, damming streams as the Manuherikia River dries up. These farms have close proximity to high-yield streams and aquifers. Year round farming is practiced where farmers have incorporated green/tunnel houses in their regime.



Figure 4.10: Scenario IIA: Early innovator farms

Scenario IIB- Resilient farms

The success of farm-level water storage has been replicated in the basin. However, only areas with high-yield aquifers are able to survive. Production is intensive and focused on high return crops- both food for local consumption and cash crops.

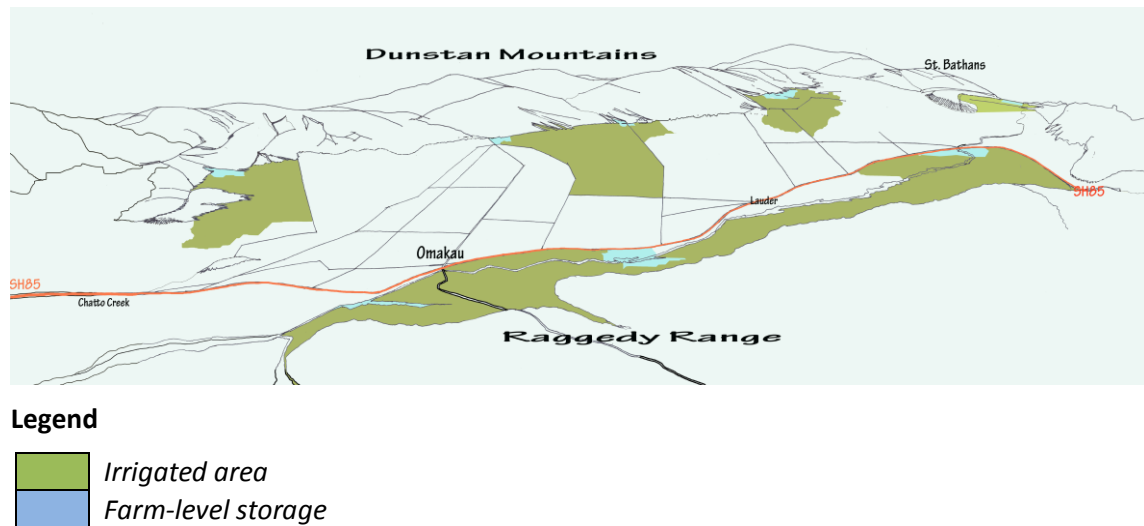


Figure 4.11: Scenario IIB: Intensity fully matched to available water sources

4.3.3 Alternative 3

Subdivisions and development into residential and lifestyle blocks

In 2025 the population of Omakau stands at 1000. Deeper and richer gold seams have been discovered in nearby Ophir and extensive mining operations are underway. Workers have settled in the neighbourhood of Omakau and some former farmland has been subdivided into lifestyle blocks. Like elsewhere in Central Otago, these subdivisions also attract overflows from Queenstown and Wanaka and a new generation of Dunedin residents who would like to have a second home or weekend rural retreat. Visibility from branding 'The World of a Difference' has attracted a larger population of lifestylers than expected, raising the population in the district to 30,000. This has led to significant residential development around existing settlements. The proposal under consideration in this exercise is an expansion of Omakau and other similar settlements.

Scenario III- Gold, residential and lifestyle block development

Deeper richer seams of gold have been discovered in Ophir. Extensive mining operations are underway and workers have settled in Omakau raising the population to 1000. New residential and commercial buildings come up. Farmers who sold their land have bought lifestyle blocks in Omakau, Lauder and St. Bathans.

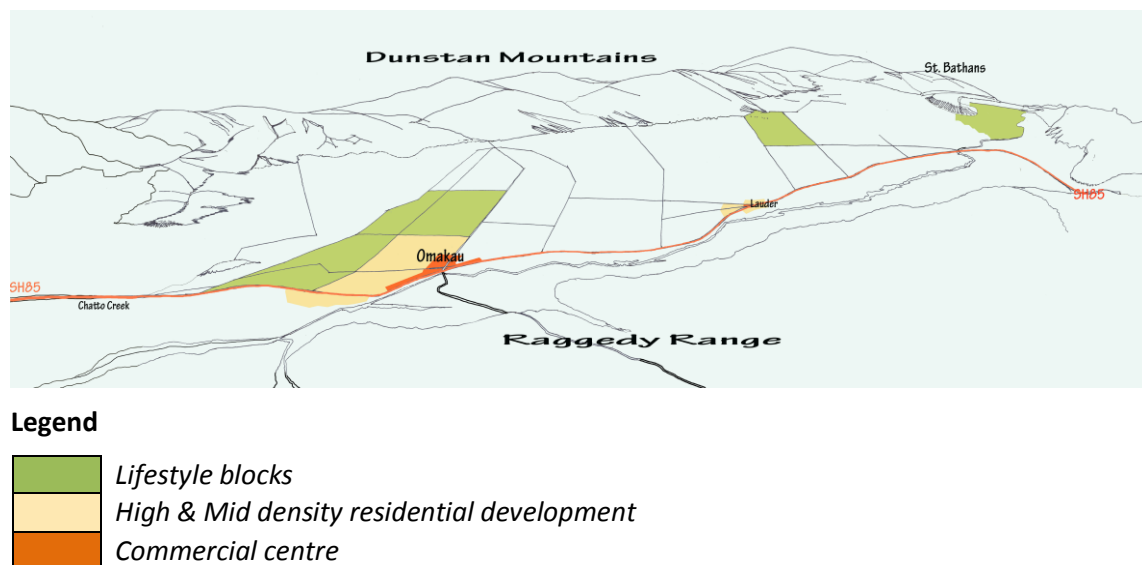


Figure 4.12: Scenario III : Gold, commerce & lifestyle

4.4 Chapter summary

The backdrop of this study is a vibrant discourse on landscape in Central Otago, internally and externally. The ongoing debate and feasibility study on water use in Manuherikia valley, land tenure review, changing land uses and related dynamics all colour this background. The dry climate of Central Otago makes the landscape particularly vulnerable to both local and global

changes. Changing land uses evoke varied understandings, critics and commentary from both local and non-local interests.

All these interests were willing to voice their opinions, and this is the characteristic which the research used to connect to ongoing local discourses. It therefore modelled three alternative futures with several scenarios to provoke decision making discussions around landscape change. This allowed examination of reactions in from of decisions which were based on different values systems.

PART TWO

Part One introduced, and examined theoretical foundations of the study and situated it within the Central Otago context. In Part Two archival sources of data and the case study field findings are examined. Findings are analysed followed by a discussion in which propositions are drawn and considered.

Chapter 3 showed how the study uses a reflexive approach to research and theory building drawn from Castells (1983) and Deming and Swaffield (2011). The reflexive inquiry answers the challenge of inductive-deductive categorisation of research approaches. An inductive approach describes phenomena and offers explanations of relationships through experiential or empirical evidence, thus revealing what is operative in particular contexts. It is useful where no previous research dealing with phenomena exists. In contrast a deductive approach develops explanations from theory and tests such theory and explanations and compares categories in different situations through experimentation, evaluation and argumentation (Deming & Swaffield, 2011; Elo & Kyngäs, 2008).

The reflexive approach used in this study sits between inductive and deductive approaches and involves establishing broad theoretical concepts which are sequentially revised as new data are engaged. New positions are taken and data re-evaluated to achieve new ways of understanding (Deming & Swaffield, 2011). Landscape change has a complex character that is managed deductively. A conceptual framework shown in Figure 5.0 below was developed from initial conceptual positions and fieldwork. The framework was reapplied to the archival data sources, and again to key informant accounts. The conceptual framework was used to clarify and deepen the theoretical context and understanding, and applied to the rest of the study in examining, and categorising the emerging principles. This conceptual framework is presented here only as a holding device which helps to frame the different strands of analysis, and will be revisited in the final discussion where the crosscutting themes will be drawn out.

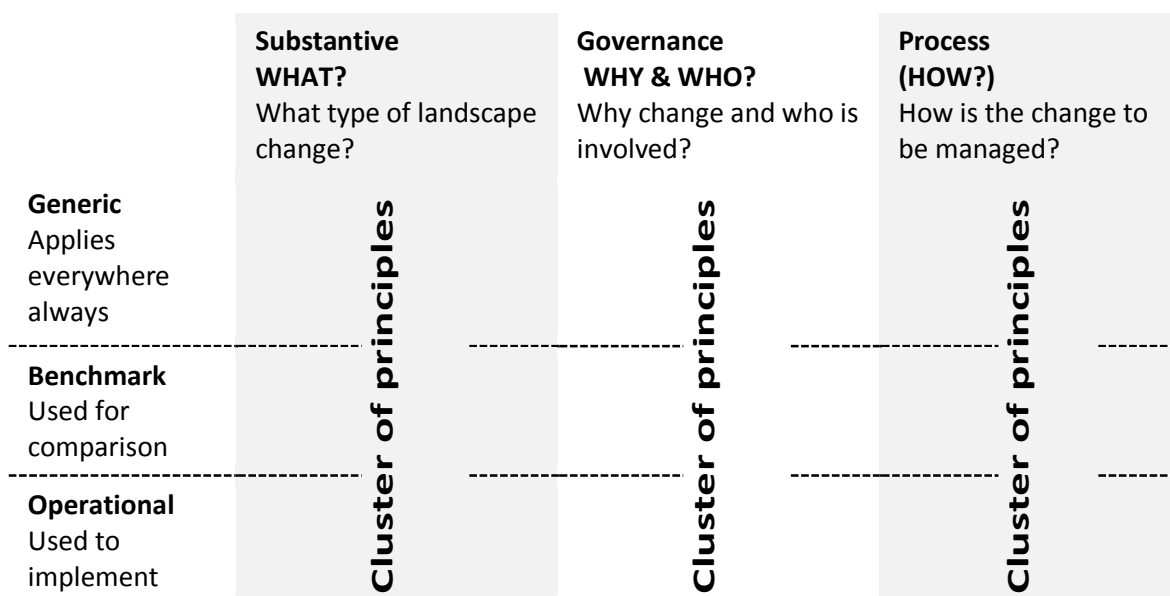


Figure 5.0: Conceptual framework for landscape change principles

The study revealed that landscape change principles can be broadly categorised into three types and three levels of specificity, and clustered around several themes. First are the material/substantive type of principles. These are based on the ‘what?’ of decision making, the tangible outcomes for example on a landscape. The process type asks ‘how?’ of decisions, the pathways through which outcomes are reached. In between the two, sits the governance type of principles. Contests and tensions around governance feature two questions; ‘why?’ and ‘who?’ for example, ‘Why should change happen, and who should be involved? The principles are further classified into levels of specificity. First are the generic principles based on broad values, and second, benchmark principles, which are explicit requirements, for example, from the Environment Court and Resource Management Act 1991 (RMA). The third level includes operational principles with a particular focus upon how particular landscapes should be evaluated and managed.

Drawing on Chapter 2 (section 2.1.2), landscape change principles are termed normative when they describe how landscape change ought to or should be. They are very clear in translating scientific and cultural concepts, not leaving ambiguity to be addressed by custom or political imperatives. These principles influence and regulate the operations and changes in the landscape (Alpa, 2010; Lindenmayer & Hobbs, 2007; Nassauer, 1995). Since the study sought principles of landscape change to guide decision making upon landscape change, this was interpreted as a proactive need for ‘oughts’ and ‘shoulds’ rather than a description of landscape change. Therefore, principles of decision making for landscape change are best expressed in normative terms, and this is the stance taken in the following chapters.

Chapter 5 examines normative principles from international science and planning literature, and in addition considers international practice examples from North America, Europe and Australia. Chapter 6 examines principles of landscape change from the RMA, the Policy Statement for Otago Region, the Operational Plan for Central Otago District, and professional practice. Chapter 7 presents the case study field findings. Chapter 8 compares the findings from Chapters 5, 6 and 7. Chapter 9 discusses the implications of the study; conclusions are drawn with reference to literature, significance of the findings is shown and contribution to knowledge considered. Possible avenues of future research are suggested.

Chapter 5: Normative principles from international sources

This chapter identifies, from planning and science literature, normative principles used in landscape change management. International examples of statutory principles and legislation from North America, Europe and Australia are also examined, in addition to professional practice principles. The landscape management approach seeks to provide concepts and tools for land management to achieve social, economic and environmental balance where there are competing demands from multiple land uses, for example, agriculture, extractive industries and development related activities (Sayer et al., 2013). Managing landscapes to ensure environmental and social sustainability is complex and requires principles to guide such management. These principles are not unique to landscape change but are applicable in other areas of resource management (Lindenmayer & Cunningham, 2013), meaning principles can be borrowed across disciplines and geographical regions. In section 5.1 presents normative principles from science and planning literature. Section 5.2 examines principles from international practice sources. After the discussion of each section, the emerging principles are highlighted in a section summary.

5.1 Normative principles from science

The **principle of biodiversity approach** envisages landscapes managed with consideration of all environmental, human, and physical elements. This is done by viewing landscapes through continuum models that encompass all aspects and interests, binary or sectoral models which focus on sectoral or particular objectives only. This is because landscapes are diverse and cannot be reduced to binary dichotomies, for example, habitat and non-habitat, which result in sectoral management regimes and strategies such as, reserve versus production areas (J. Fischer et al., 2008; J. Fischer, Lindenmayer, & Manning, 2006).

The **principle of contextuality** requires matching decisions to particular circumstances and specific sites. Plans prepared at local scales should consider the regional contexts, while the regional plans should consider the constituent local landscapes. Besides the planning level, impacts of local decisions should also be considered on scales across the regional context. Although the norm in landscape ecology is to deal with patches and mosaics, a broader context approach dealing with flow-through, assessments, and management across the landscape is proposed. What happens within an ecosystem is as important and that in the adjacent ones. The compatibility with the natural potential of the context should inform the management practices (Commission on Biological Diversity, 2014; Dale et al., 2000; Lindenmayer & Hobbs, 2007;

Rookwood, 1995). The **principle of resilience** involves building the capacity of a landscape system to avoid or deflect threats and to absorb and recover from such threats. This is especially vital as landscapes respond to unplanned social and structural changes provoked by local and global drivers of change (Sayer et al., 2013).

Landscapes are impacted by change drivers and impulses, generally or in specific sites. The **principle of distribution of impacts** implies sharing of risks within landscapes systems. Since uncertainty is associated with complexity and that responses of biotic systems are not entirely known, it requires that risks be spread across the landscape. Management interventions should also be treated as learning opportunities so that negative impact can be stemmed when detected in one area (Lindenmayer & Hobbs, 2007).

The **principle of subsidiarity** holds that, for efficiency, effectiveness and equity, decisions should be decentralised to the lowest level possible. When locals participate in change management at this level, they take responsibility and ownership, are more accountable and there is better use and assimilation of local knowledge (Commission on Biological Diversity, 2014).

The **principle of political scale** in landscape change governance sets the conditions in which decision making occurs. Although landscape and other environmental sciences have tended to define land in terms of bioregions with hierarchical scales, political regions have developed regardless of these scales. The import here is that the social and eco-scales are different, and will continue to compete for prominence. It is proposed that the models of governance be continuously reconciled with political scalar models based on the economic and socio-cultural realities. This implies managing the landscape as a whole, rather than small pockets of sectoral interests (Matthews & Selman, 2006; Meadowcroft, 2002).

The **principle of localism** (i.e. considering and privileging local priorities and institutions) acknowledges the strong relationships of landscapes, and people and place. Managing landscapes should recognise that the systems are embedded locally, socially and ecologically. Outsiders and professionals often misunderstand, or misrepresent local priorities, creating incompatible solutions to local problems. Often, the local communities will not be homogenous; therefore the priorities will differ, and be contested internally. It is vital to build on local knowledge systems and institutions attuned to local socio-cultural and economic needs. The reliance on such systems eliminate professional bias in decisions making (Lindenmayer & Hobbs, 2007; Pimbert & Pretty, 1997).

The **principle of co-management** is based on trust and mutually negotiated goals (Sayer et al., 2013). The principle envisages co-operation of sometimes competing interests, for example, engaging public and private non-profit organisations in co-ordinating with landowners and other interested parties to manage resources. This is based on the premise that, although land is owned privately by individuals the landscape is conceptualised in terms of values of the wider public. Secondly the costs of managing the landscape cannot be internalised by individuals since landscape is of benefit to all (Hodge, 2013; Meadowcroft, 2002).

For several other principles to function, the **principle of compromise** in decision making is required. This is a definitive principle recognising diverse vested interests in landscape. There are limits to bringing together diverse institutions or ideals to singular frameworks providing spatial-temporal solutions. Furthermore, landscape management solutions might not be transferable across systems. It is argued that disjointedness, disparate solutions and variety of scales will continue to characterise decision making therefore impeding coherence. Compromise has been proposed as a possible solution to this incoherence, helping to reach acceptable and implementable decisions (Lindenmayer & Hobbs, 2007; Meadowcroft, 2002; Rookwood, 1995).

Landscapes are changing cumulatively, therefore there should be continuous learning and adaptation of management systems to keep up with changes (Sayer et al., 2013). The **principles of contingency and adaptability** cater for this variability in the landscape, its constituent parts, and the influences of change such as drivers. Landscapes and their elements are inherently dynamic and will often respond to human induced disturbances. Variations in landscapes based on physical, social-cultural, political and economic realities mean that principles are only contingent and will need to be adapted to particular nuances of landscapes across spatial and temporal scales. It is also proposed that decisions should be long-term and take account of the uncertainty of process and outcomes. This requires building flexibility into the management regimes (Dale et al., 2000; Lindenmayer & Hobbs, 2007). It is also proposed that adaptive management comprises learning, including monitoring and evaluation, as a possible outcome of management actions (Holling, 1978). This principle straddles both governance and process types.

The **principle of public participation** envisages multiple stakeholders, without whom, decisions reached will show unfavourable outcomes (Sayer et al., 2013). This principle requires that, the local population has a say in decision making. Including a diverse public elicits different perspectives and priorities since people experience phenomena differently, which potentially enriches the decision making process. It is proposed that decision making processes be used to

build consensus among the public, politicians and diverse interests rather than being solely a solution making endeavour (Meadowcroft, 2002; Pimbert & Pretty, 1997; Rookwood, 1995).

The **principle of communication** frames the interaction of decision makers and stake holders on all landscape issues and scales. Communication is an iterative process of voicing concerns and aspirations and values in an environment of mutual respect. Furthermore, tensions and conflicts will arise around issues of trust and power will arise in decision making, and it behoves decision makers to apply tact in communication. Landscapes are a point where cultural and natural values meet and it is not easy to prioritise these values when dealing with landscape change. Communication with people is crucial in eliciting the values resident in particular landscapes. It is worthwhile to note that values might change in the process of decision making. Also it is argued that a lot of invaluable scientific information available does not reach the planners and politicians involved in decision making due to lack of communication across different disciplines and sectors. In this regard it is proposed that better communication across these disciplines be initiated (Meadowcroft, 2002; Nassauer, 1995; Pimbert & Pretty, 1997; Rookwood, 1995; Sayer et al., 2013).

Transparency is vital to framing trust in decision making processes. Trust is built by having mutually understood logic about change and common agreed vision. Transparency happens where the participants in decision making have accepted the logic, legitimacy and justification of choices, or have reached these through consensus among themselves. They are also aware of the complexity and uncertainty around the outcomes of their choices (Sayer et al., 2013). Figure 5.3 below summarises normative principles from science in a conceptual framework notified earlier.

The **principle of compensation** is applied in management of landscape outcomes. Where biodiversity is highly valued by society, common costs in this regard are readily tolerated. However often habitat re-creation, and establishment of reserves involve forfeiture of land, and or economic potential by individual landowners. It would be unreasonable to expect these landowners to bear the cost of benefits for the larger community. To redress this, it is proposed that equitable compensation be applied. This will involve compensating the individuals proportionately to losses incurred in such forfeitures (Pimbert & Pretty, 1997; Rookwood, 1995). Figure 5.1 below categorises these principles using the conceptual framework.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)	
Generic	Biological diversity Contextuality Resilience	Subsidiarity Political scale	Public participation Communication	
Benchmark				
Operational	Distribution of impacts	Localism Co-management Compromise	Contingency & adaptability	Transparency Compensation

Figure 5.1: Normative science principles

The scientific principles discussed above were drawn from diverse fields, for example, landscape ecology and planning. Science is practised within wider social cultural realms, and also influences these realms. Professional practice for instance, is informed by science and is governed by national statutes. As landscapes change due to local and international pressure, principles or approaches to landscape change management will become more vital. However, no single discipline can solely provide the principles or all solutions to pressing problems. Practice will need to be framed by interdisciplinary science, which in turn is informed by practice. The following section will examine professional practice principles from North America, Europe and Australia.

5.2 Principles from international practice

5.2.1 Environment protection and environment impact principles

This section identifies principles expressed within broad high level environmental policies from Europe, North America and Australia, drawn from the environment protection acts of select countries. They are focused on the strategic purposes of environment protection regimes and the relevant aspects of decision making as they affect among other issues, landscape change.

There are two broad categories of strategic purposes from the different regimes, sustainability and environmental protection. The first frames goals of sustainability, while the second category promotes the narrower objectives of environmental protection. The general approaches of the first category attempt to achieve sustainable development principles through environment impact assessment (EIA) processes. The second category expresses a project specific focus to facilitate decision making (Canadian Environmental Assessment Agency, 2000).

In North America and Australia the overall strategic purposes are focused on decision making by governments, and their agencies. The environment protection regimes focus on achieving

sustainability through improved project planning and management, coupled with consideration of environmental effects (Canadian Environmental Assessment Agency, 2000). For example, the National Environment Protection Act (NEPA) in the USA focuses on managing the environment for public welfare, achieving a high standard of living. The principles of **environmental protection**, **environmental preservation**, and **enhancement** are implied in this endeavour. NEPA focuses on eliminating damage to the environment, and biosphere and stimulating the health and human welfare. The Act requires consideration of bio-physical and socio-economic elements of the environment and the effects of alternative actions (Canadian Environmental Assessment Agency, 2000; US Environment Protection Agency, 2012).

Australia has a territorial approach, which emphasises principles of **protecting** and **conserving** the environment including air, land, water, and national heritage. They also focus on **promoting climate action** (Department of the Environment, 2014). In Canada and Australia, the strategic purposes are less stringent, more integrated and territorial, and focus on matters of national environmental significance, federal decision making and environment protection (Canadian Environmental Assessment Agency, 2000).

The principles of **transparency** and **public access to information** are highly valued in the European Union. The strategic purposes here, instead of broad planning and environment management goals, focus on ensuring decision makers have access to vital information on projects prior to granting approvals. However, they still require consideration of a broad range of effects and alternatives. Additionally, the principle of **environmental protection** is valued, but the emphasis on environment protection with environment assessments is just a part of the considerations in decision making on sustainability (Canadian Environmental Assessment Agency, 2000; European Commission, 2014). In Canada the Environment Protection Act emphasises principle of local community values in decision making (Parliament of Canada, 1999), an expression of **subsidiarity**.

The European Union (EU) emphasises assessment driven environment management requiring the member states to adopt environmental impact assessments (EIAs) into their national legislation based on the EIA Directive of 1985 (Canadian Environmental Assessment Agency, 2000). Through EIA and the Strategic Environment Assessment (SEA) directives ensure that plans, programmes and projects with significant effects on the environment are subjected to environmental assessments prior to approval and that **public consultation** forms a key principle of the processes (European Commission, 2014).

The principle of **public participation** is shown by the active promotion and integration of public participation in these regimes, albeit at different levels. For example, both Canada and Australia promote public debate on sustainability issues and participation in decision making. In Australia and Europe public participation is guaranteed regardless of the project scope. The European model requires that the public be consulted in the environment impact assessment process. In contrast, in North America public participation is often mandatory on larger scale projects, but discretionary on smaller ones. In addition, Australia and Canada provide for public hearings and reviews at different stages of the approval processes. In the subsequent section, a more specific discussion of landscape change and management principles from Europe, North America and Australia is presented.

5.2.2 Landscape Change in Europe and the USA

Landscapes in Europe have evolved from the earliest nature-dependent systems to the current man controlled technology-based regimes. This has caused landscapes which have developed over centuries to change, or vanish within a short time (Vos & Meekes, 1999). Landscape changes in Europe have been evident in the last decades mainly through agricultural intensification and land marginalisation. More productive land is being put under intensive agriculture, while less profitable land is often abandoned or marginalised. Intensification leads to extensive and homogenous monocultures while marginalisation reflects land abandonment in less productive areas, consequently afforested or left to naturally regenerate (Jongman, 2002; Vanwambeke, Meyfroidt, & Nikodemus, 2012). Production for worldwide markets cause both homogenisation of landscapes and blurring of regional boundaries, and fragmentation of landscapes (Jongman, 2002).

Although the regimes that shaped landscapes in Europe have changed and are no longer economically viable, the landscapes themselves are still highly valued. Besides the traditional determinants of landscape structure in Europe, other factors changing the landscape are economic imperatives indicated by regional and international finance including investments and markets, and the technical capacity for increased production. Moreover, the culture and social structures are changing, coupled with changing planning and policy environment nationally, within Europe and internationally (Jongman, 2002). In the background of all these are the broad influence categories of such changes, namely market liberalisation agenda and sustainability agenda (Primdahl & Swaffield, 2010).

In the USA agriculture continues to define and dominate rural landscapes, although they are under pressure from expanding urbanization, and continue to attract vast populations who enjoy amenities afforded by rural landscapes. Agricultural landscapes provide both amenity and ecological services in these rural areas. However global trade and policy agendas are influencing rural landscape change (Nassauer & Wascher, 2007). Besides the global drivers, technology, economics, and government farm policies have been major drivers of landscape change (Brown & Schulte, 2011).

Protection, preservation and maintenance of amenity landscapes are the main principles operating in the US landscapes. Actions in this regard include protection of scenic beauty, rural amenity, open space and agrarian cultural heritage. However, these goals are not matched with public access (Nassauer & Wascher, 2007). It has been argued that landowners are not always driven by economic gain in preserving landscape. For example, aesthetic appreciation and preservation of environment are strong motivators both to farmers and non-farmers to retain woodlots in Michigan USA (Erickson, Ryan, & De Young, 2002). In the US therefore, there is a greater focus on scenic and visual landscapes than other values of landscapes.

5.2.3 Principles from the European Landscape Convention (ELC)

The most important principles operative on the European landscapes are the **protection and maintenance** of cultural and amenity landscapes. The EU agri-environmental policy measures have focused more on protection of high value farmlands and cultural landscapes and increasingly higher amounts of expenditure are allocated to landscape amenity. To meet the goals of protection and maintenance, some of the measures they take include trimming of hedgerows and grazing, and enhancement of countryside. These are achieved through incentive instruments (Nassauer & Wascher, 2007; Vos & Meekes, 1999). However, the European Landscape Convention (ELC) does not constitute policy, but provides a conceptual framework which informs the way that individual member states may shape landscape policy.

The Council of Europe's aim for greater unity in its membership is premised on partnership and recognises the primacy of economic and social fields. In this view, the ELC as an instrument was conceived with three key objectives which are; to protect, manage and plan the entire European Landscapes (Brunetta & Voghera, 2008; Council of Europe, 2000).

The principle of **sustainable development** within a greater social, economic and environmental framework further strengthens the ELC objectives. However, traditional and more recent development activities impact and stimulate transformational changes in the landscape.

Sustainability is framed to manage this landscape as a common resource propelling wealth and job creation within Europe (Brunetta & Voghera, 2008; Council of Europe, 2000).

The principle of **enhancing and preserving European identity** is pursued through the convention. Ecologically and environmentally the protection and management of the landscape is seen as enhancing and strengthening the European identity, natural and cultural heritage. This is premised on the notion of landscape as a shaper of local culture (Brunetta & Voghera, 2008; Council of Europe, 2000).

The **principle of public welfare** recognises the central role played by landscape in the individual social wellbeing, shaping of culture, advancement of social fields and as an indicator of quality of life. However these necessitate corresponding rights and responsibilities in shaping and developing high quality landscapes. The principle of **public participation** is vital in the ELC. In democratising landscape the charter also demands public participation in decision making (Council of Europe, 2000; Strecker, 2011).

The **principle of responsive management** is promoted by the ELC. This shifts the focus of landscape planning and management from static conservation policies to management focus approaches which recognise the changing nature of landscape (Council of Europe, 2000). This augments the **principle of comprehensive management**. ELC proposes that landscape management measures should cover the whole territory including natural, urban and peri-urban and rural landscapes whether of scenic or everyday value-, ordinary or degraded. This principle has a temporal component that requires management to account for past and present development within the territory.

The **integration principle** which seeks to build landscape matters in other policy issues. This includes requiring signatory states to enact laws or regulations to manage, plan and protect landscapes within their jurisdictions. The **consistency principle** ensures that the various levels of landscape policy do not clash at national levels. At European level the consistency principle has to guide directives and recommendations on implementing the convention between territories. In the case of cross-border landscapes, the consistency principle mediates the integration of the convention's principles with the unique local, cultural and legal demands. These measures should be further outlined as policies for protecting, managing and planning the landscape with the view to promote socio-economic development of the regions (Brunetta & Voghera, 2008; Council of Europe, 2006).

The European model expressed through the ELC, has emphasised what can be termed a social approach. The outstanding principles are; sustainability, enhancement and protection of identity and public social welfare. Additional principles are integrated, comprehensive and responsive management. Figure 5.2 below presents a breakdown of principles from both Europe and North America. The next section examines Australia, a jurisdiction similar to, and which has modelled their resource management acts closely to the New Zealand RMA 1991.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)
Generic	Contextuality Resilience	Sustainability Public health & welfare Identity Consistency	Public participation Integrated protection, planning & management
		Adaptive/ comprehensive/ responsive management	
Benchmark	Protection, enhancement & preservation of Environment, amenity		Environmental Assessments- EIA, SEA
Operational	Interconnectivity of landscapes		Information access Transfrontier co-operation Transparency

Figure 5.2: Principles from Europe and North America

5.2.4 Landscape change in Australia

Current change drivers in Australian landscapes are ecotourism, mining, pastoral uses and military uses. The Aboriginals and the Torres Straits People are also using more land and demanding a return to the traditional cultural uses of the land (Ludwig, Tongway, Freudenberger, Noble, & Hodgkinson, 1997; Wensing, 2007). Moreover, population increase, economics, scientific and technological changes, cultural values and policy factors have continued to provoke landscape change. Historically European settlement and land uses have altered the landscape, flora and fauna too (Fanning, 1999; Seabrook, McAlpine, & Fensham, 2006).

While in the 1960s planning in Australia focused on long-term growth, in the 1970s the focus shifted to coordination of land release and infrastructure investments (Albrechts, 2006). Like other Commonwealth countries, Australia had modelled their planning after the British Town and Country Planning Act regimes. These involved projecting both medium and long-term

interventions coupled with strategic planning functions at local and state-wide scales (Gleeson & Low, 2000).

Liberalisation in the 1980s led to the revulsion for centralised regulatory planning (Gleeson & Low, 2000). Planning has recently come under the influence of neoliberalism including agendas such as sustainability, gender, ethnicity and the replacement of government's interventionist and protectionist roles and systems with liberal markets, fiscal conservatism and deregulation (Albrechts, 2006; Freestone, 2007; Gleeson & Low, 2000). Performance based planning initiatives in Australia such as the New South Wales Environmental and Planning Assessment Act 1979, the Integrative Planning approach in Queensland and the Natural Resource Management Act 2004 of Southern Australia all arose through criticism of the prescriptive traditional planning systems arising from the Town and Country planning regimes (Baker, Sipe, & Gleeson, 2006).

Planning for rural landscapes in Australia is characterised by conflict of land uses mainly between agricultural production and endlessly expanding residential and urban uses. The expansion and encroachment to rural land pose the main challenges to planning instruments. Australian land use regulations are similar to those in New Zealand; however, historically, the local governments in Australia have had no constitutional basis and were weaker. Land is assigned specific uses and all incompatible uses are proscribed, although certain land uses may be permissible if they meet designated criteria (Sinclair & Bunker, 2007).

In view of these changes, the Australian Institute of Landscape Architects (AILA) in conjunction with Commonwealth Scientific and Industrial Research Organisation (CSIRO) have developed a set of principles for strategic design and management of landscapes in Australia (Australian Institute of Landscape Architects, 2014). These are grouped into several themes as will be highlighted below.

First is the **principle of landscape valuation**. This principle is based on the assumption that landscape underpins life on earth; therefore landscape values must be understood and articulated before assessment. This links to the principle of **interconnectedness of landscapes**, which holds that, to attain sustainable landscape outcomes, the management strategies should acknowledge the interrelatedness of systems and processes in decision making. When valuing these systems, the assessments which inform decision making should be detailed, inclusive and creative. Other principles are **protection, enhancement and regeneration** of landscapes. Proposals to manage landscapes should proffer innovative ways of protecting enhancing and regenerating landscapes. This principle promotes protecting existing features and ecosystems

while enhancing the resources in a creative and sustainable manner. It also seek the regeneration of lost or damaged ecosystem services (Australian Institute of Landscape Architects, 2014).

The next principle is **contextuality**. In designing with respect to conditions and context in mind, landscape architects make contextual decisions which do not grant advantage to one value over another. Instead, all landscape values are assigned equal significance and consideration in design or other interventions. Interventions should work with, and respect the physical and socio-cultural, and economic settings in proposing solutions. This generates solutions which are measurably responsive to local, regional and global contexts (Australian Institute of Landscape Architects, 2014).

Since uncertainty characterises our knowledge of environmental systems and processes, design solutions should strive for innovation, flexibility and responsiveness to changing demographic and environmental conditions. Solutions should be based on assumptions and values which are constantly re-examined and adjusted. The **principles of adaptability and resilience** require landscape architects to respond to current conditions, and prepare for the future appropriately. Current decision makers have the moral and ethical responsibilities to future generations, of embracing the prospect of future change, and enabling future generation to respond effectively. The decisions made today should therefore, be adaptable and enhance the resilience of future economic, socio-cultural and environmental outcomes. Moreover, the responsiveness principle requires that, the products and outcomes, not just the processes, be responsive to change (Australian Institute of Landscape Architects, 2014). Figure 5.3 below shows the principles Australia.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)	
Generic	Contextuality Resilience	Sustainability Public health & welfare Identity	Integration Adaptability Innovation	
Benchmark	Environment & landscape protection Preservation, Maintenance Regeneration		Value based assessments	
Operational			Inclusivity	Public education Comprehensiveness Responsiveness

Figure 5.3: Australian principles

5.3 Chapter Summary

Science and landscape planning principles are largely normative in nature and very specific in focus. However, multiple sources have acknowledged that, regardless of their origin, principles are interlinked and complementary, and inform principles at all levels of specificity. International practices in Europe and North America are more strategic with a focus on environment quality for public health and welfare. This is a similar approach to Australia with its focus on clean air, clean land, clean water and conservation of national heritage. Identity consolidation and human wellbeing play key roles in European landscape protection, management and planning.

This could be attributed to the stages of development of the landscapes. For instance, Europe confronts dysfunction and obsolescence in diverse landscapes and heritage, for example the English pastoral, the polders of Netherlands and the wine landscapes of southern Europe, through the common ELC framework. The North American counterparts are grappling with production driven landscape change. Compared to the North American and European models, the Australian example shows a more territorial approach to change management, which is handled by various territorial authorities.

Figure 5.4 below illustrates the general approaches in North American, European and Australian practice principles.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)
Generic			
Benchmark	<div style="border: 2px dashed red; padding: 5px;"> North America Public welfare focus, EPA based EIS </div>		<div style="border: 2px dashed blue; padding: 5px;"> Europe Identity focus ELC, EIA, SEA </div>
Operational	<div style="border: 2px dashed black; padding: 5px;"> Australia Territorial focus Landscapes </div>		

Figure 5.4 : Comparison of approaches to landscape change management

The international practice sources compared above recognise the value of assessments in landscape change management. For example, Europe and North America focus on assessment of the environment as a whole through environmental impact assessments (EIA) and the wider landscape Strategic environmental assessments (SEA). Australian practice is more specific and

requires articulation of landscape values before assessments. Of the three examples highlighted above, the European example is the most discursive. What can be singled out specifically here is the focus on landscape democracy by the European Landscape Convention (ELC), where it empowers communities to participate in decisions affecting them.

The following chapter will examine principles of landscape change in the New Zealand context.

Chapter 6: Landscape change management in New Zealand

This chapter identifies generic, benchmark and operational principles of landscape change management in New Zealand based on a selection of documents relevant to the case study. These are, the RMA 1991, the Regional Policy Statement for Otago Region, the District Plan prepared by the Central Otago District Council, Kai Tahu ki Otago Resource Management Plan of 2005, and case law from the Environment Court. Other sources are community aspirations gleaned from Proceedings of the High Country Forum in 2005, and NZILA publications, namely the constitution and the landscape charter.

6.1 Principles from the RMA 1991

The RMA is a significant product of local and international changes in sustainability thinking (Spiller, 2003). The foundational ideas were borrowed from internationally debated concepts such as 'integrated environmental management' and 'sustainable development' (Peart, 2008). The RMA drew from, among others, sustainability models promoted in the 1972 Stockholm United Nations Conference on Environment and Development, the 1980 World Conservation Strategy and the World Commission on Environment and Development -Bruntland Report of 1987 (Birdsong, 1998; Peart, 2008).

The major local driver of the RMA was the desire to reform and rationalise environmental management at local and national levels (Peart, 2008). In the 1980s the New Zealand government embarked on reforms to make the country more competitive internationally. This was consistent with the then modernisation movement's ideology that was expressed by the government of the day, including what was termed economic rationalism. Among the reform actions were the removal of agricultural subsidies and modification of development control from prescriptive to performance-based planning (Spiller, 2003).

This leaner approach to national environmental management was coupled with radical restructuring of New Zealand governance structures. The consolidation of local authorities produced twelve regional councils from the initial twenty two, and seventy two districts and urban councils compared to the original two hundred and thirty one territorial bodies (Miller, 2011).

The thinking behind the RMA was to let market mechanisms determine land use and to focus the public interest upon managing the environmental consequences of land use activities. The market orientation was intended to change with the preferences of society in general and to enable economic growth. This contrasted with the previous command and control economic model, and the centralised regulatory framework. Therefore, the act transformed planning in New Zealand from a prescriptive model to an effects-based model. This was a departure from the Town and Country Planning Act, under which development control was based on prescriptive zoning of land uses to ensure efficiency, and compatibility of uses. However, the RMA makes no presumptions on land use incompatibility or effects on the environment. Each consent application is judged on its own merits as to the adverse effects or otherwise (Spiller, 2003).

The RMA merged a number of regulatory statutes into one (Peart, 2008; Spiller, 2003). It is now the primary legislation guiding resource management and landscape management in New Zealand. However, the RMA does not provide a fully integrated resource management regime. Some significant types of environmental management are beyond its scope, and it is therefore complemented by other acts such as the Conservation Act 1987, the Fisheries Act 1996, the Forestry Act 1949, the Historic Places Act 1993, the Local Government Act 2002, the Reserves Act 1977, the Maritime Transport Act 1994 and the QEII Trust Act 1977 (Peart, 2008; Quality Planning, 2015). Several government agencies are tasked with implementing these laws, for example the Department of Conservation and local authorities, among others. The significance of these laws to landscape is their protective and management roles, for example, using reserve management plans to protect outstanding natural landscapes in national parks (Quality Planning, 2015).

6.1.1 Generic principles of the RMA

The RMA is underpinned by five generic principles namely sustainable management, principle-and-policy-based management, integrated management, subsidiarity and effects-based management (Peart, 2008). **Sustainable management** of resources is the overarching principle and the purpose of the RMA (Birdsong, 1998; Upton, 1995). Although this principle is the broader goal of the RMA, it has been argued that the principle is significant, value laden and fundamental, and much more than a purpose (Upton, 1995). The principle evokes balance between resource use, development and protection with a mainly ecological focus (Peart, 2008). Sustainable management as envisaged in the RMA, differs from the Bruntland concept by explicitly avoiding issues of cross-national distributive equity (Birdsong, 1998; Peart, 2004). Although the Act does not explicitly seek social and economic outcomes, decision making under the Act embraces wider

objectives, taking into account the impacts of the use of natural and physical resources on social, cultural and economic matters (Peart, 2008), and enabling communities to provide for their needs, health, safety and cultural values (Grinlinton, 2002). This means the use rates should enable provision of current needs, while retaining the potential to supply reasonable foreseeable needs of future generations (Ministry for The Environment, 1999; Peart, 2008).

The tenet that **environmental management in the RMA is principle-and policy-based**, is highlighted by the guiding principles in Part II of the Act and in policy statements at national and regional levels. These are in turn augmented by regional and district plans (Peart, 2008). The **principle of integrated management** of resources is the RMAs challenge to manage air, land and water under a single piece of legislation. This is framed as safeguarding the life supporting capacity of air, water, soil and ecosystems, and to avoid, remedy or mitigate adverse environmental effects (Ministry for The Environment, 1999; Peart, 2008). At the regional level, the regional councils seek integrated management of the regions' natural and physical resources, while the districts focus on land use within their jurisdictions. This integration is augmented by a tiered system of planning documents such as policy statements at the national and regional levels, and district plans at the district level (Peart, 2008).

This hierarchy illustrates **the principle of subsidiarity**, where under the RMA decision making is delegated to the level nearest to affected resources. Subsidiarity vests land use decision making in the territorial local authorities, while matters of fresh water, soil conservation and air pollution are the responsibility of the regional councils. The national and regional authorities share a management mandate over the coastal and marine areas. However, the national government might intervene if a local consent application has impacts of national significance. It is argued that this subsidiarity forms the cornerstone of effective environmental management (Peart, 2008).

The **principle of effects-based management** forms the operational core of the RMA. The Act has been termed 'effects-based' for its approach to managing the effects of activities instead of the activities themselves. Intervention has been focused where effects are likely to affect the environment negatively (Birdsong, 1998; Peart, 2008). Although the Ministry for the Environment (1999) has termed the Act enabling, the approach has been criticised at three levels. Conceptually it has been termed weak in being reactive rather than proactive. Its products such as plans may be complex or difficult to understand, while at the outcomes level it has been criticised for the possible poor management of cumulative or diffuse effects (Peart, 2008).

Generally effects are changes as a result of, or consequent to, an action or other causes (Oxford English Dictionary, 2012). Under the RMA the term 'effect' includes positive or adverse effects, which could be temporary or permanent, in the past, present or the future. It also includes effects arising over time or in combination with other effects. Effect also includes any potential result of high probability or of low probability with high potential impact (New Zealand Parliament, 1991). The issue of effects will be revisited under the principle of precaution in risk management.

6.1.2 Benchmark principles

The five preceding generic principles frame all decisions under the RMA, including those involving landscape changes. Having underscored those background principles of the RMA, this discussion turns to benchmark principles derived from sections 6, 7 and 8 of the Act. This study regards benchmark principles as standards against which to compare landscape change actions. In addition, other principles implied by the RMA in other sections will be highlighted. Grinlinton (2002) has argued that these principles, besides helping to define and explain the purpose of the act, form a toolkit of guidelines for planners and decision makers. They also reflect government policy for integrated environmental protection and resource management. Peart (2004) has argued that the framework is a hierarchy in which all principles work towards supporting sustainability, the overall purpose of RMA.

The operational principles guide the persons exercising powers under the RMA in relation to managing the use, development, and protection of natural and physical resources. The RMA identifies broad priority areas in management of the environment. These are set out in section 6 as matters of national importance which must be 'recognised and provided for'; while section 7 covers 'other matters' which must be given 'particular regard'. Section 8 holds that the principles of 'The Treaty of Waitangi' shall also be taken into account (Grinlinton, 2002; New Zealand Parliament, 1991). The various principles are outlined next.

Section 6 Principles

Section 6 defines matters of national importance to guide decision making which express four broad operational principles namely; preservation, protection, maintenance and enhancement, and indigenous relationships. These principles are focused on the environment in general.

First is the **principle of preservation** of the natural character of coastal environments, lakes, wetlands, rivers and their margins. Section 6 (b) focuses specifically on outstanding natural features and landscapes. The next **principle is the protection of outstanding natural features and landscapes** from inappropriate subdivision, use, and development (New Zealand Parliament,

1991). Landscapes here include much more than visual aspects and involve layers of associations, meanings and cultural values attributed over time. Peart (2008) argues that this is not absolute protection, noting that the Environment Court has held that development can occur, as long as there is minimal or no interference with the natural character. This principle has been one of the key aspects defining the discourse of landscape change and management.

Other aspects which are protected are areas of significant indigenous vegetation and significant habitats of indigenous fauna (New Zealand Parliament, 1991; Peart, 2008). Significance is based on assessments of district wide depletion of such vegetation or habitats (Peart, 2008). To deal with heritage issues, the Act frames the protection of historic heritage from inappropriate subdivision, use, and development (New Zealand Parliament, 1991). This became a matter of national importance following the Resource Management Amendment Bill of 2003. Heritage is defined as the natural and physical resources contributing to the understanding and appreciation of New Zealand's history and cultures. These include archaeological, architectural, cultural, historic, scientific, and technological qualities (Peart, 2008).

Related to heritage and culture is the **indigeneity principle**. This seeks the recognition and provision for the relationship of Māori and their culture and traditions to their ancestral lands, water, sites, wāhi tapu, and other taonga (New Zealand Parliament, 1991). This principle should be framed by case-by-case establishment of what these relationships with a particular subject site are, and how any proposal would affect such relationships (Peart, 2008). Last, is the **principle of maintenance and enhancement of public access** to and along the coastal marine area, lakes and rivers. These are provided by creating public esplanade reserves and strips adjacent to these water bodies or by provision of public facilities such as boat ramps and walkways (New Zealand Parliament, 1991; Peart, 2008).

Section 7 Principles

RMA Section 7 has outlined 'other matters' which persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to (New Zealand Parliament, 1991). Decisions from the Environment Court have indicated that matters in this section do not just require obligatory hearing and understanding, but are to be considered and weighed in reaching conclusions during decision making (Palmer, 2013). It is from this understanding that the next cluster of principles is derived.

First, **the principle of efficiency** requires efficiency in use and development of natural and physical resources and including the efficient use of energy (New Zealand Parliament, 1991). Second, is **the principle of maintenance and enhancement of amenity values**, which requires the upkeep and improvement of these values. Amenity values are the natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes (New Zealand Parliament, 1991). Another aspect of this principle is the maintenance and enhancement of the quality of the environment, including ecosystems with their constituent parts, people and communities. The environment also includes all physical and natural resources, and the associated amenity values. Environment also may mean the socio-economic, aesthetic, and cultural matters which may affect the other preceding aspects (New Zealand Parliament, 1991).

A major tenet of sustainability is the desire to ensure that as the current generation meets its needs it does not jeopardise the opportunities of the next to meet theirs. In this regard, the act frames **the principle of scarcity**, which requires decision makers to have regard to the limited nature of natural and physical resources (New Zealand Parliament, 1991). The **principle of habitat protection** requires the protection of the habitat of trout and salmon (New Zealand Parliament, 1991). These two fish species were introduced to New Zealand from Europe in the 1800s (Manatū Taonga Ministry for Culture and Heritage, 2014). This principle is similar to the habitat protection principle highlighted in section 6, but the former focuses on indigenous species.

As the RMA evolved over the years, some amendments and repeals have been made to reflect emerging issues such as climate change and renewable energy. The **principle of adaptability** requires responsiveness to climate change and renewable energy development. This means decision makers must have regard to the effects of climate change and pay particular regard to the benefits emanating from use and development of renewable energy sources (New Zealand Parliament, 1991).

Waitangi Treaty principles and other Principles

Section 8 of the RMA outlines principles which are informed by the Treaty of Waitangi (Ministry for The Environment, 1999). To understand some of these principles, it is important to briefly outline the Māori worldview. In this worldview there is a deep connection between humans and nature; humans are one with land, not superior to nature. The natural world speaks to impart knowledge and understanding to humans. Therefore human life is about aligning to this natural world (Manatū Taonga Ministry for Culture and Heritage, 2014; Marsden & Te Aroha Henare, 1992)

The Treaty of Waitangi as one of the founding documents of New Zealand established the relationship between the Crown and Māori as tangata whenua. It is a requirement that subsequent legislation recognise the principles of the Treaty. The definitions and interpretations of these principles have been a product of deliberation between the Court of Appeal and the Waitangi Tribunal (Ministry for The Environment, 1999).

The **principle of partnership** is the overarching tenet from which other principles arise. This common substantive agreement is that, the parties of the treaty act reasonably, honourably and in good faith. In turn the Crown under the **principle of kawanatanga**, has the right of the government to make laws and govern. The reciprocal of this is **the principle of rangatiratanga**, which is the right of iwi and hapū to self-management, and control of resources, based on tribal preferences. The crown, under the **principle of active protection**, has the obligation to proactively take positive steps in protecting Māori interests, resources and taonga (Ministry for The Environment, 1999; Te Puni Kōkiri, 2001). This is not just mere procedure, but should actively include participation in decision making bodies. The Crown under the **principle of redress** and as guided by the broader partnership tenet, has an obligation to remedy past wrongs through fair and reasonable recompense and also actively prevent future breaches of the treaty (Ministry for The Environment, 1999; Te Puni Kōkiri, 2001).

The **principle of Kaitiakitanga** includes the ethic of stewardship. This means exercising guardianship in a territory in harmony with *tikanga Māori* in relation to natural and physical resources (New Zealand Parliament, 1991). It is argued that although stewardship suggests taking care of what belongs to others, Kaitiakitanga has a much broader sense. It also includes the principles of protection, preservation and sheltering, which are all the responsibility of kaitiaki-guardians from the tangata whenua (Manatū Taonga Ministry for Culture and Heritage, 2014; Marsden & Te Aroha Henare, 1992). Kaitiakitanga also expands to be a form of resource management, and with social and environmental dimensions seeking the balancing of human, material and non-material elements (Merata, 2000).

The **principle of consultation** emanates from the partnership principle that requires treaty partners to act reasonably and make informed decisions (NZ Planning Institute, 2014). Although consultation is a principle of the treaty, section 36A of the RMA states that resource consent applicants and local authorities are under no obligation to consult any person, including Māori unless required to do so under other legislation (New Zealand Parliament, 1991; Peart, 2008).

There are other principles which have not been termed thus by the RMA. However, they are implied by the Act in other sections. Rouse and Norton (2010) have noted that the **precautionary principle** is implied in the definition of effects in section 3 of the act. This principle helps in management of risks and uncertainty. In framing of future effect as being any potential effect of high probability or of low probability with high potential impact, the act demands consideration of effects which might not be apparent presently at decision making but nevertheless pose risks (Ministry for The Environment, 1999). Additionally, **the principle of co-management** is not directly referred to in the RMA. However, section 33 of the act signifies that local authorities may share functions, powers and duties with other public authorities. Section 36B of the act sets conditions under which a local authority may enter joint management agreements (Ministry for The Environment, 1999).

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)
Generic	Effects based management Efficiency *Precaution	Sustainability Principle & policy based management Subsidiarity	Integrated management
Benchmark	Protection, preservation, enhancement of ONFLs Maintenance of amenity values	Identity Māori relationships	
Operational	Protected customary rights sites Public access		Consultation Partnership *Co-management

Figure 6.1: Principles from the RMA

This section has discussed the principles outlined in the act and undergirding its sustainability goals. However, often the Environment Court intervenes to interpret the RMA, and policy statements, settle disputes arising in resource consent applications among other issues. Figure 6.1 summarises the principles evident in the RMA. (Principles marked with an asterisk are implied in the act). The next section will outline the role of the Environment Court, and will use seminal court cases which have shaped the implementation of the RMA to glean principles of landscape change management.

6.2 The New Zealand Environment Court

The New Zealand Environment Court was constituted under the Resource Management Amendment Act 1996. It was formerly known as the Planning Tribunal. It is a specialist court

outside the general jurisdiction and dealing mostly with matters of public interest (Ministry of Justice, 2013) and precedential value (Birdsong, 1998).

The genesis of the Environment Court is the Planning Appeal Board established and charged with adjudicating disputes under the Town and Country Planning Act of 1953. It was later complemented by additional boards such as the Special Town and Country Appeal Board established in the 1960s. The Town and Country Planning Act of 1977 consolidated the appeal boards into the Planning Tribunal. The actions of the tribunal were constrained by the National Development Act of 1979. This act was repealed in 1986, but the tribunal remained even after the enactment of the RMA in 1991, which increased its powers in planning, resource consents and enforcement stages of environmental management (Birdsong, 1998).

The Environment Court's scope of activity includes designations authorising public works, classification of waters and water permits, subdivision approvals and conditions, judging environmental effects of resource exploration and exploitation, enforcement of proceedings, declarations on legality of environmental activities and instruments, and appeals against abatement notices (Ministry of Justice, 2013).

The Environment Court is a crucial decision making institution under the RMA with power to interpret law, and to determine substantive provisions of policy statements, plans and resource consents. It reviews decisions of local authorities through reference or appeal, and issues enforcement orders (Birdsong, 1998). It reviews decisions to resolve inconsistencies in policy and planning instruments, and consequently order changes of policies or plans to attain consistency (Grinlinton, 2002). The powers vested in the court make it an adjudicator of sustainability (Birdsong, 1998; Higgs, 2007). Although the court has this primacy as a policymaker, its reliance on technical evidence within adversarial contexts can be problematic. Some commentators argue that policymaking should instead be based on weighted assessments of public interests (Peart, 2004).

6.2.1 Benchmark Principles from case law

Although the Environment Court deals with a variety of matters, the following discussion will concentrate on those which have had a direct bearing on landscape issues and will highlight cases which have defined how New Zealand landscapes are managed. While these specific cases were referred to the Environment Court to review specific matters, the outcomes have become benchmarks from which other decisions have been made, both by the court and other agencies.

Although case law forms benchmarks, there are some principles which apply at both generic and operational levels of landscape change management.

Contextual decision making

Most Environment Court cases do not always form precedents and are decided on a case by case basis (New Zealand Legal Information Institute, 2014; Peart, 2004). In this regard context is paramount. There are instances where the Environment Court has expressly highlighted this fact such as the *Scurr versus Queenstown Lake District Council* C060/2005 case, where it noted that each consent application was to be considered contextually unique (New Zealand Legal Information Institute, 2014). The 2007 *Director General of Conservation versus Wairoa District Council* [2007] NZEnvC 287 case emphasises this evaluation in context. The purchasers of Waikatea station had proposed as protective covenant to withdraw 799 hectares of land from pastoral use as compensation for clearing 350 hectares. The district council had consented noting that the compensation was adequate and would maintain significant indigenous vegetation in the property. The Department of Conservation had contested clearance of approximately 260 hectares of this land due to proximity to a Protected Natural Area Programme in the area. The court examined this in the context of the 3,500 hectare station. However, the court noted that the compensation was offered on site, and was adequate. Further, it observed that the clearance of approximately 260 hectares of native vegetation was within a wider 3,500 hectare property; therefore, this could not justify denial of consent. It had been shown that overall ecological benefits would accrue including protection of existing indigenous vegetation through the covenant (Green & Young, 2013).

Cumulative and precedent effects

Section 6.1 discussing generic RMA principles highlighted the term 'effects' as defined in Section 3 of the RMA. The Environment Court has had to deal with nature of effects and how to make decisions about effects. Two concepts have arisen in this regard, namely cumulative effects and precedent.

In contrast to its predecessors, the RMA does not seek to control activities but, instead the effects of those activities on the environment (Birdsong, 1998). The consent authorities must consider actual and potential effects of proposed activities (Barton, 2005). Moreover, the Environment Court argues that the RMA treats cumulative effects and precedence as distinct but valid considerations in decision making (Young, 2013). The distinctions between the two will be examined in the following discussion.

The principle of assessing cumulative effects of an activity is implied in the following case. The Environment Court in the *Pigeon Bay Aquaculture Ltd V Canterbury Regional Council NZEnvC 105 [1999]* case noted that ecological effects may increase exponentially, or may increase steadily followed by abrupt changes on reaching thresholds. However, on amenity landscapes even a single development might be the one that causes most damage. Further it was noted granting a resource consent on such a development would set a precedent and future developments would not be declined, since like should be treated alike (Barton, 2005). This in turn suggests the principle of precedence discussed next.

In *Russell Dye versus Auckland Regional Council and Rodney District Council (2001) 7 ELRNZ 209* case, the applicant sought to subdivide a rural section into five lots. The Court of Appeal established that cumulative effects are concerned with things that will occur rather than things which may occur. These are a 'build-up as a result of a combination of effects.' For example, under the concept a certain effect might be minor when considered separately but it is no longer minor when considered in the context of build-up of similar past and future effects (New Zealand Legal Information Institute, 2014; Young, 2013). Although the Environment Court found the proposal did not lead to actual or cumulative loss of rural character, it argued that granting consent would create a precedent, which would likely result in adverse cumulative effects if further consents were granted (New Zealand Legal Information Institute, 2014).

In the *Scurr versus Queenstown Lake District Council C060/2005* case the Environment Court stated that precedent effects involved possible influence of the particular case on similar future cases (Young, 2013). Therefore precedent in contrast to cumulative effects suggests that an effect may or could occur. To limit the precedent effects, however, the court noted that each consent application was to be considered unique and consent authority was not bound by its own or other authorities' previous decisions of the same matters (New Zealand Legal Information Institute, 2014). In the *Waterston versus Queenstown Lakes District Council C169/2000* case, the applicant sought to subdivide their rural land for development. The court allowed it with conditions of covenants limiting further development on the land beyond that applied for as the court was concerned about the cumulative effects and possibility of the case being used as a precedent (Barton, 2005). It is evident that awareness of cumulative effects has led the Environment Court to be cautious in sanctioning the principle of precedence because of the possible impact on future decisions. This is evident from their advice to consider consent applications individually. This also expresses the principle of individual assessments of consent applications.

Consistency /plan integrity

In dealing with the principle of plan consistency within district plans, Barton (2005) argues that there have been varied responses on how landscape plans influence resource consents. There have been instances of the court granting consent even where such decisions were inconsistent with district plans and in others supporting the plans' intentions of protecting landscapes or coastal environments.

Consent was declined in the *Gannet Beach Adventures versus Hastings District Council EnvCt W 90/2004* case, where the applicant had proposed a lodge and associated facilities on Cape Kidnappers Station, an area noted for distinctive cliffs and gannet colonies. This case highlighted the importance of maintaining plan reliability and the plan's ability to mitigate inappropriate development in outstanding natural feature areas. The district plan in this instance had given express protection to Cape Kidnappers as an outstanding natural feature. The objectives of the plan were to ensure development did not compromise the outstanding natural feature or have adverse visual and landscape effects. In this case the Court treated landscape as both visual aspects and also the ways individuals and communities perceive the resources and land. The proposed level of activity in the coastal frontage was found to be out of character and therefore the proposed development posed more than minor effects. The proposed activities were also contrary to objectives and policies of the plan that were designed to protect the area from more than minor adverse effects (Barton, 2005; Green, 2005).

In contrast in an earlier case, i.e. *Arrigato Investments Ltd versus Rodney District Council* [2001] NZCA 329 case, the proposed development site had been identified as having particular landscape values. However, consent for development was granted. Similarly in the *JF Investments Ltd versus Queenstown Lakes District Council Env Ct C132/2004* although in the district plan building platforms were inappropriate on the proposed site, the court found that the particular site could absorb further development and granted consent (Barton, 2005). This implies that decisions are based on contextual significance which was emphasised under the principle of contextuality.

Preservation

The principle of preserving areas of high natural character is expressed in *Port Gore Marine Farms & Sanford Limited & Others versus Marlborough District Council* [2012] NZEnvC 72, the applicants sought to develop mussel farms on a remote coastal environment of high natural character including an outstanding natural landscape. The applicants already had farms in the area but the consents had elapsed by the time of application, which meant the court viewed these afresh as new applications. The court observed that although the applicants sought to mitigate visual

effects by submerging the farms, the effects of operations were not minor and they would diminish the natural character of the locality. They also would not help in meeting the purpose of the RMA (Curran, 2012; New Zealand Legal Information Institute, 2014). But the question of how long you can preserve a landscape is addressed by the principle of non-perpetuity.

Non-perpetuity

The principle of non-perpetual protection is highlighted in the next case. Decisions from the Environment Court indicate that landscape may not be protected perpetually and that protection is afforded as long as it does not conflict with sustainable management. Two decisions from the *Auckland Volcanic Cones Society versus Transit New Zealand and Others [2002] NZEnvC 357* and the *Gavin H Wallace Ltd & others versus Auckland Council [2013] NZEnvC 221* cases highlight two different aspects of protection and the relationship with sustainable management.

In the Auckland Volcanic Cones case, the applicants had sought to protect Mt Roskill cone from being cut to allow building of State Highway 20. Although the court found that the cone was an outstanding natural feature and a matter of national importance, the court declined to protect the cone. The reasons for this were that, the economic impact of diverting the road was prohibitive and, also it would be contrary to section 5 of the RMA by disrupting economic, social and cultural wellbeing of the communities affected (Peart, 2004).

The outcome in the Mt Roskill cone case, Peart (2004) argues, occurs primarily because section 6 of the RMA is subject to section 5. Even where developments are inappropriate, if they promote sustainable management, they will be consented. This then implies the hierarchy of principles in the management of not just the landscapes but the entire environment. This is consistent with the overarching purpose of the Act, the primacy of sustainable management.

In the Gavin H. Wallace Ltd case the court sought to establish whether land with significant landscape values, historical, cultural and heritage characteristics could be protected in perpetuity from urban development using planning instruments. The applicants land had been zoned out of the metro urban limit. The court stated that the RMA was meant to manage sustainable development and not prevent any development whatsoever. Therefore planning instruments could not be used to lock-up land against future urban development. The case highlighted the principles of not restricting use of privately held land using instruments which would effectively disadvantage such owners. The court sought to balance private ownership rights and other considerations including recognising and protecting historical and Māori heritage. The Court

directed the council to shift the metropolitan urban limit to include the subject properties (New Zealand Legal Information Institute, 2014).

Landscape and naturalness criteria

In one of the earliest cases, the Environment Court had to settle the understanding of the concept of landscape. The *New Zealand Marine Hatcheries (Malborough) Ltd versus Marlborough District Council [1997] EnvC W129/97* case substantially considered section 6 (b) of the RMA. It was the courts view that in the RMA, landscape was not limited to the natural and visual aspects but included the physical and the perceptual aspects. It was also noted that historical aspects formed a crucial part of human experience of the landscape (Barton, 2005).

‘Natural’ does not equate to pristine. It may include pasture, trees, wildlife and such things in contrast to man-made structures. The court in the *Wakatipu Environment Society versus Queenstown Lakes District Council [1999] C180/99* case considered that the RMA criteria for naturalness included physical landforms and relief, landscape as uncluttered by obvious human influence, the presence of water including lakes, rivers and sea. It also includes vegetation, especially native, and other ecological patterns. The court further observed that the absence of any of these did not mean the landscape was non-natural but that it was less so. It noted that there is a ‘spectrum of naturalness from a pristine natural landscape to a cityscape’ (Barton, 2005).

Rarity

The principle of rarity value of landscapes was expressed by the Environment Court in a 2004 case. In the *Kuku Mara Partnership v Marlborough District Council [2004] NZEnvC 155* case the applicants sought to develop aquaculture farms more than 200 metres offshore on Beatrix Bay. The court found that aquaculture would not be sustainable in the bay and that the area was a significant habitat for rare and vulnerable king shag, adding to the area’s natural character. The court held that the bay had rarity value in the context of Marlborough Sounds, which in turn have nationally outstanding natural character. The area was also increasingly visited by tourists and others seeking recreation opportunities (Green, 2004).

Amended Pigeon Bay criteria

The most significant of cases was the development of criteria for assessment of significance of natural features and landscapes. These criteria were initially called the Pigeon Bay factors, and later known as the ‘amended Pigeon Bay factors or criteria’. The amended Pigeon Bay factors

developed over time through a variety of cases in the Environment Court. Below are highlights of the development of these factors.

The Canterbury Regional Policy Statement 1993 was prepared under the then newly introduced RMA 1991 and focused on management of the regions' significant landscape and ecology values. To enable this, it sought to establish criteria for assessing natural features and landscapes, and places of ecological significance to enable objectivity and certainty in management (Canterbury Regional Council, 1993).

The Canterbury Regional Landscape Study by Boffa Miskell and Lucas Associates provided the methodology which eventually led to the Pigeon Bay factors. The methodology sought to determine if the variety of natural features and landscapes in the region met the threshold of 'regional significance' and 'outstanding'. The study relied on natural science surveys, and valued landscapes and features identified by the community. To assess areas that could be defined as outstanding, they developed six evaluation factors namely; natural science, expressiveness, transient, aesthetic, shared and recognised values and Tangata Whenua (Boffa Miskell Limited & Lucas Associates, 1993; New Zealand Legal Information Institute, 2014).

The Environment Court first recognised the factors as evaluation criteria in the Pigeon Bay Aquaculture versus Canterbury Regional Council NZEnvC 105 [1999] case, and again in the Wakatipu Environment Society Incorporated versus Queenstown Lakes District Council [1999] C180/99 case.

In the *Pigeon Bay* case, the applicants sought consent to develop two marine farms in Banks Peninsula. The Environment Court held that Banks Peninsula may be regarded as an outstanding natural feature and landscape. In reaching this position, the court identified aspects which would qualify the significance of a landscape which were drawn from the Canterbury Regional Policy Statement of 1993 and the evidence from landscape expert Diane Lucas (Barton, 2005; New Zealand Legal Information Institute, 2014; Peart, 2004).

The court noted that the list of factors for assessing landscape significance was very subjective. The court, however, also noted the advantages of the list which stressed the richness and variety of human and cultural responses to landscape. The court also noted that landscapes are important environmental components and that they are the context of all activities on earth and cannot be detached from these activities for separate evaluation (Barton, 2005; New Zealand Legal Information Institute, 2014).

It is in the *Wakatipu Environment Society versus Queenstown Lakes District Council [1999] C180/99* case that the court slightly modified the factors by adding ecological, swapping components for aspects and adding 'legibility'. It thus affirmed the Pigeon Bay criteria as principles to aid in judging landscape and visual matters, after which the criteria have been referred to as Amended Pigeon Bay criteria. The court further noted that the criteria were not rigid but subject to improvement with use (Barton, 2005). The amended Pigeon Bay criteria have been used by the court in subsequent cases to describe a landscape or to frame evidence but there has not been further substantive discussion of the criteria (Barton, 2005; Peart, 2004).

The court made a modified list of seven factors to be taken into account when assessing the significance of a natural landscape's 'outstandingness'. The first four factors were drawn from the Canterbury Regional Policy Statement of 1993. These aspects are natural science factors-the geological, topographical, ecological and dynamic components of the landscape; aesthetic values including memorability and naturalness, and its expressiveness [legibility] - how obviously the landscape demonstrates the formative processes leading to it. Other factors are transient values- occasional presence of wildlife; or values at certain times of the day or year. The next two were drawn from the evidence of a witness in the *Pigeon Bay Aquaculture v Canterbury Regional Council* (1999) case. These are; whether the values are shared and recognised; and the value to Tangata whenua. The Canterbury Policy Statement noted that these two values condition how the first four are evaluated (Canterbury Regional Council, 1993). The last, historical associations, was drawn from the *NZ Marine Hatcheries v Marlborough District Council [1997] EnvC W129/97* case of 1997 (Barton, 2005; New Zealand Legal Information Institute, 2014; Peart, 2004).

The amended Pigeon Bay Criteria have provided both precedent and a procedural basis for assessment in subsequent proceedings in other divisions of the court. The court has noted where witnesses have used or failed to use the criteria in their evidence or assessments, but it has not explained the criteria further (Barton, 2005).

Peart (2004) while lauding the list as a useful assessment tool, criticised it as lacking professional scrutiny and broad perspective of landscape issues. Practitioners have also been criticised for the frequent application of the factors as a checkbox list leading to double counting. In response, the New Zealand Institute of Landscape Architects (NZILA) developed three broad categories of landscape attributes to aid practitioners in assessments. These are, biophysical elements,- patterns and processes; associative meanings and values including spiritual, cultural or social associations; and sensory or perceptual qualities (NZ Planning Institute, 2014; NZILA, 2010). These broad categories have sometimes, like in the *Mainpower NZ Ltd versus Hurunui District Council*

[2011] NZEnvC 384 case, been called the Lammermoor list after their use in the 2009 *Maniototo Environmental Society Incorporated versus Central Otago District Council* case where Meridian Energy sought to establish a wind farm on the Lammermoor Range in Central Otago (Isthmus, 2014).

In the *Mainpower NZ Ltd versus Hurunui District Council* [2011] NZEnvC 384 case, Mainpower NZ sought to build a wind farm on the Mount Cass range of hills near Waipara, North Canterbury. Although the initial proposal was declined, a modified proposal was consented after referral to the Environment Court. The court observed that landscape is a cultural construct made of physical features, perceived and valued by people of varied interests. Also the landscape comprises three major components, namely, biophysical, perceptual and associative aspects. This is a restating of the Lammermoor list, which categorised the amended Pigeon Bay Criteria into three broad groups namely; physical environment including natural and human aspects, associative aspects and perceptual aspects (Isthmus, 2014; New Zealand Legal Information Institute, 2014).

Public and private interests in decision making

In certain instances the court is required to judge the relationship of public and private interests. The relationship is complex and not a simple opposition of private versus public. There is a tension between property rights and regulations. The integrity of plans has to be balanced with public interest (Barton, 2007). This implies the principle of prioritising public interests, which will be examined next.

Public interests can be maintained by enforcing plan integrity. In the *Thames Coromandel District Council versus Environmental Defence Society and others* case A97/2004; a developer had proposed to develop a Hot Water Beach campground. This included subdividing land adjacent to Taiwawe Stream into residential lots. While the standard requirement is that a twenty metre wide esplanade be provided, the developer had reduced this to below ten metres in certain places to increase lot sizes. The Environment Court held that where there are clear plan requirements, compelling and robust reasons are needed to allow deviation from such requirements. In this matter Thames Coromandel District Council had granted consent for subdivision of land on a beach which reduced an esplanade from a twenty metre width to ten metres at certain points. However, the court held that public interest in the land outweighed the private interest. In this regard, the court upheld the integrity of the District Plan (Carruthers, 2013b).

To extend the principle of prioritising public interests, the Environment Court has noted that protecting the public interest will sometimes involve costs to private individuals (Curran, 2013). This implies the principle of private costs for public interest. The following two cases highlight this principle. These are the 2013 *Te Puna Matauranga o Wanganui and Universal College of Learning versus Wanganui District Council* [2013] NZEnvC 110; and the 2013 *Lambton Quay Properties Limited versus Wellington City Council* [2013] NZEnvC 147.

In the first case the owners of the property wanted to demolish a heritage building since it could not meet their needs and the costs of modifying it for reuse were prohibitive. The Environment Court noted that a premium has to be paid by owners of buildings to retain and reuse them despite their contrary desires. This, the court noted, was a consequence of the imperatives to protect historic heritage from inappropriate use and development (Curran, 2013; New Zealand Legal Information Institute, 2014).

In the second case following the 2004 Building Code, Wellington City Council required the owner of the property to strengthen it to meet code requirements or alternatively demolish it. The owners found the demolition alternative more viable since they could not get returns from the property in its current status. They offered compensation in the form of refurbishing another heritage facility elsewhere. However, the council and the Historic Places Trust countered that demolition was not consistent with sustainable management of such a resource. The Court held that all avenues and alternatives have to be sought before resorting to demolition. It also argued that even if a heritage property does not provide enough income to service itself or give return on investment to the owners, these still were no causes for demolition (Curran, 2013; New Zealand Legal Information Institute, 2014). Curran (2013) argues both cases highlighted the court's view of exhaustively examining alternatives especially in balancing public and private property interests. Overall, these cases imply the principles of prioritising public interest, and the principle of private cost to individuals to protect public interest.

Compensation criteria and covenants

The principle of environmental compensation has been in ad hoc operation in New Zealand. Although it has not been directly referenced by the RMA, the national Coastal Policy Statement and some regional and district planning instruments have provided for it through their financial contribution provisions (Memon & Skelton, 2004). The Environment Court has defined environmental compensation as any action including work, services or restrictive covenants to remedy or counterbalance adverse effects of the activity for which consent is sought (Carruthers, 2013a).

Compensation differs from mitigation, which reduces effects of an activity through change of the scale or the manner in which activity occurs. The compensation is of a different kind and on a different site and should produce positive effects. The key management issue is determining the worth of compensation offers (Barton, 2005). In the following case the court established criteria to determine compensation on landscape.

The *JF Investments Limited versus Queenstown Lakes District Council Env Ct C132/2004* case highlighted both compensation and the criteria for judging its worth. The applicant sought to build a house on the edge of an outstanding natural landscape. The high elevation of the house despite mitigation would still leave the house visible from several places. However, the applicant offered to remove wilding pines on their own property and elsewhere within the outstanding natural landscape. The court held the development would have unacceptable effects on the landscape, but nevertheless granted consent. It imposed conditions that the compensation works be carried out prior to works on site for the proposed house (Barton, 2005; Carruthers, 2013a).

The court held that compensation was acceptable as long as it met the following criteria. First, compensation should be of the same kind and scale. Alternatively it should remedy effects caused by the proposed activities. Second, it should be closely located preferably in the same area, landscape or environment. Third, the process of setting compensation should at least offer public participation, and fourth it should be transparent and assessable using methodologies specified under regional, district plan or other public document (Barton, 2005; Carruthers, 2013a; New Zealand Legal Information Institute, 2014). The following case illustrates an instance where compensation is deemed adequate.

The *Upper Clutha Tracks Trust versus Queenstown Lakes District Council [2012] NZEnvC 43* case sheds light on the question of the adequacy of compensation. Upper Clutha Tracks Trust sought consent to build and operate a golfing resort, including a golf course, golf clubhouse and related buildings and forty two residential units on land at Parkins Bay adjacent to Glendhu Bay. The opponents had sought meaningful and significant compensation in the form of non-motorised access to Parkins Bay and surrounding areas. They had countered that the public access, ecological benefits and contribution to local economy were overstated. Furthermore, they argued that the location was iconic and would not absorb the proposed development. The Queenstown Lakes District Council had refrained from granting consent and asked Upper Clutha Tracks Trust to identify further mitigation and environment compensation with regard to their application. The trust offered additional tracks for walkers and mountain bikers coupled with fencing and additional destocking. The court held that the compensation was adequate and the project in

general would add to the general social wellbeing and economy of the district (New Zealand Legal Information Institute, 2014; Watson & Alley, 2011).

In contrast, there are instances where compensation is not deemed adequate. The *Man O'War Station Ltd v Auckland Regional Council [2011] NZEnvC 345* case of 2010 highlighted such circumstances. The applicants had sought to develop a ninety eight metre long family house complete with a guest house on the beach on Owhiti Bay on Waiheke Island. The court used the amended Pigeon Bay Criteria to conclude that the site comprised an outstanding natural landscape, even though it was not pristine. As compensation the applicant had proposed a comprehensive restorative planting with native vegetation. This was to include riparian planting on part of the bay. The planting was to be managed to enhance the natural character of the bay. However, the court held that it was not adequate to overcome adverse effects. This highlighted the principle that compensation is not always an assurance that consent for development will be granted (New Zealand Legal Information Institute, 2014; Watson, 2010, 2011).

Other instruments such as covenants have been proposed as a form of compensation. Barton (2005) reported instances where the Environment Court noted that covenants which relied heavily on management responses had a high likelihood of failing. Examples of cases where consent has been declined on such bases are the *Manger versus Banks Peninsula District Council [2004] NZEnvC 281*, where the applicant had proposed a subdivision above Lyttleton Harbour. The court held that the proposed management regime of building control and planting screens was prone to failure. In a similar case, *Director-General of Conservation versus Smith [2003] NZEnvC A057*, where the applicant sought to mitigate effects by screening off buildings with vegetation, the court held that the planting was a misfit and in glaring contrast to the coastal environment, and was unlikely to survive. The court declined consent (Barton, 2005).

In the *Ducks In A Row Ltd versus Queenstown Lakes District Council [2005] NZEnvC 281* case the applicant sought to develop residential units on an outstanding natural landscape at Arthurs Point and offered a range of covenants to mitigate the adverse effects of domestication of the landscape. In examining this case the court sought to consider the effects of the development on openness of the landscape. It noted that open character is characterised by absence of trees and structures while in contrast open space is absence of buildings. The court held that the use of covenants contradicts the rights of use that accrue when consent is granted. Furthermore it was noted that covenants might not be desirable or enforceable and therefore cannot be used to control human behaviour constituting everyday habitation (Barton, 2005; Green & Young, 2005).

Summary of principles

Figure 6.2 below summarises the case law principles.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)
Generic	Contextuality Effects- cumulative & precedent Plan integrity/ consistency Preservation of character	Primacy of public interests	
Benchmark	Naturalness Rarity Non-perpetual protection		
Operational	Amended Pigeon Bay factors		Compensation

Figure 6.2: Case law principles

The principles above although derived from a benchmark stance apply to all levels of specificity. It is important to note that they are predominantly substantive, meaning they deal with the material landscape. Of the principles above, the Amended Pigeon Bay Factors/ criteria stand out in terms of emphasis by the court and their use in subsequent cases and prominence of application in landscape practice.

6.3 RPS for Otago Region and Central Otago District's operational plan

The RMA requires regional councils to prepare Regional Policy Statements (RPS) providing overviews of the region's resource management issues and facilitate integrated approaches to deal with those issues. Moreover, it requires territorial local authorities i.e. city councils and districts - to prepare plans for their respective areas. The instruments mandated by the RMA assists the councils in performing their roles under the act (Ministry for The Environment, 1999; Otago Regional Council, 1998; Quality Planning, 2015). These statutory documents have the same principles as sections 6, 7 and 8 of the RMA and will not be re-examined in this section.

However, RMA sections 66 Matters to be considered by regional council (plans), subsection (2A)(a), and 74 Matters to be considered by territorial authority, subsection (2A), require regional councils and territorial local authorities respectively, to take into account lwi management plans lodged with them, on matters of relevance to resource management issues of the district (Ministry for The Environment, 1999; Quality Planning, 2015). The following section examines

the Kāi Tahu ki Otago Natural Resource Management Plan 2005, to tease out principles of landscape management, as voiced by the iwi.

6.4 Community aspirations

The communities in Otago Region have been active in managing and articulating their views on landscape change in the region. Two publications one prepared by the iwi authorities and the other by the regional council were examined to tease out community aspirations and the principles of landscape change they embody.

6.4.1 Kāi Tahu ki Otago principles

The Kāi Tahu ki Otago Natural Resource Management Plan of 2005 is the iwi management plan for the region and represents the position of Kāi Tahu ki Otago in the management of natural, physical and historic resources and values. The document is a product of consultation of the iwi in Otago region. Among the statutes that have informed the plan are, Treaty of Waitangi- Te Tiriti o Waitangi , Te Rūnanga o Ngāi Tahu Act 1996, Ngāi Tahu Claims Settlement Act 1998, Ngāi Tahu (Pounamu Vesting) Act 1997, Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, The Resource Management Act 1991, The Conservation Act 1987, The Historic Places Act 1993, Local Government Act 2002, Foreshore And Seabed Act 2004 (Kāi Tahu ki Otago, 2005).

The objectives of the Kai Tahu ki Otago resource management plan on cultural landscapes have been **protection** of such landscapes from inappropriate use and development, and the recognition of the relationship of the iwi with the landscape. The plan requires maintenance and enhancement of the associations and relationships. To maintain such relationships with Māori land, it is imperative that land is used in conformity with Māori cultural preferences (Kāi Tahu ki Otago, 2005).

The iwi resource management plan has several overarching principles which frame decision making. These are collaboration, consultation and meaningful engagement, localised management, integrated management, co-management, co-operation and communication. The principles are based on recognition of the Kāi Tahu ki Otago as the custodians of land in Otago region. The principles are explained below.

The **principle of collaboration** implies the partnership of takata whenua, and local communities with Local Government Agencies in decision making. The **principle of consultation** with Kāi Tahu ki Otago encourages discussion over matters of resource management in areas of their jurisdiction and ensuring **significant engagement** in the management and protection of

resources. In addition, the **principle of subsidiarity** or localised management requires engagement of local rūnanga in decision making on matters affecting them. Such involvement is premised on better recognition of the needs of the takata whenua, environment and community at local level (Kāi Tahu ki Otago, 2005).

The principle of **integrated management** seeks setting up cohesive resource management tools by the iwi, government agencies and the incorporation of statutory acknowledgements into regional and district plans, and regional policy statements. The **principle of co-management** seeks joint management of resources between government agencies and hapū or whānau in local areas. The overall success of all management and decision making actions is undergirded by the **principles of co-operation** and **communication** (Kāi Tahu ki Otago, 2005).

6.4.2 High Country Landscapes Management principles

The High Country Landscape Management Forum in 2005 highlighted several issues of concern to landscape management within the Otago region. The following decision making principles are implied in the proceedings from this meeting.

The **principle of balance in decision making** requires recognition of the different opinions and interests among decision makers and reaching compromises on decisions (McEvedy, 2005). There are strong ideological differences in managing landscapes especially with regard to ownership rights (M. Williams, 2005). This implies balancing between public and private interests in decision making. The public perceptions and reality of private property rights may differ, but decision making should respect and consider such private rights. For example, just as rural landowners do not interfere with decision making on lots in towns, the urban population should not have veto powers on rural activities (McEvedy, 2005).

The **principle of sustainability** requires consideration of the long term impacts and outcomes of current decisions. This includes decision makers envisaging futures different from their considered opinions (McEvedy, 2005) which would enable appropriate responses to future conditions. The related **principle of flexibility** is based on the notion that there is no one goal for high country landscapes and no one 'correct' management approach. Therefore decisions should cater for contingencies and several alternatives (Norton, 2005).

The **principle of social sustainability** recognises the primary role of people on the landscape. Decisions taken now should encourage social continuity, for example encourage future generations to take up high country properties and manage the landscapes sustainably (McEvedy,

2005). The related **subsidiarity principle** recognises that decisions are primarily about people, and communities and how they organise to extract a living from, and manage landscapes at the grassroots (M. Williams, 2005). Decisions are therefore not just about outcomes on the landscape, but about the people who make a living from it. This implies a negotiation among the community to define their priorities, which in turn suggests communication.

The **principle of communication** envisages dialogue, and clarity in the discourses. Acceptable decision making is based on, and facilitates, robust dialogues between interested parties in complex landscape management matters. It was noted that such dialogue works effectively outside the influence of local and central governments. It is reported that consensus can be reached through such processes (M. Williams, 2005). Consultation with communities is the core of such dialogues. For example the Department of Conservation has often engaged with local communities in identifying significant landscapes and developing conservation management strategies (Connell, 2005).

Consultation does not mean tokenism, but requires partnership in decision making processes. This implies the **principle of co-management**. Such partnerships should be between the government and its agencies, and non-government land managers, and communities with the aim of managing landscape for, among other values, developing resilience in ecosystems and promoting sustainability of indigenous biodiversity (Norton, 2005). Decision making by government bodies should be more facilitative than regulatory. This fosters an environment of partnership while allowing non-threatening opportunities to emerge. It was noted that removing land owners from managing the landscapes and significant inherent values that they have managed for more than 150 years, does not necessarily protect them (Simpson, 2005).

Consultation, co-management and partnership foster an environment where multiple ideas and options for landscape management can emerge. Decision making should therefore consider the variety of options available in the high country. This **principle of openness** to new ideas embraces the possibilities in current land use, while creating new options in preservation, conservation, production, recreation or exploitation. Such an approach will also frame such options through experience and accumulated local knowledge to attain a sustainable balance in landscape management outcomes (Simpson, 2005). However, decision making should be framed with measurable goals, which should include performance measures to determine success of management interventions. The goals should also be realistic with regard to the changing nature of factors driving change on the landscape. This should be coupled with the principle of whole

landscape view- deciding with respect to a wide area, broader biodiversity and economic concerns (Norton, 2005).

Figure 6.3 below summarises principles elicited from documents discussed within the context of the Otago region.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)
Generic	Efficiency	Sustainability Social sustainability/ continuity Subsidiarity	Integration Openness
Benchmark			Cultural-sensitivity
Operational	Whole landscape view Maintenance of mahika kai resources & access		Public participation Consultation Partnership Collaboration Co-management Communication Facilitation

Figure 6.3: Otago region principles

6.5 NZILA landscape practice principles

Professionals in landscape architecture are agents of change, deployed by clients or the government and its agencies in landscape planning, design and management. The discussion will now turn to the aspirations of the profession.

6.5.1 The NZILA philosophy

The New Zealand Institute of Landscape Architects (NZILA) is the professional body of qualified landscape architects. It recognises the nature of landscape as product of the cumulative physical and cultural processes, and seeks to facilitate understanding and management of these processes. It specifically focuses on ‘appropriate and **sustainable protection**, planning, design, intervention and management’ of New Zealand landscapes (NZILA, 2012). Although the institute’s philosophy outlines the above goals, they are generic principles to guide the practitioners, and not principles of landscape change management.

However, the institute has worked on a charter, the Aotearoa-New Zealand Landscape Charter with clearer management aspirations. The charter is part of a global framework of national

landscape charters and conventions coordinated by the International Federation of Landscape Architects (IFLA). Examples of peers within the New Zealand framework are, The RMA (1991), the ICOMOS New Zealand Charter (1993), the European Landscape Convention (2001), the Local Government Act (2002), the Urban Design Protocol (2005) and, the Global Landscape Charter (2009) (The New Zealand Institute of Landscape Architects, 2010).

The charter has not yet been ratified by the NZILA membership, but will be treated here as aspirations of the profession and their contribution to landscape management in New Zealand. The principles of Aotearoa-New Zealand Landscape Charter will be discussed next.

6.5.2 The Aotearoa-New Zealand Landscape Charter

NZILA's primary goals are to promote sustainable management, stewardship, advocacy for, and enhancement of the landscapes in New Zealand. In this regard, the landscape charter outlines guiding principles for practitioners and a framework to inform decision makers about landscape matters. The principles are; sustainable management, the Treaty of Waitangi principles and Māori values. Others are stewardship, identity, human health and wellbeing, place-making and inclusivity (The New Zealand Institute of Landscape Architects, 2010). These are explained below.

The charter embraces the sustainability purpose of the RMA. The principle of **sustainable landscape management** in the charter incorporates broader aspects such as ecology, economics, socio-cultural vitality and expression in decision making. The charter also restates the Treaty of Waitangi principles as they relate to landscape management (The New Zealand Institute of Landscape Architects, 2010) and related Māori values.

The charter proposes the **principle of preventing inappropriate and insensitive changes** to landscapes attributes and capacities. The NZILA acknowledges that there will be changes on the landscape but seeks to curtail the negative ones. The next principle is the **conservation and enhancement** of quality of natural resources and human values. In operationalising this principle, landscape professionals must have robust understanding of processes and employ such knowledge in management of resources (The New Zealand Institute of Landscape Architects, 2010).

The **principle of indigeneity**, including indigenous knowledge is given primacy by the charter which acknowledges and affirms Māori worldviews, cosmology cultural concepts and values in influencing and informing design, planning, protection and management of landscapes. This coupled with the **principle of stewardship** acknowledges the Tangata Whenua relationship with

the landscape in steering practice to ensure health and diversity of landscapes (The New Zealand Institute of Landscape Architects, 2010).

Practitioners are expected to hold the **principle of place-making**, an overarching tenet of landscape profession. This means they should steer landscape change creatively and responsively and to create inspiring environments for human occupation, recreation and enjoyment while enabling production. Place-making also seeks to reveal the natural and cultural elements of landscapes. Related to this is the principle of identity preservation. Identity is the distinct character generated by tradition, genealogy or identification with home, concepts which are expressed as place on the landscape. The expression can be at local level progressively to the national landscape scale (The New Zealand Institute of Landscape Architects, 2010).

The **principle of integration** promotes the integration of protection, production, recreation and habitation values for all living things. In addition, the principle of promotion of human health and wellbeing is another aspect promoted by the charter. It is noted that landscapes can sustain, enhance and revitalise the physical, emotional, spiritual as well as cultural wellbeing of the society. This is regardless of whether the landscapes are natural, cultural or were intentionally designed. Finally, the principle of collaboration encourages co-operation between all stakeholders including tangata whenua on landscape issues. This also implies the principle of inclusivity, which is about affording opportunities to participate in articulation of landscape and other values evident in local and regional places (The New Zealand Institute of Landscape Architects, 2010). Figure 6.4 below summarises the principles from NZILA.

	Substantive WHAT?	Governance WHY & WHO?	Process (HOW?)
Generic		Sustainability Subsidiarity Indigeneity Identity Human health & wellbeing Inclusivity	Integration Equality Kotahitanga-consensus Reasonable cooperation
Benchmark		Kawanatanga-government & rangatiratanga- self management	
Operational	Placemaking		Co-management Redress

Figure 6.4: NZILA principles

6.6 Chapter Summary

The Resource Management Act 1991 has not been an adequate tool in management of the environment, but has been complemented by other legislation and implemented across several government agencies. The principles drawn from the RMA, work towards the overarching goal of sustainability. The keystones of the RMA are generic and applicable in environment, and landscape management. Although the Act also illustrates several operational principles for landscape management; the primary focus has been on outstanding natural features and landscapes.

The operationalization of the RMA has needed the intervention of the Environment Court to interpret the act, to review decisions and at times to direct policy. It has therefore become an adjudicator of landscape matters too, although this is a contested issue. For instance, The Environment Court in Queenstown case [C180/99] seemed to aver that the RMA indicated tripartite categories of landscapes. These are outstanding natural landscape, visual amenity landscapes deserving particular regard and third, landscapes in respect of which there are no significant resource management issues. The latter landscapes have been managed through development of benchmark principles developed through Environment Court case law, good practice by councils and the professional practice.

Some principles highlighted in this chapter are aspirations and intents open to debate, for example, the high country forum principles and those drawn from Aotearoa- New Zealand Landscape Charter. Although, the iwi aspirations follow a similar mold, the RMA has legitimised their use in both regional and district management instruments. Although, case law has only tended to reinforce the RMA based principles, aspirations such as the Pigeon Bay factors have found legal standing albeit tentative and changing in the landscape change discourse.

Figure 6.5 below situates the principles from the RMA, the Environment Court, community aspirations and NZILA in the conceptual framework. An overview shows the RMA focuses more on the generic high level principles. The Environment Court deals more with matters in the substantive domain but across all levels. Community aspirations and NZILA focus more on governance and process and across all levels.

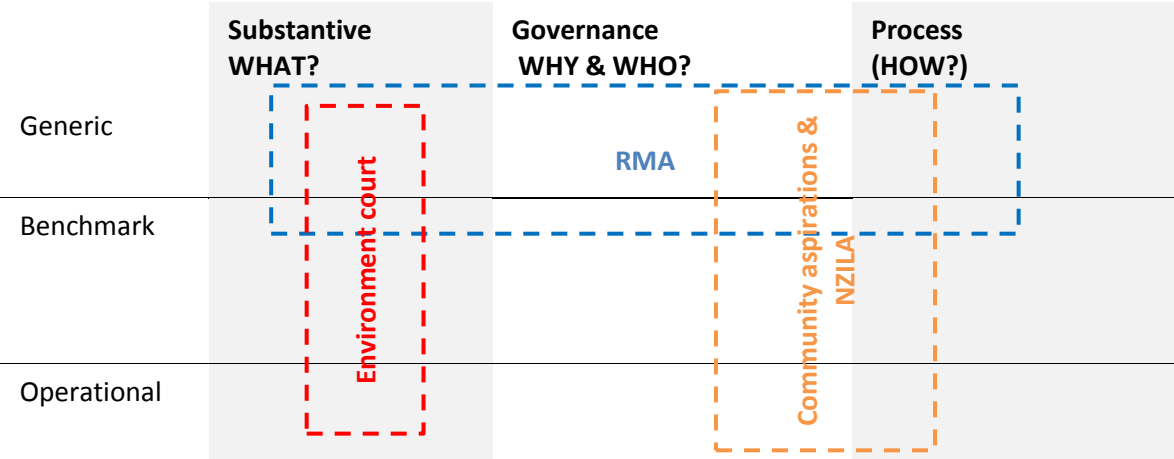


Figure 6.5: General emphasis of different sources

The development of the preceding principles has not been adequate in management or in decision making on landscape change, especially the everyday landscapes. It is not sufficient to voice new aspirations in landscape change management. This research used discourse analysis to examine decision making about landscape change in Manuherikia Valley in Central Otago. The next chapter will present the findings of the study.

Chapter 7: Field Findings

7.1 Introduction

This chapter will report on the field research findings relevant to objectives 2 and 3 of the thesis which were, to identify principles to guide decision making concerning landscape change, using the Central Otago District as a case study. These principles are to be focused on enabling land use change in a way and at a rate acceptable to the communities with interest in the landscape. The field findings are based on group or individual interviews with sixty one respondents living, working or who have worked in, or have special - family or professional- interests in Central Otago. These were twelve initial key informants, twenty professionals, eighteen community members and eleven reference key informants. Quotes from these informants will be denoted as I, P, C and R, followed by numerals. The researcher's words are bracketed thus [...] where they have been used to elaborate quotes.

The participants were presented with scenarios of alternative futures of the landscape and asked to make decisions on what was acceptable change, after which they were asked to justify their decisions. The purpose of scenarios of alternative futures was to provoke discussion and argument and not to compare people's perceptions of the alternatives. Therefore no formal comparisons were made. However, there was a consistent preference for the scenarios that showed incremental landscape change rather than radical landscape change.

The accounts of these interviews were analysed to identify the arguments used by respondents and to infer the underlying principles (see Figure 3.9). The analysis revealed six broad discourses, and several principles of landscape change management. The principles were embedded in or facilitated by these discourses. The following section will examine the discourses, which will then be followed by a documentation of the principles they embody.

7.2 Discourses

Principles of landscape change decision making, as well as policy cannot be made in a vacuum that ignores the reality of power. This chapter presents landscape change principles discursively embedded in various informal and formal discourses about landscape as expressed by the actors and influencers of landscape change. These discourses are a function of power, meaning they are about 'who gets to decide, and why?' Like the rationalities, discourses are used for specific ends by the respondents, and may even be conflicting and contradictory (see for example Bacchi, 2000;

Jorge Ruiz, 2009; Van Dijk, 1997). The discourses are as important as the principles in understanding the substance, governance and processes of landscape change decision making. The accounts revealed six discourses, which were used to defend and justify, sustain or challenge dominant positions, namely; productionism, conservationism and preservationism, regionalism or place identity, iconicism, gentrification and silence. They are discussed in turn with brief examples as more detailed discussion is provided in the principles.

7.2.1 Productionism

The productionism discourse seeks to legitimise economic production. This is about using the land for, among other uses, sheep, beef or dairy farming, to get the best from it, to maintain a lifestyle not just as heritage, but for future generations. Several tropes are drawn on to justify production, for example, the gold heritage, the sheep country, and rugged pioneers conquering an equally harsh and tough terrain to establish themselves. To continue with production on this landscape is not necessarily for commercial gain, as one key informant said, ‘...we [farmers] are not rich...’, but we farm to continue with a ‘way of life’.

... [we cannot remain static because] when countries do that, when businesses do that, they are doomed to fail... it is wrong to say...we want the landscape to stay the same ... we don't want creativity, we don't want new industries ... C12.



Figure 7.1: Production landscape, a dairy farm at Omakau, 2012

7.2.2 Conservationism and preservationism

A conservationism discourse is broadly linked to farming practices in the valley floors since most of the high-country is under Department of Conservation control. Landholders pride themselves on running the same holdings the pioneers started and look at the success of their activities as a sign of their conservation ethic. There is also a preservationism discourse, which seeks to

promote protection of heritage landscape, in a static state. Specifically, the myth of tough and rugged pioneers and their descendants, a family heritage passed on for more than five generations, and which it is claimed by some, should be preserved. The landscape has been shaped by the actions of the initial pioneering activities including mining, and the struggle to retain the landscape is a continuation of this heritage. This implies there are certain aspects of the landscapes to be retained or conserved from change.

... as farmers we are all very environmentally conscious ... this is the land I make my money from and if I abuse it, then am not going to make money from it. Am I? ... a farmer has to be a good conservationist anyway ... C16.

*... I chose to live here because of the environment ... it suits my spirit ... [there are many like me] ... if you ask them why they have come to Central they will tell you because **they like what they live amongst...and they are concerned about changes that might destroy that** ... C4.*

Both discourses are fiercely opposed to those with contrary views. Both discourses have undertones of opposition to those perceived as outsiders or meddlers who disrupt the accepted way of doing things. This then links to the idea of identity of place and people.



Figure 7.2: St. Bathans, gold mining in the foreground (RW Murray Slide Collection, n.d.)

7.2.3 Regionalism, place and identity

The regionalism, place and identity discourse is a reaction to the globalisation of landscapes, and is critical of newly transformed landscapes of production which have arisen to meet the demands of global markets for example for wine and dairy products. This might seem paradoxical since, historically, beef, lamb and wool have been produced for European markets from the same landscape. However, the regional discourse is a reaction to the speed and scale of transformation and to the changes in landscape structure such as removal of shelter belts, decay and displacement of small communities and influx of non-locals. This closely links with the discourse of place and to the question of 'who belongs in this place?' There are several responses in this discourse depending on the economic interests and occupation of the respondents. Those who run businesses favour an increase in the number of residents and activities, while those who have settled there primarily because of the iconic landscape would not accept further changes to the landscape.

... thinking from a landscape kind of social point of view that rather than trying to feed China baby milk powder ... I am much more comfortable if this land here is producing only 10% of the money turnover but is producing the food and the living for the Otago basin and for Central Otago ... P6.

... Central Otago is actually really being exploited in many ways not to look after Central Otago but exploited on behalf of national benefits ... I 9.

When discussing regional or national scale matters, the discourse of who belongs did not arise. This suggests that the key informants were assuming common identity, arguing for local distinctiveness to fend off unwanted change (example, Bowring, 2012; Stobbelaar & Pedroli, 2011). But when resolving landscape scale matters, legitimacy or premium was placed on how long one has lived in the community. This implies that the identity is also in flux, shaped according to need and used to include or exclude certain others from influencing landscape change or management (example, M. Scott, 2008).

7.2.4 Iconicism



Figure 7.3: Last, Loneliest, Loveliest Land (Central Otago District Council, n.d.)

Iconicism is a dominant discourse in Central Otago. The landscape is seen as iconic and unique in New Zealand, and this is not just the landscapes protected by the RMA, but everyday farmed landscapes. This iconic landscape discourse was evident in all key informant interviews. Furthermore, the Central Otago District Council uses this iconic discourse for branding the district- ‘*A World of Difference*’. This discourse sets expectations of what is acceptable landscape change as that which does not detract from this brand. What draws people to Central Otago is this iconic image, and once drawn in, they want to protect what attracted them there. Below are example of comments which frame this discourse.

... and most people know how special the landscape is in Central Otago you know everybody kind of relates to it. It's very different from a lot of New Zealand ... 17.

... there is that romantic history of Central Otago ... primarily a gold one...and hardships...hardships and the lottery luck that goes hand in hand with it ... New Zealanders...when overseas...think of home as the open plains and the mountains of Central Otago ... even if they live in Auckland ... C2.

... I chose to live here because of the environment...it suits my spirit...[there are many like me] ... if you ask them why they have come to Central they will tell you because they like what they live amongst ... and they are concerned about changes that might destroy that ... C4.

7.2.5 Gentrification- the global countryside

Rural gentrification is perceived as a reality by the key informants. This is related to the discourses of identity, who is an insider/ local and who is an outsider/ non-local, and also linked to globalisation and how it is negotiated at the local scale. At one level, implementation of management instruments such as regional policy is perceived to be promoting gentrification, for example, where local farmers are not able to invest in more efficient irrigation infrastructure, leading to land purchases by better resourced corporates and non-locals. On a different scale,

global market demands, for wine and milk for example, may have the same effect of displacing local ownership through capital intensive investments, unaffordable by locals, displacement of communities and replacement by transient labour. But the more significant strand in this discourse is the opposition to land ownership by non-locals.

... there will be a lot of pressure for dry-land farmers to leave the district, take their families with them, they might be 4th, 5th generation; so you are losing a lot of their cultural connections, and then you get new people coming in and then you get corporates, with very limited community involvement and very transient populations ... I 6.



Figure 7.4: Squatter settlement at Falls Dam (Sydney, 2011)

7.2.6 Discourse of silence

The term discourse of silence may seem an anomaly because several authors have identified discourse as talk in context (for example, Gee, 1999; Jorge Ruiz, 2009; Rivera, 2004; Van Dijk, 1997). However, they also recognise silences within discourses. Huckin has argued for the importance of silence in discourse by stating that ‘... what is not said or written can be as important, if not more so, than what is ...’ (Huckin, 2002 p,348). These silences it has been argued, are a form of resistance and power and used to disrupt dominant discourses (for example, Jungkunz, 2012; Montoya, 1999; Parpart, 2010). There are several things which were left unsaid in the interview, often in a tactical way. For example, the Iwi authorities prefer a continuous engagement, rather than a one-off engagement. To ensure this engagement they engage in tactical silence, and refrain from acceding to universal principles applicable everywhere, and would rather engage on a project by project basis. This way they are not losing control of landscape change processes.

The above discourses have been separated for clarity in discussion. Some are broad and will influence different principles, while others may influence particular ones. Read (2005) made

similar observations about the interlinked nature of landscape discourses. In her study of Otago Peninsular, she identified several significant discourses for example, agricultural discourse, environmental discourse, heritage discourse and an overarching neo-liberal discourse which forms the context within which other discourses are enacted, and highlighted their place in constructing the landscape of Otago Pensinsular. These discourses are similar to those found in the present study pointing to a possibility that they are shared, at least, throughout Otago region. In the next section, specific principles of landscape change are examined.

7.3 Classification of principles

The principles emerging within these overarching discourses were classified into three broad groups - substantive, governance and process based on the framework introduced at the start of Part Two. Substantive principles ask 'WHAT change should we accept?', operate in the material dimension, and relate to the physical, the seen and touched landscape. Procedural principles ask 'HOW should we make a decision?', and focus on the process of deciding what specific landscape change is acceptable. Governance principles consider the nature and context of change and what outcomes are desirable, WHO should determine outcomes, and WHY, and what formal and informal institutions are needed to frame appropriate decisions. Governance considers the interrelationships of the actors within their communities of interest and place and with the landscape. With these broad categories, the key principles from individual and group interviews are grouped into seven clusters as shown in Figure 7.5.

The purpose of the classification is to help draw distinctions between different types of principles, to identify patterns of response, and motivations or values they embody. Under the substantive principles are structure and function. Under governance are change purpose and institutions. Community is expressed in both substantive and governance categories- depending upon whether the focus is upon community as a socio-economic and cultural phenomenon, or as a network of decision makers. The procedural group includes deliberation and communication. However, it is important to recognise that the principles that were expressed by the key informants are also interrelated, and therefore do not always fall neatly within the specified categories. This will become evident as they are explained.

Substantive WHAT?	Governance WHY & WHO?	Process HOW?
Structure Function Community	Purpose Institutions	Deliberation Communication

Figure 7.5: Clusters of principles emerging from fieldwork analysis

The three categories above broadly delineate what acceptable landscape change should entail, and therefore point to what should be considered sound principles in making decisions on landscape change. The principles are also categorised into levels of specificity i.e. generic, benchmark and operational levels. The following discussion of principles adopts a normative tone, which is an extension of voiced desires of the respondents and the researcher's interpretation of these voices. Tensions and further questions arising will be highlighted.

7.4 Substantive –‘What?’- principles

The principles under this category are grouped into, **Structure, function and community**. Biophysical structure, ecological and cultural function and human communities are three main dimensions of landscape (Antrop, 2000). Structure describes the spatial configurations of the landscape; - the form and the organisation of the landscape fabric. The principles of landscape structure frame the physical ordering of change, in response to local or external demands. Spatial structure embodies several linked principles namely balance, diversity, indigeneity and context. Function relates to the flows of energy, materials, species and activities across the landscape. Under function are; distribution, resilience and risk mitigation.

7.4.1 Structure

In this section the basis for the structural principles of landscape change are drawn out using quotes from key informant accounts. **Landscape change should be balanced**. First, this implies a measure of system level coherence between land uses and the host landscape.

... it is some form of balanced system [because] ... this is naturally a dry environment and generally speaking, farming that responds to and relates to the ambient conditions is going to be seen as more sustainable than one that forces a different kind of farming [dependent on intensive irrigation] ... P5.

Secondly, the outcomes should also be fairly shared throughout the community, on immediate and distant landscapes.

*... achieving social harmony ... there has to be **benefits right across the spectrum** if at all possible ... C12.*

However, balance is also encountered as an ideal process framing legislation around conciliatory decisions. The argument is that acceptable decisions on change should be reached by considering opposed interests, whether internal or external to the landscape. These decisions reproduced as change on the landscape are to reflect the needs and interests of the diverse players on the landscape.

... you've got to balance between what you want and what the other people want ... I have had to make decisions on things that are not my beliefs ... when you are sitting at a panel and you have both sides put to you ... C8.

Although balance above has focused on physical aspects, it is not clear if the respondents assume that balancing of interests in the processes will produce balanced outcomes on the landscape. Furthermore, this principle is reinterpreted constructively to frame aspirations or explain existing situations. This signifies the balance of the social valuing, economic use as well as environmental facets in decision making. For example;

*... **economic progress** [is the main value driving intensification] ... but there has to be **environmental progress and social progress** of the communities in here ... C9.*

*... so there are various ways how the **landscapes are valued by different people** but at the end of the day we all live here, we need to **make a living** in probably one of the most beautiful countries in the world and it's important to **strike that balance that enables farmers to continue doing what they do**, and for sustainable use of resources such as water to be fairly distributed but **without necessarily changing the ecological balance of that land to someone's, one person's benefit and not everyone else's** ... P1.*

Landscape changes should be distributed across the landscape. Two types of distribution are implied here. First, land uses or facilities that impact heavily on the landscape are to be located where demand is highest, and arguably where human impacts are already evident. This reduces effects over other less intensely impacted landscapes, such as unspoilt rural landscapes that are guarded jealously, see for example;

... to me wind-farms belong in a working environment where man has already got his footprint rather than being on the skyline...they need to be nearer consumers ... C9.

The idea of localisation of impacts exposes a related argument that;

*... Central Otago is actually really being exploited in many ways not to look after Central Otago but exploited on behalf of national benefits. So when it **came to the proposal to build a wind-farm you know on the Lammermoors**, I became involved in that because of friends who heightened, awakened to me the concerns that **this was a special landscape and we were gonna change it from a landscape that had both heritage and environmental values into what effectively was going to be an industrial landscape** ... I9.*

Effectively this begins to construct the regionalism discourse which will be revisited in the discussion of context and resilience principles. The second facet of distribution seeks to spatially

spread development across landscape consequently sharing effects. For instance to reduce the impact of large land use changes, such as dams, the projects should be broken into smaller units but spread over the landscape. While this may mean changes across the landscape, localised heavy impact changes are mitigated.

... and then the idea of having some farms that have ... access to their own water ... that again suggests to me probably a better way of farming. It's much lower impact, it's localised, it is using the local resource. Where there is the local resource, for instance, a stream coming off the hill side it makes sense perhaps to build a small storage area to capture some of that ... P5

Landscape change should recognise and enhance indigeneity, and identity. Indigeneity of landscape addresses the native features including species on a particular landscape. However, how the individuals relate to this indigeneity, influences whether they are perceived as belonging in the landscape, enhancing it, or draining from its identity. This therefore implies identity, not just of place and the landscape but the community too. This landscape gets its identity from its native species

*... biodiversity is fundamental ... especially **indigenous biodiversity** ... P4.*

... and it's not just trees, it's the wrong kind of tree, you know, if it were Totara and Kauri, I think we'd think a bit differently, but it is not. It is an exotic that is obliterating indigenous communities and I [have opinions] very strong to say on indigenous character and preserving what we have got and stemming the tide of loss ... I6.

Therefore, when considering changes as decision makers we ought ...

*... to come back to fundamental principles, [and ask ourselves] is it healthy? Is it **expressing local identity, local character**? Is it sustaining biodiversity? And more importantly **is it bringing back the indigenous biodiversity** and character? Those are some of the fundamentals that I always put in front of me when am thinking about landscape change and my role in that as a decision maker ... P5.*

Preservation and enhancement of indigeneity is not an end in itself, but means the active management of landscape identity, both place and species. Whatever subtracts from indigenous identity, for example, exotic plant species, rabbits and possums should be eliminated.

*... **wildling trees** are a threat]...yes, it's wind-blown, I mean, a lot of people say, 'but I like trees on the hills, I don't like the bare hills' **well if you don't like the bare hills go and live in Canada** or somewhere ... C15.*

... I don't like this dry barren grass and landscape '- and you sort of think 'why are you living here? If you like trees go and live in America or some ... I 6.

In addition limits, to human activities, are proposed to preserve this identity.

*... 'A World of Difference' infers to me ... it infers that there are limits because if you exceed those limits then it's no longer a world of difference; **it's just another place** ... I 9.*

It is strongly felt that those of opposing views threaten the identity, and are not welcome. The discourse also exposes claims of what constitutes local identity, not just the landscape, but the way of valuing. A local should value the dry open landscape; otherwise, they are not an authentic part of the community.

... and most people know how special the landscape is in Central Otago and related to it but not everybody. I think because landscape is such an important part of Central Otago, you know everybody kind of relates to it. It's very different from a lot of New Zealand, it's way up there in terms of [hierarchy of uniqueness], the landscape ... I 7.

This implies that the respondents are defining community not just where they live, community of place, but by an expectation that they have certain values that express an 'authentic' identity. How and by whom this is defined in unvoiced.

The arguments against 'Canadian or American' landscape are a reaction to the growth of wilding pines, and conversion of the open grassland landscape to a globalised 'alpine' landscape. This is not just about exotic, out of New Zealand landscape identities, but other regional landscapes are implied as well, to bring out the uniqueness of Central Otago. For example;

*... Queenstown for instance it was very much a town on a fairly open scrubby sort of landscape on the hills behind ... Those slopes are now totally covered in coniferous forests, Douglas fir or Oregon, and people who arrive there will see it as part of the alpine scene because these people are familiar with **the equivalent of the alpine scene in the northern hemisphere**. So it is a concocted sort of scene, it is an exotic scene actually, [...] a chunk of Queenstown is exotic ... I 5.*

The arguments above complement and are used to justify conservation of biodiversity. Respondents also argue that the identity of the landscape should also guide or determine the land uses which are suitable for the district.

*... land use should be a] natural expression of resources and the landscape...-[should avoid non contextual uses which] could be anywhere... [with] **no reference to local character** ... P5.*

However councils are seen as not being very adept in recognising what affects this identity.

*... I think Otago was about the only region in the country for example where hawthorn was not a banned plant hmmm you know they don't recognise any of these other weed problems. They just threw their arms up in horror when recently when people said 'you ought to be doing something about wilding conifers' they said 'well, that's a landscape issue, we don't touch landscape'- what about ecology?-**what about losing our original identity?**... I 7.*

To build on what has already been lost, interviewees proposed that, **Landscape change should protect or reintroduce biodiversity**. This is proposed to stem historical and continuing loss of plant and animal species from the landscape.

*... But you know, to come back to fundamental principles, is it healthy? Is it expressing local identity, local character? **Is it sustaining biodiversity?** And more importantly **is it bringing back the indigenous biodiversity** and character? Those are some of the fundamentals that I always put in front of me when am thinking about landscape change and my role in that as a decision maker ... P5.*

*... I would argue that we need to have a debate about **restoring some of our biodiversity**...so we don't lose any more ... C9.*

The concept of diversity recurs when examining function cluster of principles. It is proposed that for communities to utilise the landscape more profitably, they need to move from monocultures. This is captured in the quotes below;

*... **monocultures don't work**...the bee population has declined because...we have monoculture and use chemicals...it changes everything ... C15.*

*... in Central Otago I don't have an issue with some dairying, I wouldn't like to see the whole valley you know **monoculture of dairying right throughout the valley floors I hope that never comes to that I hope it's only select areas** ... I 8.*

The argument that certain land uses may be alright in 'select areas' begins to hint at context. **Landscape change decisions should be contextual.** Any given landscape exists within a wider landscape and with relationships with others. This principle has several facets, the national, regional and the local contexts. From the national scale, regions are presented as suitable for certain land uses qualified on the basis of climate, or historical use.

... In terms of the greater effect on this area...I think it would be tragic ... in the Waikato and other areas- dairy was set for it, but certainly in much of south Island it wasn't ... C5.

The intrinsic ability of a landscape to accommodate change influences what needs to be done to modify it for new uses, and whether that type of change is acceptable.

*... there are still places like that that are quite hostile in terms of growing things but ... I think that's that. I guess it goes back to the thing of deciding **where the areas are that are okay to modify** to be able to support yourselves ... I 5.*

The argument is also used to reframe the issues of proximity of utilities, such as power generation, to the users. For example,

*... to me wind-farms **belong in a working environment** where man has already got his footprint rather than being on the skyline...they need to be nearer consumers C9.*

At the local level, topography and historical use provide precedent about what is suitable land use. Here context seeks to match these land uses to available land and resources, and secondly to minimise adverse effects on the environment. For example, water intensive land uses on a dry landscape are to be avoided. The professionals argue that;

... [land use should be a] natural expression of resources and the landscape ...-[should avoid non contextual uses which] could be anywhere ... [with] no reference to local character ... P5.

... good decisions, means they have to have an overall appreciation of context ... there are appropriate landscapes for particular purposes ... P1.

... having it [intensive farming] bordering the river could be an issue generally speaking intensive land use next to a river immediately raises a red flag. So that would be one thing that you would be looking at very closely ...and obviously in the wider landscape you would be looking at the surface and ground water systems, and how the intensively developed areas relate to those systems and affect them ... P5.

Contextual decision making on change should also be informed by what is happening outside the immediate context...

*... [landscape decisions should reflect] a concern of what happens **in and outside** [the locale] P6.*

This argument points back to land use suitability, but also hints at governance issues of insider-outsider relationships addressed later. Landscape change should be physically appropriate. Land use change should be suitable to physical conditions. This is not just about allocating land uses locally, but examining whether those land uses would be better suited to other areas outside the locality.

*... is that land use in a sustainable way **appropriate for this valley** while **there are other possible or appropriate landscapes where that type of activity can occur** ... P1.*

*... because **this is naturally a dry environment** and generally speaking, **farming that responds to and relates to the ambient conditions** ... [not] ... intensive farming ... [which] ... is trying to force a 2000 per annum mm rainfall to an area that is four to eight hundred ... P5.*

*... to me **wind-farms belong in a working environment** ... they need to be nearer consumers ... C9.*

*... this was a special landscape and **we were gonna change it from a landscape that had both heritage and environmental values** into what effectively was going to be **an industrial landscape**, you know with a couple of hundred of these damn windmills and turbines ... I 9.*

The principle of appropriateness points to valuing of landscapes nationally and locally. There are landscapes which are accepted as industrial or intensely used, Waikato is given as an example, and other landscapes seen as iconic, and therefore should not be exposed to industrial use, such as Central Otago. Research beyond the current scope of this study, needs to examine attitudes people have and valuations made for landscapes outside their own local contexts.

Landscape change should be spatially, and temporally holistic and harmonious across scales. Spatially landscape should be assessed across local, district and regional scales comprehensively

as an integral unit. As a whole, landscape change decision making should incorporate the social, environmental and economic aspects

*... [look beyond political boundaries] ... because they may look at this part of the mountain and one district council says 'these are the values there' **but the mountain doesn't stop there in the district boundary.** And the next district says these are the values our community have, so you get windmills on one side and none on the other so to speak... **landscape is contiguous, ... should be a regional issue ...** C8.*

*... So that would be one thing that **you would be looking at very closely ... and obviously in the wider landscape** you would be looking at the surface and ground water systems, and how the intensively developed areas relate to those systems and affect them ... P5.*

At the temporal scale it looks at the impacts of decision over the short and long terms.

*... What would the long-term impact ... in the landscape context **what would the long-term impact be?** Is it just a slight change in vegetation cover that's going to make a long term change away from those wide open, dry grounds landscapes that Central often is identified with?... or is it that it's going as far as understanding **is it long-term or short-term** ... will it make significant physical changes or is it quite surface changes that happen to it? ... P2.*

Harmony signifies framing changes for congruence across the region, and over time. **Landscape change should be incremental.** This means incremental in type, scale and speed. Change is opposed when it differs very much from the tradition or the common change communities are used to, or when communities feel they have no control over the changes.

*... it is the **transformational changes that have us worried...dairy is a radical change and the intensification that goes with it** ... sheep and beef farming are not transformational...and that has been the tradition here for the last ...100 years ... C2*

*-Financially they are putting conditions on us ... we are just not going to be able to do it, the way we want to ... because **it needs to be a step by step process ... they need to give us more time to do this** ... C1.*

The scale and speed of change influences how the community is able to assimilate and adapt to change.

*... but I mean obviously it's going to be on a much bigger scale but **it doesn't seem to be ... something overly new, it's sort of an expansion of what is already there**, utilising some of the existing infrastructure already, so that ... again doesn't seem that unpalatable assuming everyone has decided that mining operations are of benefit and are not going to ... affect ... P3.*

*... **the sort of scale that you are intimating** here would probably make people go, what?! ...That would be a **radical change from the 180 to 200 almost odd years of pastoral history.** So, that in itself would be quite a big thing for the community to swallow ... P5.*

Transformational and radical are used here to describe the undesirable changes. This principle suggests change should be framed in small incremental steps so that outcomes do not vary very

much from the status quo or the traditional land uses of the case study area. These responses suggest changes that are non-transformational, therefore acceptable.

Landscape change should be contained within environmental capacity. The proposal is to put limits to growth, whether of farming, development or population. Change of lifestyle is proposed as one of the solution to staying within set limits. The main assumption is that, the capacity of this particular landscape has been, or should be established.

*... but increasingly there is an awareness that **we can't continue to carry on doing what we've always done ever increasing growth, consuming more**, those sorts of things I suggest and others amongst my group involvement, we feel that **the days of that sort of growth and consuming lifestyles are very close to an end** for all sorts of external factors least of which is peak oil and climate change all of those and economic downturn ... I 9.*

*... I guess 10 years ago I would have said ... as long as it didn't affect water quality ... go ahead ... but now ... I **am having difficulties with this thing of economic growth** ... because **we are on a finite planet** ... C9.*

*... they would take it to the next step ... **actually draw limits to growth**...if we go beyond those limits it's no longer a special place [therefore no longer appealing] ... C4.*

*... **the specialness is going to be diluted if we go beyond those limits** ... C2.*

Benchmarking and limiting growth imply setting the standard/the limit which will not be exceeded. These values espouse growth based around local-regional production and market economies and a departure from global focused consumption and production. By proposing these limits, the respondents appealed to a wider global environmentalism discourse.

7.4.2 Function

Function relates to the flows of energy, material, species and human activities across the landscape, and also implies the potential or capacity to provide services within or by the landscape. The view of function illustrated here focuses on both ecological and human development facets of landscape change.

Landscape change should promote resilience and self-sufficiency. Resilience refers to the capacity of the landscape to return to original position after impactful changes. This principle does not point to the landscape to its own end, but to its life supporting function for the community. To achieve resilience, landscape change should be framed around local market mechanisms, to sustain local and regional production and consumption therefore reduce dependence on global markets. This implies that, any global shocks are not felt on the landscape, and if at all, the landscape can easily realign.

... thinking from a landscape kind of social point of view that rather than trying to feed China baby milk powder ... I am much more comfortable if this land here is producing only 10% of the money turnover but is producing the food and the living for the Otago basin and for Central Otago ... P6.

... maybe ... in 30 or 50 years we will be back to growing food ... What a change? ... and wool, beautiful merino farming and food that for our local populations but also for export yes. I mean their sustainability is questionable yes. The shipment of fertiliser the shipment of food supplements to feed dairying, feeds and the amount of waste, it's all got to go somewhere it's all a demand isn't it for a product perhaps the world doesn't need ... I 11.

... Now I challenge you to go anywhere in New Zealand and find that farm that still, there will be some, but very few will be self-sufficient, will be able to live off their product, and I think we need to go back to that sort of, which will mean that it might in the short term be more expensive but we get products that are grown and produced locally and people exchange their labour for products and things like this. ... I 9.

Social resilience is implied when respondents hanker for older days when production was driven by local demands. However, this is factually debatable since meat and wool were primarily produced for the European market. Moreover, resilient landscape change should reflect the climatic conditions. Land uses, landscape spatial patterns and processes should derive from the climatic conditions. The expressions from the respondents below illustrate this.

... the ability of soil and all the rest of it to cope with all this stuff that comes from it ... this is a dry landscape, bare rocks ... moving to activities using huge volumes of water ... C5.

*... so to sustain a healthy more resilient vegetation cover which again may and should have **a mix of productive purpose and both ecological and environmental servicing functions** as well, **integrated into that farming landscape** ... Resilience means **being able to cope with changes in climate**. ... but it is farms that **can see what is coming and be able to adapt in time to not suffer, not go under** ... P5.*

The discourse here is not an opposition to global markets per se, but, their effects on this specific landscape. Resilience forms one aspect of sustainability, which will be examined under change management.

Landscape change should mitigate risks. Change is fraught with physical or social risks. Physical risks affect the landscape directly and are seen in form of effects on lands, and in water, locally and downstream. They include effects of intensification trends -the greening of the landscape, and consequent loss of the iconic landscape, and water pollution.

*... And umm quite apart from the environmental aspects, you know in terms of **what does intensified land use do to our water resources** ... the increased sedimentation, nitrates and all these sort of things so if we go on, the future if we continue to develop as we have been and if we try to accelerate, from my perspective it's not a good outlook ... I 9.*

*... I would want to be convinced ... that there were **no risks of adverse effects** basically from effluent if it is dairying on the general hydrology of the valley, those sorts of things. I wouldn't be asking about landscape issues in a narrow sense at all ... P7.*

Social risks are those that affect the community directly such as financial debts, loss of land, livelihood and cultural heritage. These risks are not just imagined, but there are examples from the lives of the respondents, for example;

*... there are **a few farmers who will be outside their depth** ... -Financially they are putting conditions on us ... **we are just not going to be able to do it the way we want to** ... ORC, they don't realise ... **They are forcing my hand to do this water stuff and extend my mortgage situation** ...-otherwise we'll be forced to sell and dairy will come to this area and take it up ... C1.*

*... one of the things I believe about ... I would put that one up there ... one of the things I believe about this development thing is that **by investing capital, borrowing capital and investing a lot of farmers actually destabilise their farm operation[s]** ... P6.*

*... all these little communities that you've driven through today used to have schools, there was the original population supporting the rural, supporting the farming activities with contracts and that sort of thing, all **that's been driven down to a minimum now people have moved away because there are no longer jobs on the farms** ... I 9.*

*... So there's ... what happens is that, it's not just the vegetation cover that changes and the size of the paddocks change but **also peoples' relationship to it changes** because you **get a transient workforce instead of a stable population** you know the whole lot of stuff that happens socially that affects relationships with the place, you see that ... I 11.*

Capital intensive landscape change introduces drastic changes to the social fabric. Families in the community have developed over generations but cannot afford to invest in production infrastructure might have to sell; resulting to loss of land and dislocation. This signifies attrition of community as families move away and are replaced by transient populations. Consequently there is change from communities made of families and individuals, therefore a culture, to corporate entities focused not on community but returns on investment. Since the small Central Otago communities cannot afford to meet the demands of government or the markets, but the corporates can afford, therefore this ...

... encourages the entry of corporate farming big companies who have farms all over New Zealand, well they don't have the same community, they don't share the same community ideals or the community values which have been developed over five generations in this valley. But there is a social change and a social disruption that occurs or is likely to occur, and so those are the things people are starting to talk about ... I 9.

These risks inform the community responses both to legislation and external pressure. These are threats to continuity of culture, and community, vital parts of the landscape.

7.4.3 Community

It is clear from these structural and functional considerations that many interviewees believe that landscape change decision making should assess social issues and incorporate the community in consequent processes and outcomes. This could include judging the effects of change on

community continuity, distinguishing community from corporate values and the recognition by external decision makers that the impacts of their decisions are felt locally, and by individuals. Additionally, the economic implications are not just felt by individuals, but by the community too.

Therefore, **Landscape change should enable continuity of families in the community.** Landscape change is not just about the physical land but the social fabric, which has been woven over more than a hundred years on the landscape. The culture has not developed independent of the land, but as the seasons shaped the occupations of both Māori and European settlers, in turn they have reshaped the landscape over several generations. Change, seen mostly as capital intensive land uses, which means that

... [with intensification] ... there will be a lot of pressure for dry-land farmers to leave the district, take their families with them, they might be 4th, 5th generation; so you are losing a lot of their cultural connections, and then you get new people coming in and then you get corporates, with very limited community involvement and very transient populations ... I 6.

... I am the 5th generation, my son is the 6th ... that is what the Regional Council may as well destroy in a lot of places ... and it's not because we are not good farmers, that's because they are putting very loaded conditions on water requirements ... C1.

This threatens generational continuity, primarily because to meet intensification demands,

*... the farmers might have to get the capital themselves or others will come along and make the capital investment ... **to that extent there will be dislocation** ... C5.*

However, landscape decision makers should ensure that policy and **Landscape changes respond to community needs.** Policy making should not be alien to the realities of its effects on local community. Although councils engage with community through liaison staff, they are not always fully embedded in the community, and often will change positions or change employers. Impacts of any change directive are felt first, often irreversibly, by the community, and less often by decision makers who might not live in the locality affects. This means that

*... It is important that the values that you place on this landscape are reasonably **consistent with what the community values** as wellP1.*

*[... and the council decision makers] ... **(they've got) to remember that, we've got to live here** and the decisions that the policy makers make don't affect their lives ... C17.*

The quotes above indicate the focus on community needs and values. This raises questions of who should make decisions and the role of government agencies as decision makers. These issues will be examined later in section 7.5 dealing with governance.

Landscape change decisions should be affordable for the local community. It is acknowledged that progress demands capital outlay; however, this should be moderated to match available resources and mitigate unintended consequences such as sale of land and dislocation of families.

*... they are forcing my hand to do this water stuff and extend my mortgage situation...otherwise we'll be **forced to sell and dairy will come to this area and take it up** ... C1.*

*... the farmers might have to **get the capital themselves or others will come along and make the capital investment.** To that extent there will be dislocation ... C5.*

A real and overlooked consequence is the vicious cycle of capital intensive investment and the resulting intensification of operations to recoup.

*... [change will be necessary since] ... irrigation (that) **costs me now \$60/ha** to irrigate my farm, but **there's talk of \$1200/ha, that's what would make me [intensify]** ... C16.*

The respondents felt their livelihood was threatened if they cannot afford to meet the requirement of change. The threats include loss of land and consequent displacement by those who afford to invest, however, those who invest do not essentially have community interests and will often divest if necessary.

*... it's economic progress ...but there has to be environmental progress and social progress of the communities in here ... [what the locals can't afford, corporates can, however non-local] **people take their money and run** ... C9.*

This implies that landscape change decisions, driven from outside the locality, should be aligned to what communities can pay for. Secondly it implies moving away from resource intensive changes to more affordable changes, at pace and scale manageable by the community.

Landscape change should be socially viable. This implies ensuring the community retains its socio-economic viability. However, the community is not a homogenous group but composed of diverse and often competing interests. Therefore what is needed is;

*... some form of balanced system ... I think overall dry land farming would be **more palatable to the wider community** ... P5.*

*... there are three or four of them out there. They have moved into the area and **they don't want to see any progress whatsoever** because the area is nice... and [so and so] he doesn't want to see any changes whatsoever. ...**there are lots of people with different ideas** ... C7.*

What is appropriate change for one person or group might not be for the entire community. For instance, intensification of land use or conversion to lifestyle blocks elicits comments such as,

*... [I] would be concerned about the impact on tourism ... environmental impacts ... in the immediate and over time ... **the tourism industry would be upset about that ... I think lots of New Zealanders would be upset about that too ... C5.***

*... concentration of lifestyle blocks here **would not be a happy occurrence ... C6.***

To respondents with vested interests in tourism for instance, the landscape should remain as it is, in conformity with their needs and expectations. A contrary view is voiced and justified by respondents doing businesses which rely more on farming operations than tourism;

*... [change, intensification and increase of population is] **actually good for the community because more people coming in ... [means more business, vibrant community hall, sports] it's good for the area ... C11.***

*... **I'm in two different frames of mind on that one ... business people feel this way. Some farmers don't ... a farmer if they wanted to do intensive, they will go and do it, and they wouldn't care at what cost to the environment. They would just ... coz it means more money. Ultimately that's what keeps the world going round, it's the amount of money you can make. So the more intensified they are the more money they can make out of it whereas there a lot of people, business people in this area that probably think they don't want their rivers damaged and destroyed, coz there are lots of fishermen in this area, so they'd hate to see that happen ... C7.***

The contests or differing frames as illustrated above raise the issues of community harmony. This research proposes that, change should be framed not by preferences of the few, but, **Landscape change should express community values.** Instead of serving narrow sectoral needs, this principle involves basing change on wider community interests and broadly agreed on values. The success of projects and policy is therefore predicated not just on whether consultation has been undertaken, but the extent to which the project or policy, including implementation, expresses community desires.

*... you want to get something that you are comfortable with actually that [it reflects] the **desire[s] of the broader community ... I 2.***

*... [the district council] opposed the scheme on the basis that it was **incongruent to the community developed plan ... the community was very much involved in the consultation process and what they didn't like is that [the developer-] came along and totally ignored that to some degree ... P1.***

However, community values will not always consistent with individual aspirations and preferences. While community values might be focused on harmony and continuity individual preferences are geared towards family continuity and profitability of operations. For example;

*... I have two private water rights myself which are up for renewal in 2021 ... Which is part of the value of this property ... the [council is taking my] private water rights ... **they are going to take that and give to other people who do not have as much water if we are not using it efficiently ... but that really stinks ... C1.***

... dairy is a sensitive issue as people have sold their land to dairy ... sheep and beef has not been very profitable in the last 10 years or more ... you can understand when ... someone comes along and offers them a large sum of money they would not have dreamed of ... to turn them to dairy. It is a torrid thing but you've got to understand them too ... C5.

As noted above, the water would actually be allocated to someone else within the valley. As expected, conflicts and tensions often arise, but they can be overcome through deliberative practices. Moreover, all change is costly in terms of capital and resource consumption. Landscape change decisions therefore to be empathic to community and promote social harmony, have to be affordable. Figure 7.6 below summarises substantive landscape change principles emerging from the local and professional discourses.

	Substantive 'WHAT?' principles		
	Structural	Functional	Community
Generic	Balance Holism Distribution	Resilience Risk mitigation	Social & economic viability Continuity
Benchmark	Context Appropriateness		Community focus Value based
Operational	Indigeneity Identity Biodiversity Incremental		

Figure 7.6: Substantive landscape change principles

Although the principles here are nominally about substantive outcomes on the landscape, they also embody social aspects. The principles voiced by the key informants are framed from the social perspective meaning the community concept and its identity are embedded in the landscape, that is, it is a community of place as discussed in Chapter 2. There are generic principles which govern landscape change across structure, function and community. But the most significant finding here is the emphasis on structural principles at the operational level. This implies that the informants are very clear that landscape change should be incremental and enhance identity. The focus on identity and indigeneity also is consistent with theoretical arguments (see Egoz, 2013; Menzies & Ruru, 2011; Strecker, 2011) about the interconnectedness of place, identity and community.

7.5 Governance principles- 'why?' and 'who?'

Change principles of structure, function and community examined in the previous section require a governance framework of institutions and values in order to manage change. Institutions

include sets of ideas and systems of rules which define social organisation, including shaping societies and individual lives, and also guide society in achieving what is important for them (CREDO, 2013). Principles grouped under governance address the 'why?', and 'who?' of decision making over landscape change and link the substantive principles of landscape change and the process. Having established the desirable material landscape or outcomes, governance institutions mediate to determine, legitimise and justify processes geared to achieving the desired outcomes. Three clusters of landscape change principles under governance are, change management (purpose), institutions and community as decision making context. Community cluster relates landscape change to social continuity, responsiveness, and appropriateness to community needs, values, and identity.

7.5.1 Change Purpose

The substantive outcomes highlighted in the previous sections have been or will be achieved through the process of landscape change. The process implies deciding the 'how' of change. Two aspects of change namely form i.e. type of change, and the dimensions of change such as scale, magnitude and pace, frame the arguments of landscape change. Among the principles to be examined here are innovative practices, landscape valuation, which could result in establishing hierarchies, and ordering change in incremental steps.

Landscape change should be Sustainable. The sustainability ideal has two facets expressed by the community and professionals, economic and ecological outcomes. It implies economic serviceability of land uses, whether the activities on the landscape will be affordably sustained over time. Ecologically, it implies that the use of available resources or particular land uses, and the resulting impacts are not detrimental to other resources or other land uses on, spatially and over time

*... are **these sustainable land uses** going forth? ... because of the constraints of our energy ... sources ... they are not necessarily a given ... C9.*

*... [it's not just generational but] ... I was thinking more basically than that over virtually a geographical definition of sustainability. So in other words ... **it has to be able to ... be productive and keep growing and not be invaded by weeds. So in other words, the farmer's income has to be enough to manage whatever will be the ecological cycle that he is creating ... P6.***

Landscape policy should enable innovative management of outcomes. Interviewees recognise that ideas might and do change faster than the statutory documents such as District Plans, which should be adjusted to match. Evolving innovative models require insightful re-evaluation of existing legislation and land use activities by the councils, professionals and the community. This

will allow a focus on the outcomes; introduce flexibility, free innovation space, and present new ways to reinterpret regulations or guidelines. For example,

*... [one developer has] been arguing for the last 5 or 6 years that he needs to be allowed to **develop this land in order to control wilding conifers** ... I 7.*

*... [there is the] difficulty of coming to decisions that people get on with their lives within certain constraints, wide constraints ... [but solutions should not be rigid, but be framed] **with room to manoeuvre** ... C12.*

Often the council or government may need to meet certain requirements driven by national or sectoral interests. In instances of conflicts, for example, where the landscape in question is held by private land owners, innovative mechanisms to manage the landscape are required. For example;

*... the council should be able to **buy development rights** ... if I want to protect that landscape...the community says ... we want to protect that ... the council ... [should] buy the development rights ... that's fundamental discipline ... to stop inappropriate development ... and ... inappropriate restrictions ... C12.*

The process and outcomes are not just the responsibility of statutory authorities but the communities and professionals have a role to play as well such as thinking of shaping a new landscape informed by new farming methods or climatic realities.

... before this legislation ... communities made their own rules through fairness and compromise ... C17.

... today there has been very little that I have observed in the way of umm developing a new farm landscape that also has benefits in environmental and ecological and visual outcomes. There are a few. So if we assume that these 2 intensively developed areas do follow umm what I still call future best practice ... then it may be acceptable ... P5.

... so in a sense this sits more comfortably in terms of working towards a more sustainable landscape- the outcome. It would be a struggle at first as farmers have to adapt. But there are examples of farms that have recognised that they have very limited water supplies and they set that as their parameter. They accept that not going to get any water and they have to farm with what they've got ... P5.

Landscape change management should express landscape values and valuation. Landscape values are qualitatively assessed and among other aspects often inform the District Plans. The respondents felt that the landscape has national and local values; and is both picturesque and a functional landscape of production. These landscape values are about the qualitative aspirations expressed on the landscape in its own merit or projected on the landscape in terms of use. The statements of the respondents below illustrate these thoughts.

*... [New Zealanders] ... often think about home as being the open plains and the very rocky hills of Central ... **there is power ... a psychological romantic power attached to the***

notion of Central which I don't think is being reflected properly in the District Plans and the administration of this region ... C2.

... it's difficult to put a cost isn't it ... to the romantic image that is in the mind ... many people are working at a practical level ... how can I live here and make money ... so you have a conflict- you have the romantic image but you've got to do something too ... to make money like the dairy farm in Omakau ... somehow you've got to get across to people who ... coz some people don't look at that ... C3.

... we have to look in broad generalities at nature as part of our future ... and the opposing view that beasts and resources are there to be taken advantage of by humankind ... C4.

Again, the discourse of what constitutes 'home' to a New Zealander overseas needs to be examined. The broad claims above were not fully interrogated in the study. However, the strong preferences for conservation and preservation of the landscape in general were framed with such claims.

Managing such landscapes require a balance between conflicting values. The picturesque landscape is contrasted with the functional landscape of production, valued as an economic resource with measurable economic worth. To mediate the two extremes, it will be necessary to weight the values of landscape. This is appealed to, not to assist economic utilisation for production, but to limit unacceptable development.

... this [is] a special landscape and we were gonna change it from a landscape that had both heritage and environmental values into what effectively was going to be an industrial landscape ... any proposed development on an outstanding landscape must fairly assess the claimed, their claim to benefits against the potential destruction or loss of environmental and heritage values ... I 9.

... you really need some tool or something or report or something that expresses the landscape in monetary value ... because that is, economic bottom lines are important they need to tell the truth, because they want to intensify because, well they need to intensify in a way because this costs money and they need to pay for that but also they need to look at landscape values because if something is not economical [or not] ... P4.

The different ways of valuing the landscape intimate that there could be a hierarchy of values. These will be established next.

Landscape change decisions should express acceptable hierarchy of community, economics and environment aspirations. Exposed in this discussion are the different 'land ethics' espoused by the respondents. The underlying value motives become clear as the respondents position these three facets of the hierarchy differently. This is a contested principle as illustrated in the following discourse. Some argue for a sober assessment of these elements,

... It's a similar thing with the Lamermoor wind-farms, so ... and these are things decision makers have to weigh up, the economic side of the farmers to sustainably live in those

*environments whilst **maintaining the characteristics and the values of that landscape** that everyone else enjoys and is so special for that region ... P1.*

*... if you are doing it in a true decision making process then **obviously just landscape considerations can't be the only thing** that's taken to account. No. **If there was a strong economic argument that obviously has to be balanced out ... P3.***

*... **it's difficult to put a cost isn't it ... to the romantic image** that is in the mind...many people are working at a practical level ... how can I live here and make money ... so you have a conflict- **you have the romantic image but you've got to do something too ... to make money like the dairy farm in Omakau ... somehow you've got to get across to people who ... coz some people don't look at that ... C3.***

However, the predominantly environment focused group, when asked to make decisions about market driven alternatives, gave the following accounts;

*... [those] committed to the old school [feel] ... **development is going to be our saviour ... but it's at the expense of the environment** and ... it's going to work for a few at the top but I think the vast majority of us ... we are going to be worse off ... C9.*

*... I mean **I would put environmental aspects first and landscape, social considerations tied together** because it is very much about how communities value their landscapes and environments social contract ... P5.*

*... so ... partly **my preference for this is not just on landscape terms but I see it on community terms** because the community at the end of the day are for other people that do whatever it is to the landscape ... P6.*

From the quotes above, the respondents have a justification for particular hierarchies, which are an expression of the diversity of interests. However for acceptable decisions, a common landscape ethic has to be constructed to frame change processes and achieve viable outcomes. This should be built around values acceptable to all interests. One way of achieving this is moderating the rate of change.

Landscape change should incorporate both conservation and preservation. While recognising the importance of Central Otago landscape locally and nationally, landscape decisions should enhance conservation of the landscape and preserve heritage across the landscape. Some key informants from the community already signify that they are conserving the landscape, for example,

*... as farmers we are all very environmentally conscious ... because there is no way I want to downgrade my land, this is the land I make my money from and if I abuse it, then am not going to make money from it. Am I? ... **a farmer has to be a good conservationist anyway to make money off his land ... C16.***

Conservation here is equated to sustainable use, it is about using the landscape to meet current needs and bequeath the land to future generations. This is evident from tropes such as '...my son will be the sixth generation...' C1 or '...it's my boys am worried about...' C16' Conservation is also

used as a tool for expressing continuity, though this is not explicitly stated. The respondents advocating this continuity embrace dynamic use of the landscape, with the community sustenance as the primary goal framed in local discourse and the functional production landscape. Although this is often interrupted by national or external change drivers, the conservation proponents adapt to these changes by adjusting their production regimes. The discourse above is not free from opposition, for example,

*... [referring to a special interests group] ... there are 3 or 4 of them out there. They have moved into the area and **they don't want to see any progress whatsoever because the area is nice ... he doesn't want to see any changes whatsoever ... there are lots of people with different ideas ... C7.***

... this is a process I call creative destruction where a small group can stop necessary development ... C12.

*... we have been farming here for 100 years ... so **there is probably very little to preserve in that regard** in terms of landscape ... other than a few endangered species like galaxiids ... the horse has bolted, **there is nothing much to preserve now ... C13***

Those championing the preservation ideal talk of the iconic valued landscape backed by a national discourse and the picturesque and heritage. They perceive the activities of the first group as a threat to the landscape. Primarily they have moved to the locality because of the viewed landscape and anything modifying or threatening this experience is opposed.

*... **there is that romantic history of Central Otago** ... primarily a gold one ... and hardships ... hardships and the lottery luck that goes hand in hand with it ... New Zealanders ... when overseas ... think of home as the open plains and the mountains of Central Otago ... even if they live in Auckland ... C2.*

*... I chose to live here because of the environment ... it suits my spirit ... [there are many like me] ... if you ask them why they have come to Central they will tell you because **they like what they live amongst ... and they are concerned about changes that might destroy that ... C4.***

Primarily conservation and preservation are not far apart, what sets them apart are the motives. Some key informants focus on conserving through use, while the opposing side prefer preserving the static landscape.

7.5.2 Institutional power

As noted in the previous cluster power deals with strategies, people and processes. Power is exercised strategically to enforce or influence processes towards preferred outcomes. The exercise of power frames the relationships of individuals, groups and organisations and the roles they play in the processes of decision making- the reality of who has power to make or manage change. However power can be internal, vested in the community or external vested in

government agencies or other external influences. These issues are explained in the following principles.

Landscape change decision making should be a bottom-up processes with locally defined outcomes. This is a reaction against regulations which do not originate in the community and are therefore seen as illegitimate. The thinking evident here is that the government has affected landscape change through growth imperatives which constrain processes on the local landscape. For example;

*... [it is the] **government which is putting huge pressure on farmers for intensification because they want greater production ... C2.***

*... to a certain extent we are being over-governed ... a person's ability to think and to innovate is being stifled to a degree by all the rules and regulations ... **we get too much driven from the top ... C14.***

*... those decisions [by councils] are being made on economic and political mind-set rather than practical ... **the decisions are being made by ... council staff, not necessarily by elected members that we elected to represent us, and then it is not a practical or workable scenario that ends up coming out ... C17.***

*... it is **the community coming up with the blueprint of how they would like their place their landscape to evolve ... I 6.***

This envisages a groundswell of locally initiated ideas or decisions, based on community values and visions, about the landscape and how they are to be achieved. It also signifies a reaction against top-down decision making, which it is argued is incited by external drivers of change.

Landscape decisions should reflect the local weighting of issues. This presupposes subsidiarity - landscape change decisions made at the lowest level possible closest to those affected by them. This strand of thought exposes internal-external tensions of who belongs in the landscape or who does not, and who has the power to make the decisions. Therefore those qualified as locals - by themselves and other locals - have legitimacy and a greater say in decisions.

*... the people **who it affects should be given more opportunity** than people living outside the area who might come through it once or twice a year ... C16.*

*... I think that is a fundamental premise ... in order to attain standing or weighting in the eyes of a panel ... it is **quite wrong for someone from Auckland, Wellington can come to Omakau and say ... no you shouldn't do this** because I don't like the colour green...**priority rights ... decision making belongs to the locals ... C12.***

*... **you couldn't really take what he says because he is an outsider, he just arrived here and he might have a lot of preconceived ideas** ... be careful of ... the extremists ... live somewhere else and think ... 'this is what's gonna happen' ... C13.*

*... as long as it is fair and **you have listened to the people ... don't listen to the outsiders** ... because as farmers we are all very environmentally conscious ... because there is no*

way I want to downgrade my land, this is the land I make my money from and if I abuse it, then am not going to make money from it. Am I? ... C16.

... there are a few vocal groups which feel land belongs to them not just farmers ... C15.

This approach seems contradictory to impartiality above, but understood in context highlights the tensions in decision making at the local scale between local actors. This raises the issue of identity- not nominal identity but identity cultivated over a locally defined period, and therefore legitimacy and qualification to be consulted, and to make decisions.

Landscape change involving government should be done in moderation. This strand of thought seeks only moderate government intervention in regulating certain aspects of change. This is justified when there are time limitations, and decisions have to be made at some point anyway, on behalf of the community. However, it is the communities and their representatives who play the major roles in decision making.

... It's got to be managed from the government isn't it? People do what they are allowed to do with no conscience. So the only way they can be managed is throughout the regional council controlling the water supply and the rivers ... [at the community level] ... C7.

... you can't force people to do it ... there are times you say ... let's do it because we know there's going to be 50% that don't like it and 50% who do ... so you've got to make a decision and 50% will tell you, 'you are wrong' ... it would be good to be a benevolent dictator ... C8.

... I hope the council will be ahead in the ball game on those issues, so that when intensification comes along there will be strict rules to go in, that they've got to pay for in their initial set up ... C8.

This raises question of the extents of government intervention, when and how it should happen.

...to a certain extent we are being over-governed ... a person's ability to think and to innovate is being stifled to a degree by all the rules and regulations ... C14.

Presence of power implies conflicts between those who wield it and those who do not. The conflicts arising from power relationships should be mediated through deliberation and communication.

Compensation should be fundamental to landscape change management. Compensation is envisaged at two levels, in instances of loss, and as an incentive. Landowners should be compensated in event of loss of land or income to conservation, preservation and provision of wayleaves on the landscape. Secondly, individuals could be compensated for achieving desirable outcomes or maintaining the landscape. In both instances, compensation should be commensurate with the loss incurred or effort expended by the landowners. To illustrate this, the following examples are given;

... In the UK and Europe there is, if you fall within a, we call them outstanding...areas of outstanding natural beauty in the UK for example, and if you...perhaps it's similar to here but we have people living in the national parks and villages and generally if you own land in a national park or an area of outstanding natural beauty or some high level landscape [overlay],there is usually some financial contribution from the government or the local authority to enable you keep that environment, your land looking, or keeping it in context with its greater surrounding ... and unfortunately in New Zealand there isn't that financial contribution which somehow upsets people ... P1.

*... if they go and put in a really good wetland, then they lose grazing and would **have to lose 10% of their stock and 10% of their income, how can they be recompensed to remain viable...find ways of rewarding...good incentives ... I 6***

*... **Incentivise people** to get good outcomes ... **paying management fees to manage landscape** and land the way society wants it managed ... not sanctioning people and say remove X number of stock from this country to allow tall tussock to grow...and then there is resentment ... destroy social harmony ... C12.*

The discourse implies a political ideological position that, if society desires something, they should pay for it. This includes purchasing from private individuals. This process is already undertaken in the New Zealand high country through the tenure review system. Figure 7.7 below gives a summary of these principles.

Governance- 'why?' and 'who?'- principles		
	Change purpose	Institutions
Generic	Sustainability Innovative management	Bottom up
Benchmark	Landscape values Socio-economic and environmental hierarchy	Local weighting Moderation of government interests
Operational	Incremental Conservation and preservation	Compensation/property rights

Figure 7.7: Governance landscape change principles

Governance principles discussed here point to an agreement generally about subsidiarity. What is not clear is what level this should be expressed. The key informants emphasises a bottom up approach, where a greater emphasis is placed on locals, and little or no involvement of government. Some measures include compensation to manage landscapes in ways acceptable to the community, and a greater emphasis on property rights. The general argument of this cluster is consistent with theoretical arguments of landscape democracy, democracy in general and communicative planning, where citizens at the grassroots have a greater influence than the centre- the government (see Arler, 2011; Dryzek, 1990, 2000; Healey, 1996).

The next section will delve into both deliberation and communication principles and their place in landscape change management.

7.6 Process- ‘how?’- principles

There are two key principle clusters emerging from the accounts; deliberative and communicative. Deliberation implies thoughtful and open consideration of change decisions and their implication. Communication is about how these decisions are conveyed to the players in the decision making domain, governance agencies, professionals and communities. These are examined further below.

7.6.1 Deliberation

Deliberation should frame landscape decisions. Deliberation frames the processes of agreeing on landscape change, and recognizes power structures in the society and demands mutual engagement in setting processes, outcomes and power. That deliberative processes are required in decision making is clear, but who is to be involved varies with the proponents. The community taken as a whole felt they should be consulted. On closer examination as highlighted in the section on weighting, the community is further fragmented into sectors - generational residents and newcomers, farmers and non-farmers, apparently with different legitimacies to consultation and power to make decisions. The professionals in contrast indicate that the community should be consulted to elicit community aspirations as basis for effective decisions. They also argue for consultation of other professionals in other fields of expertise. In this sense professionals are arguing for inter and trans-disciplinary inclusivity in decision making.

Landscape decision making should embrace co-management. This implies partnership between the community and the councils in overseeing change. This is to achieve win-win situations where the community or the councils are not adversely affected by change but work together to achieve desired outcomes, co-determination. Two such goals are stopping inappropriate development and curtailing inappropriate restrictions. These are achieved using innovative instruments mentioned in an earlier section on outcomes. The statements below highlight this;

*... how do you manage to keep this precinct ... ? Pretty simple ... we buy the development rights ... if you want to do anything you've got to **get permission from the council because they own the development rights ... on behalf of the community** ... apply the same to landscape ... you incentivise people to get good outcomes ... society should pay a management fee ... to manage that land ... [instead of paying DOC to do it] you've got a farmer who is prepared to do it for nothing ... **you get a really good outcome ... but it is a negotiated thing between the two** ... C12.*

*... the UK for example, and if you ... perhaps it's similar to here but we have people living in the national parks and villages and generally if you own land in a national park or an area of outstanding natural beauty or some high level landscape [overlay], there is usually some financial contribution from the **government or the local authority to enable you keep that environment, your land looking, or keeping it in context with its greater surrounding ...** I 1.*

The statements above endow the council acting on behalf of the community with a supervisory or enabling role while individual community members do the day to day landscape management. This is often in reference to threatened heritage landscapes. A second aspect of co-management is in generating legislation on landscape management as intimated below.

*... [although the community aspirations in 'The World of a Difference' are not statutory] it is the outcome of community consultation over the years really so it is not a document **to be taken lightly or dismissed** ... and it is the sort of document that is referred to and you might do a district plan review and start thinking about how you want to get those visions and values embodied in a statutory document ... P5.*

The argument is that councils act for the good of the wider community and they are vested with this power by the community.

Decisions should be reached through negotiation: This is about recognising the varied interests on land and working collaboratively towards solutions. Negotiation involves moderation of positions and interests recognising some ground will be ceded or gained.

... you don't get to a point where you've only heard the extreme view ... moderate views [are needed too] ... I 3.

... we work together collaboratively between council and the society to work out what we think might be acceptable ... I 9.

... all these groups, interested parties have come together to discuss ... it's been quite successful and everybody coming to some sort of agreement or compromise ... I 10.

... the people who it affects should be given more opportunity than people living outside the area who might come through it once or twice a year ... but the people living here should be able to say with negotiations and debate, how they want their environment to change ... C16.

... we sit with the environment people ... we will work through the issues together ... collaborative teamwork...what you need to be careful of are the extremists who have a view ... that live somewhere else and think ... 'this is what's gonna happen '... C13.

To reach compromise presupposes that there will be a moderator or mediator in instances where negotiations hit deadlocks. In such instances disinterested or executive decisions will be appealed to. **Landscape change decision makers should be disinterested and neutral.** The neutral facilitators or decision makers do not make decisions for personal gain. Secondly their non-involvement in local issues places them above influence of local politics. This latter point promotes impartial decision making.

*... so, the chairman of the group is from outside the area, so **he is independent**, he is not going to make money if the development goes ahead. So and for that reason, **he doesn't have a vested economic or environmental interest** so he can act as a mediator ... I 1.*

It is also acknowledged that often the decision making agencies will make executive decisions on behalf of the community. This is exercised in instances where it would not be fruitful or prudent to engage or re-engage the community, in which cases, elected leaders or appointed executives make these decisions.

*... **somewhere along the line somebody's got to make and decision** and say , OK 'we've got all this here and all of this here, and **somewhere we have to draw a line ... it's like a moderator**, it's got to be something where [] but it does come back to that important thing of people being able to continue their lives ... I 5.*

However, there should be caution against ceding this decision making power entirely to agencies other than the community. Otherwise you will...

*... get a group of people that are professional lawyers that get groups...get behind them and give them legal opinion ... so rather than community ... **now you get lawyers that are hunting up groups to say ... we should appeal this ... instead of common Joe Bloggs ... it's a different ball game ... [they are not neutral]** ... C8.*

These kind of actors might be focused on the mechanics and not the emotions of landscape change. For example,

... I have literally heard lawyers arguing whether a passage would be interpreted differently if it had a comma instead of a semicolon between two words. So they focus in on the detail so if they can tick tick tick tick all the boxes then they will grant consent ... I 7.

There is a strong feeling that a non-legal setting has been taken over by the legal profession, interested in details which might not be relevant to the community. Professional drafters of policy tend to focus more on the technical, rather than the human aspects of landscape change. The resulting legislation breeds apathy in the community, for example;

*... they [policymaker at councils] don't necessarily have experience of **what that means to the community** ... one word, one word that basically means someone can't do something ... C8.*

*... they've got to remember that, we've got to live here and **the decisions that the policy makers make don't affect their lives**, while what I do here doesn't affect their lives ... so they have to be conscious of that ... when people are forced off their farms that's a pretty big thing ... [therefore they are not suited to make decisions] ... C17.*

Landscape change decisions should be neutral. This is to guard against strong sectoral interests replacing majority moderate values or intentions. This is about making decisions which are not disproportionately influenced. It is felt that certain decisions have been reached on the strength of personality influences...

... I mean you got strong areas of concern, but it is still, **it's only the noisy few that are heard**, because it's only them who take the time or have the interest to do anything, and it's not until other things happen such as, or potentially happens such as, Project Hayes wind-farm where you get other people becoming more vocal ... I 2.

... [from special interest group] **there are three or four of them out there**. They have moved into the area and they don't want to see any progress whatsoever because the area is nice ... [so and so] he doesn't want to see any changes whatsoever. ... there are lots of people with different ideas. He doesn't want to see any changes ... C7.

... [you have someone saying] **I have more weighting, so I can influence this more than you**, because you are just somebody **and I am somebody extra special** because I've got a fancy name and all sort of other accreditations and things that you don't ... I 5.

... I don't **think it should have been based around personalities** ... It should have been based upon economic benefit versus environment loss for that total landscape ... **based on strength of argument** not whether you are a star on Shortland Street ... C12.

... [a decision is acceptable] **as long as it is fair and you have listened to the people** ... don't listen to the outsiders ... because as farmers we are all very environmentally conscious ... because there is no way I want to downgrade my land, this is the land I make my money from and if I abuse it, then am not going to make money from it. Am I? ... C16.

Influence here refers to external players, mostly acting through the media, using their personal or social profiles to push agendas. Also it is noted that in public forums, it is the most vocal that are heard or likely to participate in the forums in the first place. There is therefore need to guard against extreme views likely fronted by these few. Impartiality signifies that decisions be based on 'strength of argument' and not the status or character of the proponent.

Decision making on landscape change should be an objective process. Objectivity in decision making is lost when the original intent of legislation is lost in legalese, the public are replaced by professionals or decision making is dominated by sectoral interests.

... [the initial focus of community in decision making has disappeared when] ... you get a group of people that are professional lawyers that get groups ... **get behind them and give them legal opinion** ... so **rather than community** ... Now you get lawyers that are **hunting up groups** to say ... we should appeal this ... **instead of common Joe Bloggs** ... it's a different ball game ... C8.

Objectivity recognises that best intentions in legislation might create unintended consequences in implementation and adjusts accordingly. Secondly, they should interrogate past processes to gauge how objectively they have influenced practice against current reality.

... they've got to remember that, **we've got to live here and the decisions that the policy makers make don't affect their lives**, while what I do here doesn't affect their lives ... so they have to be conscious of that ... when people are forced off their farms that's a pretty big thing ... C12.

... I tend to sustain my involvement in an ethical way by saying well there is you know public consultation over the plans I can say that **the document that has come out of the**

community's [] supporting community ideals but that's a very pretty dumb argument really ... I 7.

The tension arising from change decisions made by non-resident professionals can be moderated through sensitivity to social conditions. For example, they should be consistent and consultatively framed.

Landscape decision making should be consistent. Communities have been consulted in other studies earlier. However it was felt that some of the outcomes of these studies were not congruent with what the communities voiced. Moreover, they were never implemented in the statutory documents or legislation ...

*... as a consequence of that some desired outcomes were developed and we **now have a glossy report which lists these things** which has pie charts and all sorts of things indicating what different areas and regions went in, and it's well boxed in together collectively, and that's considered community consultation ... I 9.*

*... **the idea loop isn't closed** ... because you have a plan, and a professional like myself comes along and interprets the plan and says oh ... but there are problems with this and that, this and this and this here in this and this and this here but there isn't an opportunity to change them unless ... you know ... **there isn't the feedback loop with the community to change ideas or to look at new ways of doing things that tends to be self-reinforcing.** ... I 7.*

Consistency is about uniformity in application of the community aspirations through consultation to drafting of rules/legislation and eventual implementation. This will involve 'ground-truthing' - linking back to the source to ensure the outcomes are true to the initial intents.

Decision making should be consultative. According to the respondents, consultation is to be framed objectively around local issues and the community as the driver or focus. Secondly it should be visibly evident that the views of the community count towards decisions echoing voiced community aspirations.

*... so **we've been consulting with the community** about what's valuable about the landscape or what I perceive is valuable from a technical perspective, and then how the council policy staff are writing rules around what would be appropriate permitted activity status P1.*

*... [in professional decision making it is] important to have an **inclusive process** ... P5.*

*... [consultation will avail] some **knowledge beyond our expertise** ... P6, -[such as] input from ecologists, scientists...hydrologists ... P7.*

*- [differences can be resolved by] just **getting around a table talking about these things and sorting them out** ... probably before development happens ... C14.*

*... **there's got to be consultation in the area**...they can't come in straight away and say you've got to do this, you can't do that ... there's got to be a negotiated agreement ... C16.*

*... other than leaving it to a hearing ... we [interested parties] **can work out collaboratively** ... end up with smaller range of issues and much less controversial ... I 1.*

Professionals espouse the ideal of engagement throughout the stages of conception, rulemaking and implementation. This it is argued minimises conflicts and promotes more acceptable decisions, which are unlikely to be contested at consenting level.

7.6.2 Communication

The way changes are framed, contested and agreed on is a function of language use. This framework is highly contested as each respondent articulates their stake in landscape change decisions. Language here is not treated as just a medium but as a tool to shape landscape. The discussions below examine key principles emerging from this framework namely language clarity and transparency.

Language clarity should mark acceptable landscape change decisions. Apparent immediately is a difference in interpretation of key concepts framing landscape change in Central Otago. Although there could be several other aspects, efficient water use elicited an exciting discourse. The different interpretations of efficiency highlight the tensions between the policy shapers and those affected by the policy.

*... I think **it's the capture of the language ... efficiency is the language that has been altered it its meaning** ... efficiency as it is used now means greater reward ... more money ... not sustainable efficiency but more money ... condoning the notion, 'any change that brings reward is good change'... C2.*

*... if you analyse it, it is only efficient in the sense of growing grass, to make money. If you look at it in the holistic sense pivot irrigation is not [more] efficient than flood irrigation ... it [flooding] returns water to aquifers, springs and wetlands ... **it's where you come from and the definitions that matter** ... C4.*

*... They [policymakers at councils] don't necessarily have experience of **what that means to the community ... one word ... one word that basically means someone can't do something** ... C8.*

*... **our interpretation of it** [efficiency] **is quite different** ... efficiency is, it's not the most economical way of using your water necessarily, but it is the most efficient way of using water for the whole valley ... if runoff from my farm irrigates the next farm and the runoff from that irrigates the farm further down is that not using water efficiently? ... it might be inefficient for the chequebook but I don't think it is inefficient for the valley ... the water is used several times before it goes down the gorge at Chatto Creek C17.*

*... **efficiency** ... you are not spending ... wasting money, wasting nutrients ... what you put on does not leach into the waterways ... and make the best of the land that you've got without spending huge amounts of money ... C18.*

Words and language are not innocent or neutral and should therefore be applied with care. Some of words arising from this discourse which will be re-examined are efficiency, and local. However,

in the immediate, if used in a clear manner they will promote transparency, and hopefully consensus on acceptable change.

Landscape change decisions should be transparent. This implies transparency of the processes of landscape change decision making, and the outcomes. Transparency should include active participation of different interest groups in the process of decision making, not just keeping them passively informed. By implication the visibility of the process is as important as the outcome.

*... so what we have tried to do to undertake a landscape assessment is to try and create a methodology for assessing the landscape that is as transparent as possible which tries to be as **objective as possible**, a very subjective subject ... P1.*

*... **on that group are representatives** from Forest and Bird, Fish and Game, Central Otago Environment Society and so they are ... [] we are doing the technical work about engineering and hydrology but through the process they are having input into how those decisions are shaped, **so earlier on we put a number of options on the table** ... [so that it was clear to all participants] ... I 1.*

*... but for people that live there and people that have information and knowledge, **their responses to landscape are very much conditioned by what they know about that landscape**. So the whole idea of managing landscape visual parameters or aesthetics is very difficult. It is **fraught with nebulous concepts** if you like ... P5.*

*... Right at the beginning of RMA a **lot of people did not know what the RMA was about** ... C8.*

Transparency means that the process is visible and open to participation. This implies less contests or conflicts between the community and councils, between community members and interests groups including professionals. The following section will highlight the tensions appearing in the accounts and speculate on possible motives. Figure 7.8 below illustrates process principles.

The process principles emphasise the ‘how?’ of landscape change decision making. To the key informants, process is as important as the substantive outcomes on landscape. This is illustrated by the desire to have very clear and transparent processes in all levels of landscape change decision making. The principles cluster more towards the deliberative group.

Process-‘how?’- principles		
	Deliberative	Communicative
Generic	Objectivity Consistency Consultative	
Benchmark	Neutrality	
Operational	Disinterested mediation Deliberation Negotiation Co-management	Clarity Transparency

Figure 7.8: Process landscape change principles

This suggests that the key informants are framing a discursive and open ended approach to managing landscape change, where multiple interests can be negotiated, and where or if there are conflicts, non-partisan mediators steer the landscape change decisions towards co-managed, co-determined outcomes.

7.7 Comparison of community and professional accounts

Grouping the case study participants in separate discursive communities with varied perspectives of the same phenomena allowed a distinct examination of landscape change and presented comparison opportunities within the case. There are differences between professionals and non-professionals in terms of knowledge or in the way they express themselves (Epstein et al., 2012; Hampton, 2009), implying there could be different sets of principles used by professionals and non-professionals. In the preceding section the analysis identified principles based on the combined responses. In this section the responses from community and professionals are analysed separately, and then compared. First, figure 7.9 below presents the principles of landscape change that were elicited from community key informants’ interview accounts.

	Substantive WHAT?	Governance WHY & WHO?	Process HOW?
Generic	Scale Regional landscape	Sustainability- social & land	Inclusivity
Benchmark	biodiversity	Community – local /external Government & environment court imperatives	
Operational	Effects of change Conservation		Consultation Transparency Respect for property rights

Figure 7.9: Community principles

Community participants place particular emphasis on process principles. To them, this is much more important than the substantive outcomes. Additionally, since policy effects are experienced at the landscape level, the focus is on operational principles such as property rights, consultation and transparency in decision making. A significant finding is the way the community frames their accounts with personal stories and engagement, as they embed their lives in the landscapes and the decisions they make.

Allegiance to communities of place and /or communities of interests is significant in how landscape change is understood and interpreted. This then impacts on framing landscape change principles. The dividing lines can be subtle or pronounced, depending on the particular key informants or the decision in question. Membership of communities of interest is taken as a mandate to comment on landscape issues. The definition of who belongs to a community of place often shifts in scale. When dealing with global challenges, the community reads as a whole entity, but when dealing with landscape level matters, allegiances shift to align with sectoral persuasions. This presents a volatile situation for policy and decision makers, since they have to make decisions based on consultation with a community that is fluid in the way it responds.

	Substantive WHAT?	Governance WHY & WHO?	Process HOW?
Generic	Scale & Holism	Sustainability- economic, social and environmental	Inclusivity Equity
Benchmark	Diversity		
Operational	Consider cumulative effects Conservation	Community- local values	Consultation Transparency Land ownership Incremental change

Figure 7.10: Professional principles

Professionals focused more on the outcomes and the structural and functional principles of landscape change. Their language was more consistent with policy instruments and the RMA and their arguments were not personal or embedded in the landscape, but were stated more as matters of fact. Professionals also seem less vocal on governance processes, possibly being comfortable with the systems as they are.

In Figure 7.11 below principles from community and professionals are aggregated and compared. Community principles are underlined while professional principles are italicized.

	Substantive WHAT?	Governance WHY & WHO?	Process HOW?
Generic	<u>Scale</u> <u>Regional landscape</u> <i>Scale & Holism</i>	<u>Sustainability- social & land</u> <i>Sustainability- economic, social and environmental</i>	<u>Inclusivity</u> <i>Inclusivity</i> <i>Equity</i>
Benchmark	<u>biodiversity</u> <i>Diversity</i>	<u>Community – local /external</u> <u>Government & environment</u> <u>court imperatives</u>	
Operational	<u>Effects of change</u> <u>Conservation</u> <i>Consider cumulative effects Conservation</i>	<i>Community- local values</i>	<u>Consultation</u> <u>Transparency</u> <u>Respect for property rights</u> <i>Consultation</i> <i>Transparency Land ownership</i> <i>Incremental change</i>

Figure 7.11 Comparison of community and professional principles

Comparison of professional and community sources revealed common areas of agreement in substantive principles and process principles. However, the community has a significant interest in governance as well. Equally important are the different languages used in decision making or policy making. The languages frame inspirations, criticisms and understandings of the diverse contestants in the policy making field. Although often talking about the same general theme, the implied meanings are worlds apart, presenting a challenge to policy makers and implementers. Examples are explained below.

Tensions were apparent in the principles that emerged. For example, the sustainability principles envisioned by professionals to be economic, social and environmental, contrasts with the community's reinterpretation to include and focus more on social continuity. However, there were convergences too. These strong points of agreement between community and professional key informants may be attributed to the embeddedness of the professionals within the community. The research sought professionals working in Central Otago, and most of those key informants had more than professional interest in the district, either living, having lived or having family links there.

A detailed comparative analysis is discussed in Chapter 8. The chapter will analyses normative principles identified in Chapter 5 from landscape planning and science literature, international statutes and protocols, and those in Chapter 6 drawn from the New Zealand RMA provisions and

instruments, and professional practice. These will be compared with the principles emerging from field findings in this chapter.

Chapter 8: Comparative analysis

Chapter 7 identified several broad discourses of landscape change in the case study namely, productionism, conservationism and preservationism, regionalism or place identity, iconicism, gentrification and silence. These discourses were used to contextualise the principles that emerged from analysis of the accounts of key informants. This chapter draws particular attention to gaps and silences, convergences and tensions arising from comparison of the principles summarised in Chapters 5, 6 and 7. The conceptual framework presented in Part Two distinguished the principles of landscape change by types and levels. These types are substantive, governance and process principles, and the levels are generic, benchmark and operational. A secondary classification grouped them into seven clusters, namely, structure, function, community, purpose, institutions, deliberative, and communicative. These categories are shown in Figure 8.1 below.

	Substantive WHAT?			Governance WHY & WHO?		Process (HOW?)	
Generic	Structure	Function	Community	Purpose	Institutions	Deliberative	Communicative
Benchmark							
Operational							

Figure 8.1: Framework of principles of landscape change.

The comparative analysis will identify and comment upon the gaps and silences, convergences, and conflicts and tensions, horizontally across the types and vertically across the levels of principles.

8.1 Substantive – ‘what?’ principles

Substantive principles addressed the question ‘what type of landscape change?’ would be acceptable. This generated two clusters of principles described previously as structural and functional principles. The community cluster of landscape change principles lie in between substantive and governance types. But for convenience, these will be discussed under governance.

The most notable feature of the data in this regard is that the New Zealand statutory framework and its interpretation through practice differs significantly from both international practice and aspirations of local communities in the case study, in the way it treats structural and functional issues of landscape. It does this by taking a conservative approach to landscape change. This approach regards the landscape as static and in need of protection. In contrast evidence internationally shows that landscapes are viewed as dynamic and always changing. This dynamic interpretation was expressed in the aspirations of the local Central Otago community in the case study findings. They recognise landscape flux, they accept change and seek to manage the landscape to allow this change while preserving community integrity.

One reason for the contrast is that the RMA, section 6(b) focuses on the protection of Outstanding Natural Features and Landscapes (ONFLs). Case law from the Environment Court emphasises this protectionist focus by, for example, defining the criteria for rarity values and naturalness in landscapes, which would be considered in the process of protecting landscapes from inappropriate development. By focusing on those particular landscapes, they are silent on everyday landscapes, a silence which is replicated in the district and iwi plans, and apart from a mention of place-making as a structural landscape change principle, in New Zealand professional practice as well. In sharp contrast however, science and planning literature, practice internationally, and the case study research findings indicate that structural landscape change principles dealing with everyday landscapes such as diversity, and distribution of impacts across the landscape are important in many contexts.

Other gaps and silences in the structure and function clusters of principles are found in the district and iwi resource plans which do not mention context or diversity. The gaps in the iwi plan may be attributed to the focus of the plan on broader resource issues, not just landscapes. In addition, the iwi plans articulate concepts, concerns and values which cannot be entirely addressed within the framework of current legislative and structural institutions or the confines of the region (see Kāi Tahu ki Otago, 2005), see for example Māori conception of landscape in Chapter 1. In contrast, the legislative instruments emphasise a focus on ONFLs and valuable amenity landscapes, and less on ordinary landscapes.

These gaps reflect a fundamental difference between international examples and local case study findings and the RMA and its derivative instruments. The international examples and case study results highlight that all landscapes are important, while the New Zealand statutes and practice place emphasis on particular types of natural landscapes. The persistent split has been attributed to interpretation of the RMA. For instance, the Environment Court in decision *C180/99 Wakatipu*

Environment Society versus Queenstown Lakes District Council [1999] argued that the RMA suggested three broad categories of landscapes; namely, outstanding natural landscapes, visual amenity landscapes, and other landscapes without significant resource management issues (O'Connor, 2005). Furthermore, the RMA was not meant to control land uses, but the effects of uses. Markets control the uses instead, and the RMA recognises that markets would not spare special landscapes, which are therefore protected. Everyday landscapes are not seen to have significant value in and of themselves, whereas in Europe they are seen as fundamental to community and cultural identity.

When considering the principles in terms of specificity levels, at the generic level, there are convergences across sources of structural and functional landscape change principles, for example, integrated management, sustainability and resilience. Although these examples are largely absent in case law, it is understood that the Environment Court incorporates these principles in the interpretations of the RMA provisions since sustainability is one of the purposes of the act. The benchmark and operational levels are marked with significant gaps and silences. At the benchmark level, there are gaps in structural and functional principles of landscape change from both the regional policy statement and professional practice. However, New Zealand case law is very well articulated here. For example, the amended Pigeon Bay factors discussed in Chapter 5 originated from the RMA's silence on what qualifies as a significant landscape. However, at the operational level the RMA and regional policy statement highlight only structural landscape change principles dealing with protection of Māori sites such as mahika kai, among others. It is perhaps these gaps and silences that produce conflicts and tensions at the operational levels. Looking across the sources and levels, what is apparent is that there are fewer contests at the generic level of substantive principles but the conflicts and tensions are heightened at the operational level. This may suggest that generic level principles concern themselves with a larger scale, say national level, while operational principles are dealing with a finer scale, and more localised changes.

However, there is a significant tension in the different understandings of sustainability, and in particular over which form of sustainability is appropriate in landscape change management. Science and planning literature, international professional practice, New Zealand statutes and professional practice are narrowly focused on environmental effects in their interpretation of sustainability. But the community key informants think of sustainability as social-continuity of the community. This is the capacity of the community to thrive and be robust. This does not negate environmental sustainability but represents a very different emphasis.

8.2 Governance- ‘why?’ and ‘who?’ principles

Governance principles are about why landscapes should or should not change, and who to involve in landscape change decision making. This includes, among others, questions of the purpose of change, how to reconcile insider and outsider relationships, the role of the various levels of government in landscape change decision making, and property rights. Since communities of place do not express an identity separate from their landscape, this places principles such as identity in the community cluster at the interface of substantive and governance principles. Identity and community integrity will be discussed here with that in mind.

Under the community cluster, science and planning literature, international practice, and research findings from the case study express identity of the landscape and the community as a key principle. New Zealand statutes, policy and instruments apart from the focus on designated ONFLs, emphasise Māori relationships with specific sites. The regional and district plans express identity not just of, or through, the landscape but also through *mana whenua*- the local people with demonstrated authority over land or territory in a particular area. The absence of landscape identity per se in the iwi plans can be explained by the Māori worldview that the landscape and the people are not separate entities; therefore the identity of the people is also the identity of the landscape. The community key informants also do not distinguish between the physical landscape, the place, and the human community when defining identity.

Identity is very significant and does not refer to the individual only, but links the community and the landscape and is connected to the concept of community integrity. Community integrity implies that the community has built up a shared identity and for many respondents, this was staged around the landscape. This means it is difficult to tease apart the collective identity from landscape identity. Therefore any landscape change is perceived as a potential threat to community integrity. For example, as Menzies & Ruru (2011) argued, landscape is who Māori are, a shaper of their identity. This claim was encountered in the field study. One key informant for example, argued;

... I have to say the relationship with the landscape is quite complex...and probably has multiple layers in that relationship ... but certainly Kai Tahu relates to the landscape as an ancestor, so that through whakapapa, genealogy relationship, there is a direct ancestral relationship with the land, the water, and resources ... so in a very, very real sense people are the landscape ... so the term our people use is whenua tūpuna - whenua is land, tūpuna means the ancestors P14.

This is not only a Māori view but is prevalent among other key informants with deep attachment to the landscape who consider themselves as the caretakers of the landscape. The community

does not see itself as separate from the landscape (for example, Bowring, 2013; Egoz, 2013). This attachment has developed over several generations, and it heightens the desire to bequeath this heritage to future generations. For example, one key informant said;

... you want to leave that land and that landscape in as good state as you found it and better for your grandchildren and that's really important ... so that's another incentive, is the attachment to the place and the values in it ... I 11.

These arguments suggest that, in shaping landscape change principles, one cannot ignore history, culture and the social change associated with landscape change. Furthermore, a bicultural approach to landscape change principles in the New Zealand context would recognise that changing the landscape is not just changing uses, but it has cultural implications to *tangata whenua* broadly including the local *mana whenua*, and non- Māori.

There are fewer gaps and silences in the governance principles. However a significant difference in emphasis emerges in the case study clusters, which place much greater weight upon the principle of minimal government and moderation in governance than is evident in other sources. This reflects the perception among respondents that the government influences decisions at the local level to a greater extent than it should. One account captures this perception;

... to a certain extent we are being over-governed ... a person's ability to think and to innovate is being stifled to a degree by all the rules and regulations ... we get too much driven from the top ... C14.

This is related to the principle of subsidiarity highlighted below.

There are convergences of emphasis on particular principles of landscape change, for example, integrated management under purpose, and within institutions, subsidiarity. Integrated management recognises both ordinary and special landscapes, for example as framed in the European Landscape Convention (Council of Europe, 2000). Subsidiarity involves devolving authority to the lowest possible level. While all sources of data agree on subsidiarity expressed in different ways, there are hints of tensions. Accounts from several key informants imply that, although subsidiarity is agreed on, it has not been operationalised at the lowest levels, or the community does not perceive that it has been.

The discussion above sets the stage for examining conflicts and tensions of governance in landscape change. Most of the tensions about 'why?' - the purposes of change - are experienced around the outcomes seen on the landscape. The tensions over 'who?' - the institutions or agents of change - are about who decides upon the processes leading to these outcomes. The question

of 'who?' is linked to identity and community, and the way the two dimensions are expressed. This is explained in more depth below.

The Central Otago landscape currently hosts, among others, agricultural and energy production uses. However, the predominant traditional uses, sheep and beef farming have given way to new uses as the focus shifts to new ways of valuing and using the land and as local land interests, including localised global interests, favour more capital and energy intensive but high return uses such as vineyards and wine making. In addition a more visible brand globally has caused an increase in amenity migration, tourism and associated services. These diverse interests have different expectations of how the landscape should or should not change, and who decides. This heightens tensions since the landscape management approach may be directed by, and favour, one use over others. These are expressed as tensions between functional and picturesque outcomes, regional and national interests, local and non-local interests, and the conception of what constitutes growth. These are explained below.

The case study findings revealed tensions between those who accept that the landscape is readily changing and those who are opposed to the change. Although primarily understood as governance tensions, they also draw from the substantive cluster i.e. they are also tensions of the functional cluster of principles, between the functional and the picturesque outcomes on landscapes. The first group values the functional everyday working landscape. The majority of community and professional key informants regard the subject landscape as a working landscape which does not need protection and therefore should be managed to allow and assist acceptable change. The second group values the iconic and picturesque landscape, and would rather preserve this idyllic view. The latter group, if they concede that the landscape is changing would prefer landscape restoration to almost pristine conditions. A significant and vocal group of community key informants advocate the protection of the landscape as is.

The two different views are not nuances but fiercely opposed ways of managing landscape. But the two approaches are present in the same community and it is important to address these tensions or different understandings when framing policy on landscape change. However, the tensions highlighted above are not new. There were similar findings by Egoz, Bowring and Perkins (2001) who suggested that such tensions were a reflection of the range of ways in which people interpret life, and that landscapes represent these perspectives.

This is a dilemma because the landscape in question has been heavily modified into its current condition by mining in the 19th century and more than a hundred and fifty years of pastoral

farming on both the valley floors and higher elevations. Pastoral farming was facilitated by the introduction of exotic pasture grasses, which helped meet the demands of European commodity markets for meat and fibre, but altered the landscape significantly (see Brooking & Pawson, 2007). It can be argued that the landscape is not pristine, yet these contests and conflicts significantly affect decision making, suggesting the need to better understand and take into account the conflicting perspectives when shaping principles of landscape change management. Stephenson's (2008) argument for techniques incorporating multiple understandings and values in the landscape, besides those of experts or their disciplines, can be expanded here to include decision making principles as well.

Some key informants felt that there was significant external influence by the national government on landscape use projects in Central Otago, in the form of energy projects such as dams or wind farms, primarily for the benefit of the whole country and not the district. There was a perception that the benefits of such projects are not reinvested into the district. This raises the prospect that the community might not consider themselves as part of the national whole when it comes to such large scale projects. This was expressed in the discourses in Chapter 7 and related concepts of growth and development. The national government favours increased economic production. Indeed as shown in chapter 5, the RMA was a neo-liberal act seeking to reform and rationalise environmental management while making New Zealand more competitive internationally (Peart, 2008; Spiller, 2003). The RMA relied on the role of markets to regulate economic production (see, Easton, 2013; Ministry of Economic Development, 2011; Spiller, 2003). The farmers have to be efficient to increase their production and be competitive internationally. The response to efficiency may include new ways of exploiting the landscape. It is the new or intensive uses that are opposed by certain sectors of the community. The efficiency principle, as has been articulated by the government and councils, is therefore perceived by the key informants as the government's tool to stimulate production.

... and you get a government which is putting huge pressure on farmers for intensification because they want greater production ... C2.

... financially they are putting conditions on us...we are just not going to be able to do it, the way we want to ... because it needs to be a step by step process ... ORC, they don't realise ... they will put a massive financial burden on farmers ... They are forcing my hand to do this water stuff and extend my mortgage situation ... otherwise we'll be forced to sell and dairy will come to this area and take it up ... C1.

In the course of being efficient and competitive, there are socio-economic impacts. These include sale of land by those who cannot afford to invest in more efficient infrastructure, consequently they are displaced by those who can afford. Such situations involve dislocation of families and

communities. In this discourse, the government is perceived as an external, but powerful force in landscape change issues in Central Otago, which heightens the tensions of belonging and associated power.

A fundamental question confronting decision makers is how to reconcile insider /outsider, local /non-local roles and influences. These are tensions about people and place- 'who does or does not belong here?' and 'why do their opinions matter?' These are significant questions because they have implications for the contest of power to make decisions, and the legitimacy of such decisions. The case study accounts suggested that those considered insiders or locals by the key informants are those who had empathy with the local community, and were therefore more likely to make decisions which were not just favourable to the local community, but contextually knowledgeable decisions as well. Their opinions matter and their decisions are likely to have support in the community. The outsider or non-local is in contrast regarded as an interloper, with little regard for the local community. Some of those regarded as outsiders by a majority of community key informants had been considered as community members in this study, but the community key informants did not consider them local enough when their views conflicted with the mainstream farming community views. This implies a more nuanced situation than suggested by the terms 'insider' and 'outsider', 'local' and 'non-local'. Some examples of the accounts highlight these tensions;

... [there are instances] where you get other people becoming more vocal, some who are seen as locals and some who are seen as interlopers, ... in the likes of ex-All Blacks [...] and such likes ranting and raving and a lot of the local community take the opposing view because of that. What do these people know? As it happens, individuals know quite a lot and have lived there most of their lives, and in some cases they are actually locals ... I 2.

... it is quite wrong for someone from Auckland, Wellington ... can come to Omakau and say ... no you shouldn't do this because I don't like the colour green ... [but there should be] priority rights ... decision making belongs to the locals ... C12.

... you couldn't really take what he says because he is an outsider, he just arrived here and he might have a lot of preconceived ideas... we sit with the environment people ... we will work through the issues together ... collaborative teamwork ... what you need to be careful of are the extremists who have a view ... that live somewhere else and think, 'this is what's gonna happen' ... C13.

... as long as it is fair and you have listened to the people ... don't listen to the outsiders ... C16.

It is important to note that some community members may discursively position other people as having less legitimacy, depending upon what they are trying to achieve in the discourse. Some of those considered outsiders have lived in the locality for more than thirty years, or their families had lived there, but left temporarily. It is also significant that council decision makers were also

seen as outsiders, who do not live in the case study area, and are therefore distant and likely to make non-contextualised decisions.

... the regional council are working with the legislation they are given from the central government and that's even another step further away from what's actually happening here ... some things are not practical ... and the council is not listening to its field staff ... the central government is worse, they sit in Wellington ... they have even less practical knowledge of how this affects communities here ... C17.

The argument above suggests the need for councils to use the opportunity to embed staff within the community, to ease the insider-outsider contests. The argument, like several others, hints at the role the government plays in landscape change, which links to the institutional principle of subsidiarity. Although the subsidiarity principle was clearly agreed at a generic level across the sources, there are tensions of how this ought to be operationalised. While other sources do not identify the workings of governance, the case study research findings identify moderation and minimal government at both local and national levels as important principles. Moderation implies that the government is non-partisan in decision making, whereas minimal government implies it does not interfere with the community's decisions about the landscape.

Related to subsidiarity is the issue of property rights. While all sources of data agree on subsidiarity expressed in different ways, the local key informants feel that, as currently expressed, this does not adequately consider private property rights, including modifying landscapes without government interference. This presents a dilemma when proposed projects are on privately held land, but the impacts are felt beyond the property limits. How far can the government intervene? What level of government has the right to intervene - national, regional or the territorial local authority, or the community as defined by key informants?

Some interviewees felt that government intervention was necessary at the lower levels at least; otherwise local sectoral interests left to themselves would not make decisions which are good for the larger community. In contrast, several accounts question the motives, capacity and practicality of the national government in directing local landscape change decisions. The regional council, by primarily responding to national legislation, is seen as insensitive to local landscape change issues. The community, however, is more accepting of the district council's efforts and goals of having community-led decision making. For example, the arguments from the quote above and below equate the involvement of national government with aloofness, unrealistic expectations and stifling innovation. It is significant that this is not a view of farmers only, but non-farmers as well who feel the national government puts pressure on the farming community to increase production.

... to a certain extent we are being over-governed ... a person's ability to think and to innovate is being stifled to a degree by all the rules and regulations ... we get too much driven from the top... C14.

... and you get a government which is putting huge pressure on farmers for intensification because they want greater production... C2.

It is significant that by proposing moderate or minimal governance, the community members are not seeking a new layer of government, but a more bottom-up approach to landscape management with what they see as a more realistic grasp of local issues. The community appreciate the goal of the government to use this approach but are under no illusions about its workings. For example;

... our [District] council is adamant that it wants to be driven by what the community wants rather than being prescriptive, ... and good luck to them, I respect that intent but in any event it's almost become a rote thing. They call a community meeting ... community workshops ... As a consequence of that some desired outcomes [are] developed and we now have a glossy report ... and it's well boxed in together collectively, and that's considered community consultation ... There seems to be no simple solutions to broadening that thing, the opportunity is provided only if you, those with an interest took part, and you might say, ... well it's fair, it's all you can expect ... I don't know I 9.

A co-management approach is likely to resolve tensions of governance, but it may be faced with non-participation or sectoral participation. If this is remedied, it may form the beginning of a fruitful engagement leading to co-determination involving the community and different levels of government. The key informants' accounts brought up an example of an ongoing process in the case study area. This is the approach adopted by the Manuherikia Catchment Water Strategy Group which incorporated diverse interests including local land owners, irrigation companies, environmental conservation groups, iwi, local businesses, and district and regional councils in decision making. Co-management may be driven by key stewards who might even be individuals. But co-management is not a governance panacea appropriate in all cases (for example, Armitage et al., 2008; Olsson, Folke, & Hahn, 2004) but where applied it may lessen tensions and boost decision making legitimacy (Enengel, Penker, Muhar, & Williams, 2011). Co-management implies both governance and process. Co-management as process will be revisited in the next section.

Key informants suggested that tensions between local, regional and national interests can be addressed by aligning policy to the different scales. Two possible approaches suggested by the key informant accounts are, one, to frame policy upwards from the local to the national (i.e., a bottom-up process) which would foster local and regional resilience and, two, to facilitate communities to make decisions, with the government taking an advisory and financing role, and

endorsing outcomes of such processes. This would increase 'buy-in' and reduce political backlash associated with change decisions.

In general the governance principles for landscape change have a strong agreement across sources at the generic level, for example, subsidiarity and public participation. At the benchmark level, case law has provided well founded reference points for decision making but these have been developed on a case-by-case basis, meaning these will keep on growing as new cases are referred to the Environment Court. However, major tensions are apparent at the operational level where both generic and benchmark principles have to inform, and are translated into, everyday landscape change management actions. There are many operational principles at the local landscape level which were expressed by key informants, but have not been addressed elsewhere either by policy, national statutes or even internationally by practice and science, for example, moderation in government interests and impartiality in decision making.

The local landscape appears to be the site of most contests. This is because all global, national and regional policies are expressed in this landscape. For example, New Zealand is home to Fonterra, a world leading producer and exporter of milk products. Although a local farmers co-operative, its operations are subject to global market fluctuations. Its own and government's policies and the impacts of global policies are experienced directly by a farmer in, for example, Omakau, Central Otago. Apart from dairy, beef and wool markets follow similar trajectories. As one key informant said concerning national and regional policy making;

... they've got to remember that, we've got to live here [the local landscape] and the decisions that the policy makers make don't affect their lives [because they do not live here] ... C17

However, the local landscape offers the best scale to incubate contextually coherent landscape change management principles and actions. The arguments from local key informants suggest that landscape change principles should be comprehensive, meaning they capture broad generic level aspirations, can be compared to benchmarks, and are workable or practical at the operational level. Linking policy to local context suggests that some principles will only apply in particular landscapes. It is vital therefore to define what scale this local context implies and to think through the three levels of specificity as they frame policy on landscape change.

Governance principles are about mediating the conflicts and contests between different interests who are competing to influence the direction of landscape change. There are power contests between these interests each seeking prominence and legitimacy. Identity is appealed to at the local scale to give this legitimacy, and therefore qualify the particular interests as the point of

operationalising subsidiarity. However, the identity itself is contestable and always in flux depending on the scale of landscape matters involved. If governance is not a panacea, transparent processes seem to offer a more acceptable approach to landscape change. The section below offers a comparison of process principles.

8.3 Process- ‘how?’ principles

The process principles of landscape change are about ‘how?’ landscape should change and how change should be managed. The deliberative principles from the case study field findings focus on the higher rungs of Arnstein’s ladder of participation discussed in Chapter 2. One of the gaps immediately apparent from the accounts is the difference between shaping principles and subscribing to their ideals, and the application of these principles in practice. As highlighted below, there have been instances where councils consulted, but the outcomes of the consultation are not implemented. In addition there have been instances of very few community participants in consultation sessions. The highlighted instances bolster the key informants’ perception that their inputs do not count for much. For example,

... one of the things that have been done in this district which is a source of endless frustration is ... There was a really quite a strong ethic put on to collaborative planning so there were workshops undertaking in lots of areas in the district, quite intensive charrette type of workshops, and community people got involved and they developed these plans with the communities and ... all these plans got you know printed on nice paper and then they got put on a shelf somewhere and of course they’ve never been integrated into the district plan, they’ve no statutory weight ... but can’t be taken into account really, it has no weight because it’s not a statutory document ... I 7.

... well, it was an attempt to be collaborative. It was an attempt to community consultation. So that report was received, it then went through the constitutional processes, the council was then bound to consider it, make its own recommendations and ask for submissions on those recommendations then went back to council and made a decision; and effectively we have maintained the status quo, nothing has changed, even though the recommendation was to make some quite sweeping changes. So no, it didn’t work. Well, you could say if you are interested in keeping status quo, it worked but in fact in the interest of effective change and effective governance and representation the opportunity was lost, and we have to wait for another 6 years ... I 9.

The gaps can be attributed to the different approaches expressed by the professional and the community respondents. For example, there were disconnects in consultation, implying that, one, the consultation as done by the councils is not sufficient, or two, the type of consultation modes envisaged by the professionals and the community are different. The accounts of key informants above suggested that professionals favoured symbolic consultation and informing the community (cf. Arnsteins rungs 3 & 4). This does not seem a deliberate action by the professionals to curtail

community communication, but probably a result of participation fatigue by the community. Commenting about the few number of community participants, one key informant said;

... I don't know how you do get a good cross section of people 'coz there's always going to be the people who have these sort of stronger feelings about things or have that sort of feeling of responsibility about being involved [...] going to those consultation meetings that we had here, and pretty much it's always the same people ... I 5.

This stance by professionals does not seem deliberate but it is a reliance on legislation; for example quite often the professionals would argue on the basis of the RMA and its instruments. But they nevertheless suggest that sole reliance on those instruments might not be adequate or even entirely genuine.

... I tend to try, justify a lot of what I do on the basis that, this is what the district plan says and the community had input in it, but it's a bit of a fiction really to be honest, which I don't like to [...] too much, but the level of consultation, the level of willingness of the communities to be involved is pretty low really ... K7.

The arguments above suggest that the level of community involvement envisaged at the generic level is not fully realised at the operational level of deliberative and communicative principles of landscape change. However, the emphasis put on consultation, negotiation, communication and participation highlighted by key informant accounts suggests that the community is keen on having greater influence and control over decision making processes (cf. Arnstein's rung 6, 7 & 8). Both the professionals and the community hint at the role of experts in facilitating decision making about landscape change. The community suggested that the experts be embedded within the community, and more weight be placed on their findings than is currently the case.

... [the individual cannot see the bigger picture] they don't have the time to understand what it is, or not trying to think that way, they are very busy with their piece of land and that's what they are committed to, but it's people like me and the policy people and councils people [professionals] to assist these people to make the right decisions and to understand why they are making these decisions and they need to have 'buy-in' to the bigger process as well... I 6.

... a lot of decisions are made by people in Dunedin who have never actually come out of their office to look at the situation on the ground ... they have field staff, who look at it, take their findings to Dunedin, but they are not always listened to ... [the sensible thing is to] bring policy makers down here and see how it actually works ... and how it affects this family, that family ... and eventually the community ... C17.

This does not create a new level of governance, but tackles the perception that decisions are being made from power centres, Wellington and Dunedin, while disregarding community aspirations. This speaks of not just embedding the facilitating experts, which the council is already doing through field staff, but giving voice to their findings so that their involvement is not just symbolic but consequential in decision making.

There is a significant gap in the communicative cluster of landscape change management principles. The RMA instruments and professional do not explicitly recognise the importance of communication and public education in landscape change management decisions. The Regional Policy Statement for Otago mentions communication with reference to inter-government agencies, while the district plans and iwi plans have highlighted communication as a significant principle. Both communication and transparency are suggested by key informants' accounts as very important principles. This is consistent with science literature and international practice which have highlighted communication. In addition the latter two highlight public education and information as key principles. In Australia for example, there is emphasis on education and information principles, but here education also implies the application of indigenous knowledge in landscape change management. There seems to be agreement between international examples from science and practice, and the New Zealand local instruments, and the research findings from key informants. This then hints at the possibility of building on a groundswell from the grassroots upwards to transform landscape change management policy.

There are other process principles identified by the key informants' accounts but which are neither expressed in New Zealand statutes or instruments nor by international practice and literature. These include the principles of change empathy and affordability of landscape change to the community. These can be addressed by framing policy from the local context upwards, therefore catering for specific local needs.

There are important convergences in the principles of public participation, consultation and collaboration across all sources. This conforms to the theoretical arguments in Chapter 2 about the current shift of planning and policy making from prescriptive and instrumental top-down expert led approaches to the more discursive communicative planning mode which involves deliberation between non-experts and experts, and informed by wider democratic ideals of equality and inclusive participation in decision making.

While public participation is a widely accepted principle, it may conceal the contradictions emanating from the different motivations for participation that both the public and policy makers have (see for example Stirling, 2006). Transparency would reduce instances where policy makers are content to engage a few people or, alternatively, where communities feel they would not be heard anyway, therefore withdrawing from decision making processes.

... I don't know how you do get a good cross section of people ... 'cause there's always going to be the people who have these sort of stronger feelings about things or have that sort of feeling of responsibility about being involved [...] going to those consultation

meetings that we had here, and pretty much it's always the same people, although one thing I didn't think about that last one, there were more people that I have not seen before ... I 5.

... it's only the noisy few that are heard, because it's only them who take the time or have the interest to do anything ... I 2.

Public participation therefore is not an end in itself and suggests building trust, capacity, co-determination and understanding for all decision makers (example, Dietz & Stern, 2008; Renn, 2004), aspects which will boost buy-in for landscape change decisions.

Key informant accounts from the Iwi and the local community suggest a consultation principle which is not a single instance of engagement but a continuous engagement on all matters concerning the landscape. Often councils engage in consultation on very specific matters and at particular times, for example submission processes in review of plans. Such consultation is prescribed in the statutory framework; (see for example, Ministry for The Environment, 1999; Quality Planning, 2015). Indeed recent changes have increased pressure on councils to make decisions in a prescribed time frame. Such actions impact on the overall deliberative approach as communication, consultation and public participation are consistent with the communicative turn in planning and the democratic ideals espoused in compared jurisdictions.

A related principle agreed across the sources, but expressed variously is co-management. Co-management or collaboration implies creating synergy between non-experts and experts as knowledge does not reside solely in any one of them. In addition none of the non-experts' or experts' knowledge or language can comprehensively frame all issues, and it would not be prudent for one group to cede decision making to another (see Majone, 1989; Stone, 2012). In fact several accounts highlighted earlier under governance indicate that contests are built around the power to make decisions. This presents a good opportunity for practitioners to build practice and theory around mutually agreed terms, where the experts and non-expert public democratically co-determine landscape change processes and outcomes. Landscape becomes a collaborative act where different players co-determine the trajectories of landscape change compatible with their aspirations (Termorshuizen & Opdam, 2009). Such approaches have been fruitful elsewhere, see for example Arler (2011), Arler & Mellqvist (2014).

The generic level of process principles tells a coherent story throughout international and local sources. There are agreements about consultation, collaboration and co-management of landscape change. There are no conflicts or tensions here. The agreement at this level is followed by major gaps at the benchmark level of principles. Professional practice in New Zealand and science and planning literature internationally are silent on process benchmark principles.

However, international practice examples have highlighted key principles such as use of value based landscape assessments and, carrying out environment impact assessments and strategic environmental assessments. However, in New Zealand, case law has provided several benchmarks such as compensation and landscape assessment criteria.

At the operational level, again there are convergences across sources about the process principles of landscape change. However, when the high level ideals are broken down into pragmatic process principles, the actual implementation of these processes becomes contentious. It is at this level where one is able to understand exactly what consultation, collaboration and public participation mean. When contests arise at this level, they are not just about the 'how?' but may be coded ways of asking 'who?' and 'why?', linking back to governance issues. Although it is the level with most contests, it is the landscape level where the impacts of the processes are most evident and where one can really test whether a generic principle can actually find practical expression, or be operationalised, in the landscape.

8.4 Chapter Summary

Three significant tensions and gaps are apparent from the comparisons. First, while the local case study accounts are consistent with international practice and science in their social focus, for example, the European Landscape Convention (ELC), in contrast the New Zealand statutes and instruments and practice focus on sustainable management of natural and physical resources, enabling resource use and managing effects. Social issues are secondary, and so also are socially relevant principles such as identity, empathy and so on. Second, there are gaps of accountability where communities are not assured of implementation of the outcomes of consultation into policy or if the outcomes find their way into policy, the processes are not transparent enough to allow the community to audit or validate their input. This raises the question of the extent to which their opinions really matter to the professionals and policy makers. Third, there are certain principles expressed at the local scale which are not expressed in New Zealand statutes and instruments, and are also not found in international examples, such as social continuity, affordability of change to community and transparency in decision making. This is more prevalent at the operational levels of principles and may suggest that communities adapt to new challenges faster than do councils which are affected by institutional rigidity causing lags in local policy change. For example regional councils review their plans every ten years while farming communities might have to react to global markets in shorter periods of time.

The gaps and silences evident between international examples, New Zealand statutes and instruments and, the local case study findings point to the issue of scale variations in landscape change decision making. This suggests examination of two questions; one, whether what is generally applicable at global scales can apply to particular local landscapes and, two, if what is particular to a local landscape can inform wider practice and policy. These point at two possible approaches, policy from a global point of view or landscape scale driven policy.

The landscape in Central Otago, as with other areas in the Otago Region, was shaped by activities which are now obsolete or have changed drastically from what they were a hundred years ago. This presents the challenge of sustaining a shifting identity since the landscape is valued differently. New national ideals such as increased production to meet global market demands mean that the communities have to restructure the landscape and use new production methods. A major consequence of this is fracturing the community and landscape identity through, for example, displacement of generational residents, partly because they cannot afford the capital intensive land use changes. The inflow of new external capital is matched by influx of transient populations, among others. To cope with these changes, communities strive to retain familiar identities or try to construct new territorial identities using the landscape. That way they are trying to guide change to a trajectory and at a rate that is acceptable to them. These are the key issues driving and shaping landscape change principles and decisions at the local landscape level.

Having compared principles of landscape change decision-making across different data sources, the next chapter will discuss key insights within a wider context of literature, draw theoretical and policy implications, and conclusions.

Chapter 9: Discussion and Conclusions

9.1 Introduction

This chapter discusses key insights concerning landscape change principles drawn from the Central Otago case study and grounds these findings in the literature examined earlier in Chapters 1 and 2. Section 9.2 restates the research problem, question and objectives of the study. Section 9.3 reconsiders the conceptual framework developed in the study. Section 9.4 examines discursive decision making for landscape change. These brief sections frame the discussion in sections 9.5 to 9.9 which summarise the research findings grounding them within a wider framework of literature, rationalities, the communicative shift in planning, and deliberative decision making, and, discursive and landscape democracy. A particular focus of discussion is the implications of the gaps and silences, approaches and contests discussed in Chapter 8. Section 9.5 specifically examines scale relationships in landscape change decisions while section 9.6 examines different approaches to landscape change management. Section 9.7 discusses the tensions of place, section 9.8 the contests of meanings while section 9.9 examines the contests of power. Section 9.10 highlights and discusses policy implications for shaping principles of decision making for landscape change. Finally, section 9.11 discusses the challenges of the study, raises questions for future research, and restates the significance of the study findings.

9.2 The research problem, question and objectives

Landscapes change both incrementally and in sudden bursts in response to both local and global dynamics. The Resource Management Act 1991 (RMA) is a performance and effects based approach to planning, and although it adopts sustainable management as its purpose, it only offers two types of landscape based principles upon which decisions about the landscape consequences of changes in land use activities can be determined. These are protection and preservation of natural qualities in landscapes, and maintenance and enhancement of amenity values.

This research examined landscape focused decision making in Central Otago by professionals and communities and distilled principles of landscape change management which can be used in a regional policy statement. The research had the following objectives; it, 1) established a conceptual framework for understanding and deliberating upon landscape change; 2) identified substantive principles to guide decision making upon landscape change; these principles were

focused on enabling land use change in a way and at a rate that is acceptable to the communities; and 3) used the Central Otago District as a case study in distilling principles that can be applied more generally in the Otago Region and beyond.

Several scenarios of alternative futures were used to provoke decision making on landscape change framed around current land uses in Central Otago District. These were; intensification, dryland farming, and mining and densification of settlements. The scenarios were set for Year 2025, less than fifteen years from the presentation date to give them a sense of imminence and to make them plausible. The alternatives were presented to key informants who were asked to make decisions on what they thought was acceptable landscape change and to explain the rationale they applied in making the decisions. These interviews were recorded and analysed to identify principles of landscape change management.

In framing this research the following assumptions were made: 1) Landscape change can be managed at a level acceptable to a community within the existing legislation; 2) the community and professionals can make rational decisions when presented with plausible scenarios of landscape change; 3) decisions made on landscape change are based upon values that can be articulated as decision making principles.

9.3 Conceptual framework of principles

The study has established both theoretically and empirically a conceptual framework for understanding and deliberating upon landscape change that recognises three types of principles:- substantive, governance and process principles. They each function with several levels of specificity at generic, benchmark and operational levels. Generic implies that the principles apply everywhere all the time, while benchmark means there are explicit requirements against which to compare different situations. Operational level principles focus on how particular landscapes are to be evaluated or managed.

The three main types of principles - substantive, governance and process, were further subdivided into more specific landscape change management principles such as structure and function, community, purpose of change and institutions, and deliberative and communicative clusters. The community cluster of landscape change principles sits tentatively between substantive and governance types of principles. The conceptual framework, types and levels and clusters of principles are illustrated in figure 9.1 below.

	Substantive WHAT?			Governance WHY & WHO?		Process (HOW?)	
Generic	Structure	Function	Community	Purpose	Institutions	Deliberative	Communicative
Benchmark							
Operational							

Figure 9.1: Conceptual framework for principles of landscape change

The conceptual framework which started in a very rudimentary way has performed well, not just in organising the principles, but also driving the search for principles in consequent re-examination of data in both interview accounts and documentary sources. The framework suggests it may be useful not just in principles of landscape change decisions, but in related disciplines such as planning.

Many principles were identified in the various clusters shown in Figure 9.1 above. However, four principles stand out as the core of landscape change decision making and form nodes where other principles are linked. These are: subsidiarity, social continuity (sustainability), contextuality and identity. They are about power; suggesting policy makers have to think of, ‘who decides?, why?, where? and what?’ When examined in totality, they suggest devolved systems of landscape change governance, a significant shift of decision making from the centre to the periphery i.e. from the national scale to the grassroots (landscape scale) and in particular from economic communities of interest (including global interests) to socio-cultural communities of place.

The principle of subsidiarity is significant in effective management of landscape change since it devolves decision making as closely as feasibly possible to those directly affected since changes impact on the local people and how they organize to make a living from the landscape. Subsidiarity as agreed at the generic level becomes contestable operationally. It is not clear at what level it should be expressed. A bottom up subsidiarity is emphasized by the community with greater weight given to local arguments, and aspirations, less weight on outsiders and the government. But it also recognizes experts’ role to advise, moderate interactions and even articulate policy to community and government. In total subsidiarity, government agencies are co-opted in resource management only when needed. This does not suggest a new layer of governance but a re-designation of power. This is also linked to the principle of moderation of government roles. This form of subsidiarity is expressed by landscape democracy and democracy

in general. There is tension, however, about the extent of government intervention. The second strand of subsidiarity is government-led and expert informed. This is the subsidiarity envisaged by the RMA, where Territorial Local Authorities (TLAs) implement policies, and the national government intervenes only if projects have impacts of national significance. This position makes subsidiarity close enough to the community to be in touch with the real issues at landscape level, but strategic enough to allow interventions by government. A more resilient option is suggested where subsidiarity can be exercised at biogeographic units such as catchments or sub-catchments, and valleys, communities of place which are not delimited by political territories but defined by socio-cultural traditions. This therefore implies engagement of the smallest units of community of place, for example, *rūnanga*, and a valley community. As noted in theoretical discussion, communities of place are less labile. But it is important to negotiate the meanings and expectations of those in different spectrums - community and government - so that the principle does not become sectoral. This form of subsidiarity implies a community based collaboration, consultation and negotiation to co-manage shared resources and co-determine the trajectories and acceptable rates of landscape change. Other principles linked to subsidiarity are, for example, localism, *kotahitanga*, *rangatiratanga* and partnership.

The principle of sustainability as expressed commonly in all sources generally refers to economic, environmental and social longevity of systems. However, what was significant was the community's extension of sustainability to include, not just environmental bottom lines but community or social continuity. This implies interlinked continuity of place, people and identity. This form of sustainability does not regard people as separate from the landscape, therefore sustainability means continuity not just of landscape as place, but landscape as polity. People are the primary element in the landscape. Places are infused with culture, heritage and traditions, and undesirable changes potentially threaten the established way of life, the social continuity which in places has developed over four or five generations. Social continuity also implies continuity of identity of individuals and communities, and place. Identities of Māori and non-Māori are bound up in the landscape, which explains the emotional responses to landscape change, and especially of iconic landscapes. Continuity is often expressed in opposition to those changes that potentially affect the social fabric as it is constituted currently and therefore affect community integrity. Other principles drawn in to strengthen wider discourses around continuity are empathy, harmony heritage conservation and preservation, and often environmental discourses such as limits to growth. These principles are expressed with specific places or contexts in mind.

The principle of contextuality is implicated in all decision and policy making aspects to do with the material landscape, but is also complexly linked to the ideas of place and identity, therefore community of place. It suggests matching decisions to particular landscapes because places are unique. Thus statements like “... *in the Waikato and other areas- dairy was set for it, but certainly in much of south Island it wasn't...*” begin to designate certain landscapes as suitable to particular uses and indicate the value assigned to the landscapes. This way, contextuality becomes a gatekeeping principle applied to legitimize certain landscapes and oppose others. To perform this role, the principle draws as much from science principles as from history; for example, landscape ecology principles such as distribution of impacts, carrying capacities and biodiversity are used to strengthen contextuality. History is also applied to define what is contextually acceptable, for instance certain farming practices not historically carried out in a landscape are seen as unacceptable, even though they could be thriving in certain parts of the same landscape. This begins to draw in the physical identity of the landscape- ‘what has this landscape been known for?’ and ‘what is it like?’ Other principles are drawn in such as balance, integrated management, whole landscape view which are all focused on understanding and managing landscape as a unit.

Identity is both spatial and cultural. Landscapes are interpreted on the basis of visual or functional identity- for example, iconic landscapes, sheep country, and also identity can be drawn from the landscape – such as ‘high country people’, implying they have certain characteristics drawn from or shaped by the landscape. Characterisation of self or others as descendants of tough Irish and Scottish pioneers in Central Otago evoking ruggedness - as the people, so the landscape - is one such expressions of identity. For Māori, the landscape is fundamental to tribal identity and is related to through whakapapa, genealogy. Therefore, landscape means; the physical landscape and the people and or culture constructed and interwoven with this landscape. Both identities are drawn on equally to defend, justify or even challenge actions on landscape. Identity is expressed at different scales, but it is at the local landscape scale that it is strongest. Identity can be used through its gatekeeping role to aggregate people and ideas or marginalise and exclude different stakeholders and their arguments. One particularly expression at the landscape scale is to define who are insiders or outsiders, local and non-locals, generational or late arrivals and therefore who has legitimate mandate to make or influence landscape change decisions. The politics of landscape change hinge squarely upon identity, and therefore expressed as power, that is, ‘who’ has power to decide the trajectory of landscape change or the policies to influence change, and ‘why?’, and, ‘what change’ is acceptable are matters of identity. As identity shifts depending on the scale of landscape issues at stake, the flux presents a critical challenge to policy makers on landscape change.

The analysis also identified several overarching discourses which are as important as the principles. These discourses used to defend and justify, blame, challenge or sustain arguments and positions are productionism, conservationism and preservationism, regionalism and place identity, iconicism, gentrification and silence. Productionism argued that the landscapes of the region and particularly Central Otago are production/ functional landscapes as opposed to visual, scenic landscapes. They have been shaped over decades by mining, sheep and beef farming, and it is totally acceptable to use new ways of production, including intensification, to meet local and global market needs. Conservationism and preservationism emphasise activities that shaped the cultural landscape to what it is today. What these discourses hinge upon is the perceived incremental nature of change, while they downplay the drastic changes provoked by gold mining and pastoral interventions more than a hundred years ago. The discourses of regionalism and place identity suggest that landscapes should produce enough to sustain the communities without major transformations associated with production for more distant markets, for example national or global. This implies using local resources locally for the benefits of locals so that the region is resilient against external market shocks and the identity of the region is preserved. This also means retaining those features that attracted people to settle in this landscape, and avoiding homogenising changes that rob places of their unique identities. Iconicism frames the landscape and certain parts of it as iconic in New Zealand. Infact the Central Otago District uses the unique landscapes as a branding tool to attract investment into the district. However, others who support this discourse use it to limit and challenge development and changes to community and the landscape. The discourse of silence is a tactical expression of power-it suggests that supporting universal principles of change might mean losing power to intervene on a project by project basis. All these discourses are intertwined and they exist at different scales.

However, both the discourses and principles are loaded with meanings as different interests appeal to them to express certain sectoral ideals, and they are related to power and scale relations in landscape change. This raised the question of whether or not the assumption that consistent and stable principles underpin decision making is the best way to frame what is going on in landscape change decision making. In particular, comparison of the different sources revealed significant silences and gaps, convergences and tensions around landscape change principles. Examples of gaps locally were between statutes and instruments and community aspirations from the case study. There were gaps internationally too, where specific principles were expressed locally and not anywhere else, and also where both international and local case study findings agreed but there were gaps in New Zealand statutes and instruments. Managing landscape change is a co-determination action which involves negotiation and management of

conflicts, and is marked by contests and tensions around ‘why?’ there should be change, ‘who?’ should decide and ‘how?’ they are to decide. Examination of the contests and tensions has both theoretical and policy implications for landscape change management.

In the next section, the discursive nature of landscape change is discussed.

9.4 Discursive decision making for landscape change

By focusing on the discourses used by key informants and the resulting tensions, convergences, gaps and silences, the findings highlighted a second but strong discursive layer below that of principles. This reveals that what was going on was less about the consistent and stable application of different sets of principles by different groups but, instead, there was a discursively enacted and ongoing struggle over the decisions in which groups employ various discursive tactics (rather than principles) to serve their interests. These tactics changed as the decision making process evolved, for example, making decisions around a large scale, where a community was seen as homogenous and regarded themselves as one, but at a finer scale broke down into sectoral interests.

Analysing everyday discourses and the principles concealed in them revealed the values, motivations and rationalities of the different interests that influence the stances that they take with regard to landscape change management. From the research findings, several key issues stand out, which are; gaps and silences in principles, and conflicting approaches to landscape change management. For example, there are contests of approaches between action ‘for’ or ‘through’ landscape, contests of meanings- ‘whose language and whose meanings, matter?’ and contests of place and place identity- ‘who are we? ‘who belongs here?’ ‘why do they belong here?’ ‘why do their opinions matter?’, and the central contests of power- ‘who gets to decide and why?’

As explained in Chapter 2, decision making for landscape change in a modern democratic society is complex. The study was informed by discursive ideals of late modernity and their focus on deliberation and democracy (for example, Beck, 1992; Dryzek, 2000; Giddens, 2013). This discursive context reveals diverse rationalities and also tensions between diverse players, roles and value systems which require reflexive approaches. The discursive process of shaping principles of landscape change decision making is framed in several competing discourses, which are particularly relevant for policy makers as they reveal the rationalities or motivations of decision makers.

Understanding decision making processes is therefore vital, as policy is not just about making the right decision, but establishing defensible bases or rationalities to account for actions (example, E. R. Alexander, 2006; Anderson, 1979; Perera et al., 2000). However, although the multiple players may draw upon specific rationalities in decision making, one single model is not sufficient to articulate all landscape change principles. A number of authors (for example, Anderson, 1979; Garmendia & Stagl, 2010; Kure, 2010; Perera et al., 2000) show that borrowing across rationalities is typical rather than the exception, since the rationalities themselves are not 'either / or' alternatives, but a spectrum with different degrees of emphasis. For example, although a community group may be committed to deliberative decision making over landscape change, and justify this in terms of communicative rationality, this does not displace an individual's or even the group's tendency to apply instrumental rationality in other decisions.

Furthermore, the key informants' accounts showed that the principles of landscape change are discursively embedded in discourses expressed by influencers of landscape change. Several of these discourses which embed principles were discussed in Chapter 7. The discourses are often conflicting and contradictory but they all reveal broader contests over power, meanings and identity, and the power or legitimacy to make decisions. The discourses included manipulative and tactical silences. Discourses were used for gatekeeping, that is, to include or exclude certain people from decision making, and to qualify and legitimise the decision maker, and therefore their decisions. Discourses were also used to challenge the influence of existing power structures locally and nationally, and even the influence of hegemonic globalism on landscape change.

In forums where discussions happened, evidence showed two broad discursive techniques used in matters of landscape change: very heated engagement or tactical silence. There were some very articulate communicators, a 'noisy few' who were, more often than not, likely to engage in debates. There were also more conservative and quiet types less likely to engage in heated arguments on community matters. However, the influence of either approach should not be underestimated. For example, in answer to the interviewer's question, '*Do you feel consulting the community gives legitimacy in any way?*', one key informant said;

... it's only the noisy few that are heard, because it's only them who take the time or have the interest to do anything ... I 2.

However, although there are perceptions that some individuals were quite expressive, it does not mean silence is any less influential. Landowners with farming interests were less likely to be vocal, but this does not make their discourses less influential in shaping landscape change decisions or

policy at the local scale through less argumentative means. For example, farmers are perceived as having greater influence than non-farmers in local councils as related below.

... and a lot of [farmers] are not particularly that environmentally or politically motivated to make a noise about anything ... I 2.

... councils tend to be dominated by farmers and therefore they put farmers' interests first ... rules ... that favour farmers lead the day ... I 6.

Discourse is also not just about the extreme views but includes moderation, steering the discourse towards developing solutions.

... you talk about it and in the end when you come to some kind of position, ... it's not about haranguing ... people are willing to listen, they are looking for answers ... I 6.

As this informant indicated, discursive decision making marked by freely negotiated and open discussions is in fact expected and involves engaging all participants in non-competitive ways to reach value-based outcomes. As discussed in Chapter 2, this involves mediating conflicts, ensuring participants express and listen to claims of others, and that these claims are respected and not devalued. What the key informant is referring implicitly to is the ideal speech situation forming the basis of communicative planning (Allmendinger, 2009; Healey, 1996, 2009). The role of moderation or facilitation which communicative rationality has placed upon planners (Allmendinger, 2009; Healey, 2009) is in the case study area taken by neutral disinterested individuals, who are not necessarily professionals. For example;

... the chairman of the group is from outside the area, so he is independent, ... he doesn't have a vested ... interest so he can act as a mediator... I 1.

Such independent or neutral moderators have the role of mediating discourses so that they are not dominated by extreme views.

Discourses are loaded ways of constructing and articulating, justifying and blaming (see, Gee, 1999; Jorge Ruiz, 2009; Van Dijk, 1997; Wetherell & Potter, 1988). The key informants when interacting with the researcher and other interviewees were performing discursive acts, including positioning and characterising of self and others through discourse. For example, one key informant said;

... you couldn't really take what he says ... he is an outsider, he just arrived here and he might have a lot of preconceived ideas ... be careful of ... the extremists ... [who] live somewhere else and think ... 'this is what's gonna happen'... C13.

This is the discourse of place and people identity. It is used for gate keeping and legitimising. It characterises and positions some people as outsiders, therefore meddlers, while at the same time it positions the key informants as insiders or 'the people'. Insiders are perceived to be

knowledgeable of the way of life in the case study area and can make empathetic decisions. Those considered outsiders have no understanding of local issues, therefore have no legitimacy to comment on them, and they do not qualify to be listened to. This is not just by the researcher, but in local forums as well, or at least, whatever they say should have less weight compared to the insiders.

Some discourses are used to oppose global hegemonic forces, and the national government's emphasis on production and transforming the landscape. They are also used to express scepticism about the logic and sustainability of such changes. These are linked to the discourses of regionalism explained in Chapter 7. For example;

... and then there's the dairying if that's about to happen, is it sustainable? ... to make milk powder to ship to China ... it's questionable madness, so the world maybe cannot sustain ... I 11.

Discourses can also be fractured and tend to shift depending on the scale of the issue at hand. For instance, there are agreements when the wider community perceives pressure from the centre to increase production. In addition, there is an overwhelming apprehension that such change would affect the social fabric of whole community for example through displacement, and transient populations. This is a common view held by both farming and non-farming communities, as well as professional key informants. However, at the local landscape scales, the common discourse fractures, and their discourses become different to justify and legitimise their new positions. For example, the following accounts show this shared view;

... [it is the] government which is putting huge pressure on farmers for intensification because they want greater production ... C2.

... [and farming by] big companies ... they don't share the same community ideals ... values ... I 9.

But when dealing with changes at the landscape scale, the arguments are different, and the perceived whole community starts to unravel into sectoral interests, farmers and non-farmers, insiders and outsiders. For example, some key informants who were not happy with the intensification trend stated;

... there is power ... a psychological romantic power attached to the notion of Central ... C2.

But those who were intensifying had a different opinion as expressed by the following comment;

... they have moved into the area and they don't want to see any progress ... changes whatsoever because the area is nice ... C7.

This implies that discourses as well as landscape change principles embedded in them are scale dependent. This is consistent with the evidence in Chapter 8 where there was more agreement on generic principles, while there were more contests at the benchmark and operational levels, implying that as landscape change principles become more specific, tensions become more pronounced. This suggests that scale plays a vital role when deciding upon principles of landscape change and perhaps the finer the scale, the more precise the principles should be.

As pointed out by Pinto-Correia, Gustavsson, & Pirnat (2006), often when policy is framed at a very high level, it tends to be centralised and standardised. This is because often it is based on large scale assessments, at national or regional levels, which strive for comprehensiveness rather than detail. The resulting policy often neglects local characteristics, context and place based approaches. The policy makers may also be living away from the local contexts where these policies have highest impact, further increasing conceptual gaps between those who formulate policy and those who are affected by its implementation (Enengel, Penker, & Muhar, 2014). However, as argued by Selman (2006), since scale is often nested in both natural processes and political-administrative units, some landscape change matters are better considered at large scales, for example nationally or regionally, while others can be managed at finer scale such as district or neighbourhood. Selman's proposal is to align policies to natural units as a substitute or compliment to the political-administrative units. The natural units are what key informants often referred to with the terms, 'this valley', 'this landscape', 'our community' and so on, in their accounts.

Five theoretical points that arose from the discussion are examined. These are scale relations in landscape change management, contests of approaches to landscape, contests of place, meanings, and power. In the next section, scale in relation to landscape change is discussed with reference to gaps and silences, and contests evident in the research findings.

9.5 Scale relations in landscape change management.

The reason for gaps and silences are that different groups have different priorities and only frame comprehensively that which matters to them. A second reason could be legacies, for example, the neo-liberal approach of the RMA which intended to move New Zealand from a 'command and control' mode of the Town and Country Planning Act, to a more *laissez-faire* approach, leaving markets to determine land use, and the government to manage the consequences of such land uses. In the process, it narrowly focused on environmental effects while downplaying social and community well-being. Other silences are tactical, for instance some key informants voiced their

concern that often there is a mechanical 'tick-the-box' approach to landscape issues. Therefore, stating principles explicitly or acceding to set principles would negate councils' obligation to consult. For example,

... politicians haven't come to grips with what their actual role is in terms of policy development and planning they just, they wanna ... tick boxes, ... there is no sort of listening to this person going 'what about blah?'... I 5.

Another instance of tactical silence is where institutions deliberately refrain from defining terms which would be contested,

'...we deliberately refuse to define that...' R12.

Huckin's (2002, p. 348) observation that '... what is not said or written can be as important, if not more so, than what is ...', clearly applies here. In such cases, terms are left to evolve on their own or from practice. For example, in the Otago Region, water quality standards are set as outcomes, and the farming community has to figure out how to use the water and minimise pollution and be efficient. However, the council will not define to the community what efficiency means. This is a form of tactical silence.

Apart from the legacy gaps, the tactical silences qualify the discourse of silence discussed in Chapter 7. This is a situation where one deliberately refrains from answering questions. These are silences used to challenge, disrupt or resist a dominant discourse or power (for example, Huckin, 2002; Jungkunz, 2012; Montoya, 1999; Parpart, 2010). This is a powerful tool, especially when used by the iwi, for example, and in instances where local authorities have obligations to consult. In preparation of policy statement or plans, it is mandatory for local authorities to consult, among others, the tangata whenua who may be affected, through their iwi authorities (Ministry for The Environment, 1999; Quality Planning, 2015).

While tactical silences can be a useful approach for promoting particular aspects of landscape change decision making, they can fail spectacularly where councils have no obligation to consult. As discussed in Chapter 6, Section 36A of the RMA under duties of local authorities and applicants for consent, neither the councils nor the applicants have an obligation to consult generally about resource consents if the effects are minimal, unless required under other legislation. But one should ensure compliance with RMA section 2 matters. Furthermore, best practice points to developing working relationship with tangata whenua to reduce difficult incidents such as litigation (Ministry for The Environment, 1999; Quality Planning, 2015).

However, this reveals the apprehension that communities have about one-off consultations and universal norms. They fear that policy makers, politicians and resource planners in councils might respond to issues by rote (tick boxes) once they have clear principles, therefore bypassing consultation or in-depth engagement on landscape change and related project decisions. Therefore, they refrain from voicing universal principles, and prefer tackling landscape change decisions on project by project basis. For example;

... generating universal principles would be difficult and probably be ceding decision making away from the Iwi. It is best to look at the context of a project and then make decisions rather than generating universal norms ... P14.

This is also an issue of scale. The Iwi would like to have power to decision make on landscape change vested in the local community as tangata whenua, both spatially, - the mana whenua, and political-administrative unit, the Iwi authority.

9.6 Contests of ‘action for’- ‘action through’ landscape approaches

This study revealed the key informants embraced two different approaches to landscape change management; protecting the landscape from change and managing landscapes to enable desired change. These dominant approaches to landscape change management are formally expressed in literature internationally as well as in New Zealand legislation. The first approach termed ‘action for landscape’ has treated landscapes as static and has worked by designating these special areas for protection against inappropriate development. This it has been argued is a sectoral and narrow perspective and insufficient in managing changing landscapes (for example, Matthews & Selman, 2006; Selman, 2006). This first approach is envisaged by Section 6 (b) of the RMA which seeks the protection of outstanding natural features and landscapes. The emphasis of case law is on interpreting and reinforcing the categories highlighted in the RMA and other instruments, therefore enhancing the conservative approach to landscape change management. This approach was apparent with reference to conservation estate managed by the Department of Conservation (DoC), but it was also applied to other natural landscapes which the informants felt were threatened by intensification.

The second approach, ‘action through landscape’ recognises, however, that landscapes are complex spaces, places and networks thus requiring a more dynamic and broader view. This perspective seeks to align landscape units such as catchments, and geo-political units with policy (example, Matthews & Selman, 2006; Selman, 2006). The case study findings are more in sympathy with the second approach. Both the community and professionals are more inclined to

accept change and adapt to the change as long as it does not tear the social fabric, affect community integrity and social continuity.

... economic progress [is driving intensification] ... but there has to be environmental progress and social progress of the communities in here ... C9.

Conflicts arise when certain sectors of the community appear to apply the ‘action for landscape’ approach to highly modified everyday landscapes. For example, although the argument about intensification for dairy revolves around highly modified valley floors, the discourses are not less polarising.

... dairy is a radical change and the intensification that goes with it ... sheep and beef farming are not transformational...and that has been the tradition here for the last ... one hundred years ... C2.

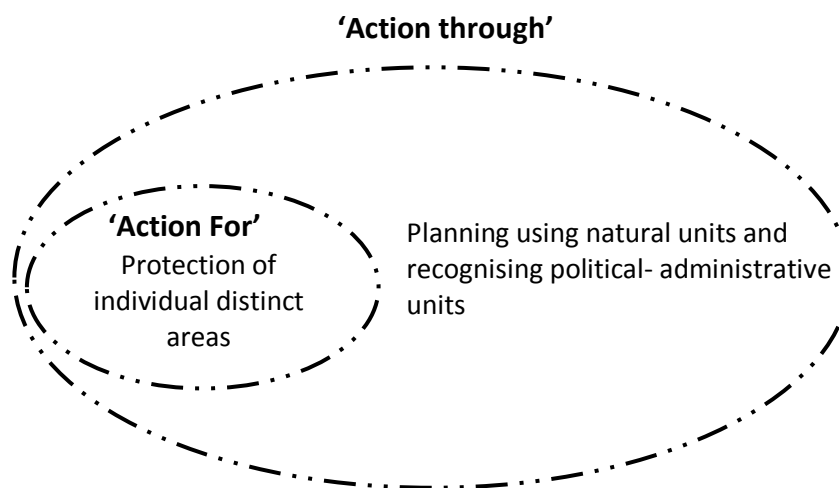


Figure 9.2 Modified ‘Action through’ landscape approach

Perhaps, a modified approach would be to nest ‘action for’ landscape within the broader ‘action through’ landscape, as shown in Figure 9.2, and focus less on individual and distinct spots and more on the whole landscape.

Internationally, in both practice and literature, references are made to interconnectedness and integration principles at a generic level. The case study findings express, at generic level, a whole landscape view approach implying an ‘action through landscape’ perspective. The implication in the case study context, which has partly come from the RMA and its interpretation by the Environment Court, is that landscape should be used as an active agent of managing landscape change outside the protected areas.

9.7 Contests of place

Communities are striving to maintain relevance and continuity in the face of change occasioned by local and global drivers of change. One way of doing this is asserting their identity, including landscape identity, as a way to counteract homogenising tendencies of global forces. This is not entirely an opposition to change but an opposition to both the rapid pace at which the local landscape is being transformed and to the external forces that are perceived to be driving that change. For example, the landscape that took decades to transform from native bush to pasture for sheep and beef, is easily transformed to dairy farms within months. A significant apprehension is the loss of community, as better resourced entities move in and displace those that cannot afford to transform the landscape for more intensive production practices. When such things happen, the community will retort, 'they don't belong here!', 'they just arrived!' or 'they will make their money and run!'. They are apprehensive about the transient nature of new capital, and their non-involvement in community matters.

There is the perceived threat of losing the familiar, landscape and people, to the forces of change and the loss of social-continuity, expressed at the basic level as loss of family heritage. This reality informs the conflicts and responses to policy by the community. However, the feeling of the key informants is that the councils were apathetic to this reality. Landscape change principles and policy which disregard social continuity will find opposition and very little buy-in.

... so they [government] have to be conscious of that ... when people are forced off their farms, that's a pretty big thing ... C17.

The contests of place are played out at the generic and benchmark levels of principles. Identity is important to communities as it defines who they are and distinguishes them from others. It links them to the landscape. The RMA at the benchmark level identifies specific landscapes to be protected, including aspects of Māori identity, relationships to ancestral lands and protected customary rights. Non-Māori communities also identify with landscape, which gives them identity. For example, communities in Central Otago characterise themselves as descendants of tough pioneers who were able to manage an equally rough landscape with harsh climate. It is not possible to effectively tease apart the people from the landscape. As has been noted elsewhere, for example Europe (Strecker, 2011) the construction of identity draws from physical, cultural as well as metaphysical aspects of the landscape. In addition to contests of place, a bi-cultural set up also suggests contests of meanings.

9.8 Contests of meanings

The discursive nature of decision making involves the use of language in framing policy. Inevitably tensions will arise since it is difficult to attain consistency of meanings between the diverse players and interests in landscape change decision making. The contest of meanings is played out at two levels - the translation of terms between community and policy makers, and the interpretation of the RMA by the planning and legal professions. Although communities are engaged in policy making through consultation, in their view the language of the RMA instruments such as district plans, does not reflect their aspirations. Furthermore, the RMA perceived by the community as allowing their involvement, has been dominated by the legal profession in its interpretation of landscape matters. This dominance termed 'lawyering the landscape' (Read, 2012) has often hindered participation by both professionals and the community in landscape matters. This leads to two things; reliance on the Environment Court to determine landscape management matters, and the community totally avoiding the court.

... RMA is about local people making decisions on local environment ... we tend to rely too much on expert opinion without locals saying this is what we want ... C10.

That is, it is perceived that what was envisaged as a tool for community participation has been appropriated by the legal profession such that, for example, if there are matters for review by the Environment Court,

... professional lawyers ... get behind them (groups) and give them legal opinion ... so rather than community ... now you get lawyers that are hunting up groups to say ... 'we should appeal this' ... instead of common Joe Bloggs ... it's a different ball game ... C8.

Furthermore, the language used in the hearings shifts the focus from the landscapes to the technicalities of district plans, policy statements, or the RMA. This can be frustrating to both the community and other professionals. For example;

... I have literally heard lawyers arguing whether a passage would be interpreted differently if it had a comma instead of a semicolon between two words ... I 7.

The situation above might arise even where the concepts are shared because as Williams & Matheny (1995) have argued, each language group gives meanings, and understands and interprets words in particular ways. Increasing diversity of values and meanings might potentially intensify conflicts (Patterson, Montag, & Williams, 2003), leading to failure of public policy as different players contest meanings of words and concepts. If a language or concept favours one approach over another considering it marginal, misunderstandings arise therefore limiting the impact of policy. It might also be that only one group bears the impact of the policy decision and not the other (B. A. Williams & Matheny, 1995). For example, there are different conceptions of

what 'efficiency' means for the use of water in the case study area. The council allows this ambiguity to achieve two things. One, farmers are able to experiment as to what would qualify as the most efficient use of water on their farms, and two, the council avoids imposing directives, for example, the council have explicitly stated that they are not asking farmers to install centre pivot irrigators. However, this ambiguous approach has been misinterpreted frequently as noted from the case study findings in Chapter 7. The perception is that, they are forcing them anyway to install capital intensive infrastructure, consequently, they are forced to intensify to recoup their investments. This is the perception of farmers as well as non-farmers, for example;

... if you analyse it, it is only efficient in the sense of growing grass, to make money ... it's where you come from and the definitions that matter ... C4.

... I am the 5th generation; my son is the 6th ... that is what the Regional Council may as well destroy in a lot of places ... C1.

The ambiguity builds up to mistrust between the community and the councils. There is a perceived lack of clarity between consultation stages and subsequent policy making such that,

... when policy comes out you think ... 'where did that come from?' ... it's not even remotely like what we were being told or were talking about ... C17.

However, none of these languages is sufficient on its own to articulate issues comprehensively. Different user groups are often not aware of this insufficiency and will often frame arguments in their own terms ignoring and discounting claims made in terms of other languages. Successful policy and decision making processes should recognise and take this into account (B. A. Williams & Matheny, 1995). The transparency with which policymakers and the community frame policy during consultation, drafting and the implementation stages has important implications for reduction of contests, backlash, and its acceptance.

Meanings seem innocent at the generic level of principles of landscape change. It is at both the benchmark and operational levels that they are mostly contested. However, there is one unique contest of meaning in the case study findings at the generic level, the meaning of sustainability. While agreeable across all other sources that sustainability refers to environmental parameters, the community in the case study area expand this definition not just to include but to predominantly refer to social continuity. When meanings are contested at the operational level, often matters are referred to the Environment Court, which therefore sets benchmarks, which are then applied at the operational level.

Williams and Matheny (1995) have argued that the challenge of framing policy is a struggle about language use and its meanings. These multiple meanings and interpretations inform the contests

and tensions of landscape change principles. Several authors have suggested the source of these contests. For example, Duncan and Duncan (1988) have argued that landscapes, although seemingly benign and unchangeable, are ideological tools with loaded political implications. They tend to naturalise social realities, ideas, and unquestioned assumptions with material consequences on landscapes. It is the quest to interpret and sustain meanings that generates contests evident from the key informants' accounts. In the New Zealand context, the RMA has been criticised for its textual ambiguity, presenting challenges of multiple but valid interpretations (Swaffield, 1997). Swaffield (1998) has discussed the phenomenon of multiple meanings of terms used in matters of landscape change policy, noting that policy makers express particular meanings, for specific ends, which are adapted from broader discourses. The role of planning authorities is not to reconcile these meanings, but to manage the expectations of the diverse players. This is achieved by examining the macro-scale, the discursive context, and the micro-scale, the context of use.

However, even after addressing the discursive, macro-scale and the particular, micro-scale, policy makers still need to focus on power plays in landscape change decision making. This is about who decides and is discussed next.

9.9 Contests of power: who gets to decide?

Power contests underlie the discourses and principles throughout this thesis. Those wielding power determine what is acceptable and what is not acceptable landscape change and the associated management approaches. Therefore the gaps and silences, contests of approaches, place and meanings all point to a broader struggle of who exercises power. In this regard, the contests on landscape change are about, one, what will or will not change, and two, who gets to decide. Is it the government or the community? What level of government and why? If the community, who in the community decides?

Landscape is an expression of power to determine the meanings read into a landscape, and determining what will exist on that landscape, what can and cannot be done on a landscape (Duncan & Duncan, 1988; D. Mitchell, 2008). This power controls diverse decisions such as land use plan approvals and designating land uses, among others. These are acts of social power incorporated in the form of landscape and they also shape the meaning of landscape, and are accepted, negotiated, resisted and contested. These imply that the landscape is an expression of power, an extension of power. Landscape change is therefore always battling against current, but often local, power structures that are embedded in the landscape (D. Mitchell, 2008).

Kong and Law (2002) discuss the multivalence of power including how it is expressed overtly, for example in command and control situations, or covertly through persuasive strategies. The softer and covert approach is less likely to arouse opposition. In a sense it is veiled so that, when successfully used, those under its influence might not even realise they are. Power from these two perspectives is exercised by among others, states and political groups, and is expressed through landscape. One way of doing this is controlling and manipulating the landscape, what can and cannot be done on a landscape. Often groups assert their own versions of understanding and meanings, realities and practices therefore transforming both their ideologies and landscapes. It is these contests that are revealed in the contests between different groups such as the farming community, special interest groups, new capital from outside Central Otago and government legislation. Once constructed, new landscapes will legitimise the power, and ideologies of those who created them (Kong & Law, 2002). Landscapes tend to naturalise ideologies and social realities to what is “...so tangible, so natural, so familiar ... unquestioned” (Duncan & Duncan, 1988, p. 123). This clearly articulates the contests visible in the case study area.

Contests of power are also built around scale. This is a contest between the centre and the periphery about managing landscape change in what has been termed the politics of scale (see Görg, 2007; Meadowcroft, 2002). In one perspective, when governments propose national policy for example, they assume that they know what is best for the entire national landscape. When they propose the principle of subsidiarity, it implies that this power is devolved to lower levels and to a finer landscape scale. However, key informant accounts show that a policy framework reliant on global assumptions often conflicts with local needs. This provokes opposition against, one, centralised and standardised policy, and two, those organisations responsible for implementing the RMA - the ORC- who are perceived as distant by the local communities. This is not a problem unique to Central Otago, or New Zealand, but has been experienced in other places such as Europe (see, Enengel et al., 2014; Pinto-Correia et al., 2006), which means lessons can be drawn from elsewhere.

To moderate the contests and manage landscape change in a manner acceptable to the diverse players with interests in Central Otago, and other rural landscapes in New Zealand, one has to consider a different approach. Westcoat Jr. (2008) has argued that landscape change influences and is influenced by economic and political forces in a feedback and feedforward loop. Landscapes support or resist economic and political forces. Drawing from Boulding (1990), Westcoat Jr. presents three concepts of power; the political, the economic and the integrative. The political involves coercion and threats to achieve set ends, whilst the economic relies on the

power of production and exchange. Integrative power relies on the power of love and respect and solidarity. Boulding was proposing the use of integrative models in improving the social and environmental well-being.

Westcoat Jr. (2008) has discussed approaches of political and economic power in shaping landscape change. The two approaches, however, have been marked by conflicts and controversies. The third approach, integrative power, offers a balance by presenting a plausible image of the future. The approach acknowledges that landscapes cannot be solely driven by the forces of economic or political gain. This then is a criticism of top-down command and control approaches, and perhaps also the neo-liberal legislation such as the RMA. It might also suggest support for the deliberative and communicative approaches to landscape change management. Evidence shows that the community in Central Otago, the district and regional councils, and special interests groups are already working within the communicative paradigm. This is not stated explicitly, however, and perhaps that is why the expectations of the various players are not clear within this ad hoc framework. It is hoped that the principles elicited in this study will better reframe the deliberative engagement in the district.

Although all the sources agree at the generic level that subsidiarity is a vital principle, there are contests at both benchmark and operational levels. The community seems to favour total subsidiarity, in which decisions of landscape change are made at the local level where the impacts of policy are most felt. The RMA in its structure seems to propose a centrally supervised subsidiarity. For example, in preparation of regional policy statements and coastal plans, the Minister for the Environment has to be consulted, together with other Ministers of the Crown affected by these instruments. Furthermore, when territorial authorities which are required to give effect to policy statements do not agree within a set period of time, the Minister for the Environment has to intervene (Ministry for The Environment, 1999; Quality Planning, 2015). This could be the reason why communities feel they are being over-governed, as for example stated by some key informants;

... to a certain extent we are being over-governed ... a person's ability to think and to innovate is being stifled ... by all the rules and regulations ... we get too much driven from the top ... C14.

A possible solution to this disconnect would be to embed council staff or other acceptable professionals (with say in the council) within the community to enable a more continuous flow of information from the community to the councils and from the councils to the community.

The landscape change principles identified in this study, for example, public participation, transparency and inclusivity are not just about landscape change decision making, but reflect wider democracy discourses from which they are drawn (for example Cohen, 1971; Song, 2012; Stone, 2012). Viewed from the generic level, one may get the illusion that democratic discourses are uncontested. However, at a finer scale, even principles such as equality of participants and their interests counting equally in decision making (see for example, Christiano, 2006; Stone, 2012) present problems when dealing with scale relationships of insider to outsider, local to non-local interests. For example, is a tourist transiting through Central Otago entitled to the same decision making weight as a farming landowner? These raise the challenge of defining the territorial limits, of who can or cannot participate in decision making about local landscape change issues - which if not well articulated presents a circularity problem (for example, Arrhenius, 2005; Saunders, 2012; Song, 2012).

The study findings are consistent with the findings of others who have argued that public decision making is characterised by tensions and involves mediating the conflicts of competing interests (for example, Bouchart et al., 2002; Stone, 2012), all of which vie for prominence and advocate specific perspectives, systems and outcomes (Swaffield & Brower, 2009).

The discourses were valuable in revealing that policy making and decision making for landscape change is far from consensual, which suggests that, policy makers have to take into account the diverse sectoral discourses in policy formation informed by power and scale. The discussion will now examine the three main policy implications in the next section.

9.10 Policy implications of the research

This study has three broad policy implications for shaping principles of landscape change decision and policy making. These are, first, the way the professionals and community are responding to landscape change to take into account episodic changes in the landscape including dysfunction and obsolescence. The second concerns responding to the need for landscape context in policy, by way of making policy at the landscape scale, and the third involves embedding professionals within local communities to meet the need voiced by the community for continuous community engagement. The last two can be termed 'local landscape strategy making'.

Landscapes change in episodes in response to opportunities and threats, cumulatively altering the landscape (Muir, 2003). Pinto, Correia & Primdahl (2009) have argued that landscapes change more rapidly in use than in the structure, and if management policies focus only on structure, which does not change as fast, they are bound to fail. In addition landscape management policies

often emphasise conservation, preservation of the landscape, and neglect emerging conditions including obsolescence. These require new strategic approaches.

Where the RMA in New Zealand has focused on facilitating the use of landscape in the exploitative phase, and emphasising conservation of specific features and landscapes, the science literature adopts a more adaptive role which recognises that landscapes cyclically pass through the stages of exploitation and conservation, followed by energy release and reorganisation. To manage these phases, corresponding responses are suggested by Matthews and Selman (2006) and Wood and Handley (2001), -see Figure 9.3, -where professional and communities proactively intervene to strengthen weak landscapes, recreate degraded landscape, conserve as well as restore.

Strengthen	Conserve
Create	Restore

Figure 9.3: Community and professional response to landscape obsolescence

A fundamental implication is the use of the landscape as a way to integrate policy goals at the local level rather than protect a static view of landscape as scenery. However, it is important to define the territory where this integrative approach operates. Challenges exist if the community and the policy makers do not consider the area in question as a whole. One possible answer to this is to let the community decide the extent of their landscape - valley or catchment which also shares the limits of what they consider as the community. This is the local landscape, valley, or a catchment, which should be used as a tool to integrate policy. Policy should be framed based on this local context, including the impacts of implementation at this level. This is a viable concept since it is a unit identified by the community as where the impacts of policy are felt. It is important to note that the community often includes professionals resident or with interests in the locality.

This expresses the concept of spatiality of democracy, which presupposes a territory (see for example, Mazzuca & Munck, 2014; Song, 2012) to resolve the governance problem of who can or cannot participate in decision making on landscape change. Landscape offers a powerful and eidetic way to decide who participates in decision making - for example, using valleys, catchments, as units of reference and as defined by the communities involved. This is similar to

the concept of landscape democracy discussed by, among others, Agyeman, Bullard & Evans (2003) Arler (2011) and, Minang et al. (2015). The competing interests and discourses at this local landscape framed around identity conceal who is really local. What is clear, however, is that those outside the spatially defined landscapes, for example non-residents or transiting tourists, have little say in matters of local landscape. This is not entirely bad because the issues at hand are everyday landscapes, however, if the resource in question has implications beyond the spatial unit, perhaps other interests, for example, adjacent local landscapes should participate.

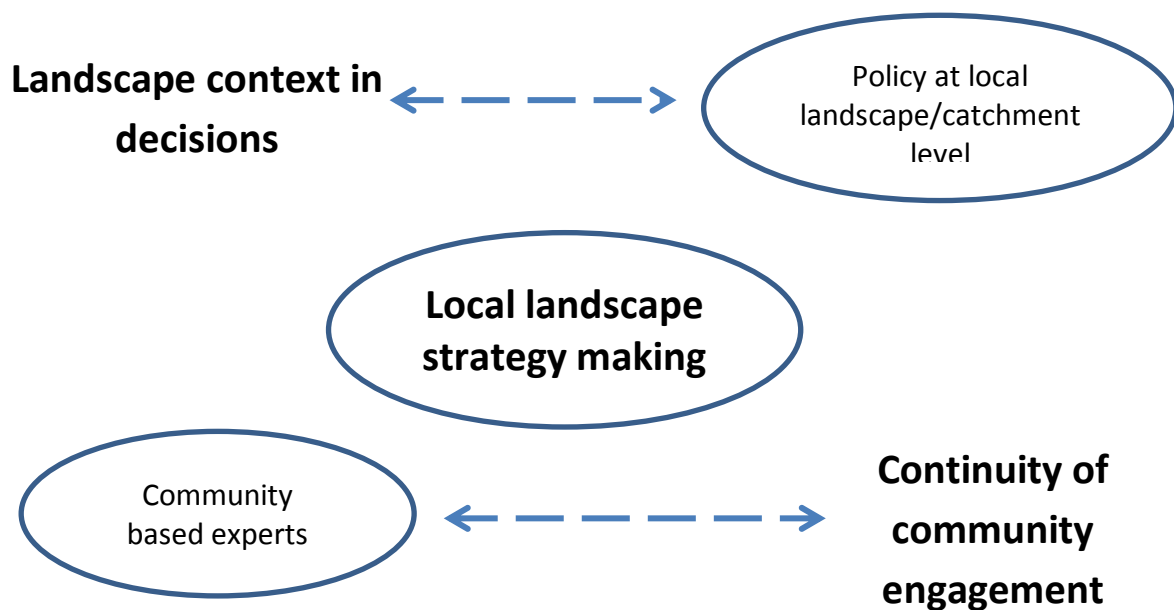


Figure 9.4: Local landscape strategy making as an organising framework

Why should landscape be used as a unit of synthesis for policy? Such an approach is useful because rural landscapes are impacted by several streams of policy interventions from different sectors, administrative levels, control instruments and spatial approaches. These streams show partial coordination and poor integration, and result in contradictory interventions (Primdahl, Kristensen, & Swaffield, 2013). For example in the case study area, the Otago Regional Council deals with water, landscape and air separately, and landowners respond to requirements of related instruments accordingly.

Furthermore the contests and tensions are mostly expressed at the operational level, which corresponds mostly to the local landscape. It is proposed that for both policy and landscape change decision making principles to be contextually relevant, they are best expressed around a local landscape. Of course this presents a challenge of making policy which is relevant at catchment level or valley scale.

Primdahl, Kristensen & Swaffield (2013) have shown the value of landscape strategy as a means of coping with plans and policies that may be fragmented and incoherent and at different scales and in different contexts. This approach coordinates actions of land owners at the lowest level, and aligns the policy outcomes with policy objectives at the landscape level. They have further argued that this is a discursive approach involving locals and external experts in a communicative process where alternatives and possibilities are deliberated on.

The idea of community based experts does not imply a new layer of governance. The community's concerns are about longevity of engagement with council staff, who might be very mobile therefore limiting meaningful long-term engagement. However this will require the centre to bear the cost of discursive work of embedding professionals within the community. This can however be eased where some professionals are already members of the communities concerned.

9.11 Challenges and questions for future research

Several challenges arising in the course of this thesis point to possible policy areas of concern and the need to explore future areas of research. These are; first, the tension between central government and its short political cycle, and local communities. The national government has a great influence on what happens on the landscape in terms of policy, and there is a feeling of disenfranchisement within a community which feels pressured by global forces channelled through the national government to improve efficiency and increase production. However, they have little say in the policy. Furthermore, since the beginning of this research there have been proposals to amend the RMA, leading to outcomes which will further disadvantage landscape in New Zealand. Second, the Environment Court has been reactive, although the professionals' and community's perceptions are that it has done more than its fair share to influence both policy and landscape practice. The challenge is developing landscape practice that is not 'lawyered' or strategically influenced by the court, and is not simply reacting to the court rulings. Third, policy making and landscape change decision making hinge around management of scale relationships in local landscape. Therefore the discourses of scale are not stable as often assumed by policy, by for example, assuming a homogenous community with equal power in decision making. Four, the proposal to embed professionals in communities has financial implications for the regional council. This is not entirely new; landscape level strategy making has been successfully used, for example in Denmark (Primdahl et al., 2013). The resources needed to initiate discourse on such a strategy are available, but it is not clear whether the resources needed to maintain local level policy are available, or if there is political will to do so.

Another challenge relates to context. The research was based on a case study and the findings are grounded in Central Otago. Although the issue of identity is woven deeply throughout the discourses in the study, the case was done with the greater Otago Region in mind. What is needed is to examine the relevance of these findings for the rest of New Zealand. The following four research questions suggest the direction in which this can be investigated.

1. Central Otago has a unique identity in New Zealand in terms of its landscape form and history, which had major implications on the discourses that arose in the study. The Central Otago District Council markets the district through 'A World of Difference' brand built around this identity. Globally, Tourism New Zealand has marketed the country using the '100% Pure New Zealand' for as part of their goals of developing, implementing and promoting strategies for tourism (Tourism New Zealand, 2008). Such branding and differentiation has been termed commodification and leisure geographies (for example McClean, 2007; Rosin, Dwiartama, Grant, & Hopkins, 2013). When such activities are done by government agencies, they have significant policy implications nationally and at local landscapes, ranging from how councils treat landscapes and how communities perceive them (cf. picturesque/ iconicism discourse). Therefore, it is important to ask, 'to what extent are the landscape change views expressed in Central Otago common to other areas of rural New Zealand?', and how are other regions using their landscapes in branding?
2. The gaps and silences evident in the findings were not accidental or legacy effects only, but were strategic. Therefore one ought to ask, 'how do the gaps, silences and diverse points of emphasis by sectoral interests impact on landscape change decision making and policy?' This is because often it is the unsaid, unstated and unclear meanings, understandings and interpretations that present challenges in policy formation and implementation.
3. Does the set of discourses - productionism, conservationism and preservationism, regionalism and place identity, iconicism and gentrification - noted in the findings operate in other rural landscapes in New Zealand? Read (2005) in her case study of Otago Peninsular identified discourses used in landscape construction similar to those found in this study. There is need to examine if these are found in other landscapes outside the region.

4. As landscapes change from forces beyond the jurisdictions of regional or national governments, what can be done about institutional inertia to ensure that policy cycles respond to changes at the landscape level? This is because if land uses and landscapes change faster than the systems which govern them, there will always be frustration and conflict between the community and those charged with implementing policy.

9.12 Conclusion

This thesis set out to establish a conceptual framework for understanding and deliberating on landscape change, and to identify principles of decision making upon landscape change. It focused upon principles which can be applied to policy making and landscape management within the Otago Region besides the potential relevant application beyond the region. In answering the research question and meeting the study's objectives, several significant findings have emerged. These are:

1. Development of a conceptual framework for categories of principles of landscape change and decision making which drew from literature, professionals and community key informants accounts. This recognised substantive, governance and process principles as three types of principles of landscape change, and they operate at three specificity layers namely generic, benchmark and operational levels.
2. Establishing that there are tensions, gaps and silences in the principles of decision making for landscape change management. Different interests, understandings and interpretations in landscape change elicit tensions. Due to legacy issues in policy there are gaps, and also strategic silences by different interests in decision making.
3. The findings support the argument that deliberation over landscape change is a discursive work framed by, among other things, discourses, and power and scale relations. There are diverse interests with multiple competing and at times overlapping discourses which can only be mediated through discursive techniques as proposed in discursive and landscape democracies.
4. The potential use of landscape strategy making organised around two key points namely, landscape context in decisions, and continuity of community engagement in decision making. This is in conformity with broader ideals identified locally and internationally of promoting subsidiarity. What is unclear is to what extent those with power are willing to

move from rhetorical support for subsidiarity as a principle of resource management, to actual implementation in landscape change management.

These contributions have suggested how decision making in landscape change is underpinned by principles, and discourses which embody them and, which are discursively enacted and embedded in landscape- place and polity in an ongoing manner. Embracing both principles and evolving discourses will lead to a clearer understanding of how to manage landscape change resiliently as different interests continue to vie to imprint their identities on the landscape into the future.

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Appendices

Appendix A: Human Ethic Committee approval

Research and Commercialisation Office

T 64 3 325 3838

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New Zealand

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Application No: 2012-32

3 October 2012

Title: Pathways to Robust Futures in Central Otago: Distilling Principles to Guide Landscape Policy

Applicant: Dennis Karanja

The Lincoln University Human Ethics Committee has reviewed the above noted application.

Thank you for your detailed response to the questions which were forwarded to you on the Committee's behalf.

I am satisfied on the Committee's behalf that the issues of concern have been satisfactorily addressed.

I am pleased to give final approval to your project. Please advise Alison Hind when you have completed your research and confirming that you have complied with the terms of the ethical approval.

May I, on behalf of the Committee, wish you success in your research.

Yours sincerely



Professor Grant Cushman
Chair, Human Ethics Committee

cc Simon Swaffield

PLEASE NOTE: The Human Ethics Committee has an audit process in place for applications. Please see 7.3 of the Human Ethics Committee Operating Procedures (ACHE) in the Lincoln University Policies and Procedures Manual for more information.

Appendix B: Pilot interview guide

Pilot Interview	
Number:	Start:
Date:	End:
<p>Introductory questions</p> <p>Have you participated in District Plan preparation/ consultation workshops?</p> <p>Were you been asked to make decisions on land use or landscape issues?</p> <p>What were your decisions?</p> <p>What were the reason(s) behind your decision?</p> <p>Did you adapt any particular principles or criteria?</p>	
<p>The focus for today's discussion</p> <p>You have been appointed to a taskforce determining acceptable landscape and land use change in Central Otago District in the year 2025. The case study area, Omakau, is representative of the trends in the whole district and the nearby Queenstown Lakes District.</p> <p>You have been asked to make decisions, on behalf of the Central Otago community on a series of proposed developments.</p> <p><i>[I will proceed to present scenarios I-IV separately and ask the following questions:]</i></p>	
<p>Given the scenario, would you approve this change?</p> <p>YES-Why?</p> <p>NO-Why not?</p> <p>What has been most important to you in making this decision?</p> <p>Would you make the same decision in a similar situation elsewhere in Central Otago? [YES or NO. Please explain.]</p> <p>Would it be different if you were representing the Omakau community? Why?</p> <p>What are the broad principles we can agree on to judge landscape change and bridge different interests?</p>	
<p>NOTE: Each scenario will be presented separately and deliberated on. This will not be for its merits and demerits, but as a launching pad for further decision making and is not as an end product. The research does not focus on scenario outcomes, but on the decisions made as facilitated by these scenarios.</p>	

Appendix C: Phase I interview guide

Phase I Interview guide	
Number:	Start:
Date:	End:
<p>I would like to thank you for taking the time to meet me. My name is Dennis Karanja, a PhD student at Lincoln University.</p> <p>You have been invited to participate in a project called <i>Pathways to Robust Futures: Distilling Principles to Guide Landscape Policy Decisions</i>. The aim of the project is to examine landscape focused decision making by experts, professionals and communities and to distil principles of landscape change management which can be used in a regional policy statement.</p> <p>I would like to discuss with you issues of landscape change, in particular within Central Otago District of New Zealand. Specifically I am interested in how policy experts, landscape architecture professionals and the community determine what acceptable landscape change is.</p> <p>The interview will take approximately 1 hour. I will take notes as well as record the interview. Your responses are kept confidential and any report emanating from the interview will ensure your anonymity.</p> <p>If there are no questions, I will proceed with the interview.</p> <p>Interview sample questions</p> <p>What is your engagement with the Central Otago landscape?</p> <p>What are the current trends of landscape change in Otago?</p> <p>What is influencing landscape change in your opinion?</p> <p>What are the significant tipping points of change in the Central Otago landscape?</p> <p>What opportunities, challenges, uncertainties and risks face the Central Otago landscape?</p> <p>What might the Central Otago landscape look like in 30 – 50 years from today?</p> <p>What is the role of professionals in landscape change management?</p> <p>What is the role of policy experts in landscape change management?</p> <p>What is the role of the community in landscape change?</p> <p>Personal background information</p> <p>Is there anything you would like to add?</p> <p>Thank you for your time.</p>	

Appendix D: Phase II interview guide

Phase II Interview guide	
Number:	Start:
Date:	End:
<p>Have you participated in District Plan preparation/ consultation workshops?</p> <p>Were you asked to make decisions on certain aspects such as land use?</p> <p>What were your decisions? What were the reason(s) behind your decision</p>	
<p>You have been appointed to a taskforce determining acceptable landscape and land use change in Central Otago District in the year 2025. The case study area, Omakau, is representative of the trends in the whole district and the contiguous areas of Queenstown Lakes District.</p> <p>The scenarios presented to you require you to make decisions, on behalf of the community.</p>	
<p>Granted the alternative I, would you approve such changes?</p> <p>YES-Why?</p> <p>NO-Why not?</p> <p><i>Work through alternatives IA, IB, IC</i></p>	
<p>Granted the alternative II, would you approve such changes?</p> <p>YES-Why?</p> <p>NO-Why not?</p> <p><i>Work through alternatives II A, IIB</i></p>	
<p>Granted the alternative III, would you approve such changes?</p> <p>YES-Why?</p> <p>NO-Why not?</p>	
Do you have any more comments?	

Appendix E: Phase III interview guide

Phase III interview guide	
Number:	Start:
Date:	End:
<p>The principles illustrated have been synthesised from different informants who were interviewed over the last year, and have been summarised according to sources. The case study area principles are a synthesis of contributions from both professional and community members in Central Otago.</p>	
<p><u>Professionals Reference Key informants</u></p> <p>Have the principles covered what we discussed earlier?</p> <p>Do you have further reflections on these principles?</p> <p>How should the principles be operationalised or legitimised?</p> <p>Who should be involved?</p> <p>Why should they be involved?</p> <p>How should they be involved?</p> <p>How can contests or conflicts between principles or proponents of particular principles be resolved?</p> <p>Do you have any comments or observations about how these principles might influence council policy?</p>	
<p><u>Community Reference Key informants</u></p> <p>Have the principles covered what we discussed earlier?</p> <p>Do you have further reflections on these principles?</p> <p>How could these principles be put into practice?</p> <p>How can contests or conflicts between principles be resolved?</p> <p>If a party does not agree with common principles how can this be resolved?</p> <p>Do you have any comments or observations about how these principles might influence council policy?</p>	

Appendix F: Research information sheet



School of Landscape Architecture
Faculty of Environment, Society and Design

T 64 3 325 3804
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PO Box 84, Lincoln University
Lincoln 7647, Christchurch
New Zealand

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28th April 2014

Research Information Sheet I

I am inviting you as a Key Informant in a research project titled ***Pathways to robust Futures: Distilling Principles to Guide Landscape Policy Decisions.***

The aims of this project are *to examine landscape focused decision making by policy experts, professionals and communities, and to distil principles of landscape change management.*

Your participation in this project is entirely voluntary. The interview is expected to take approximately 1 hour of your time. I will interview you as a Key Informant about landscape change. This will deal with the changes that are happening and the possible future trajectories of landscape change and change management. I will present to you scenarios of future changes and ask you to make decisions on them, and following ask you to justify the decisions. While this is a case study focusing on Central Otago District and in particular Omakau area, the outcomes will be applicable throughout the Otago Region. The interview may also cover other landscape change and management issues elsewhere in New Zealand.

I will record the interview by means of taking notes and if agreed to by you, digital audio record. Shortly after the interview, I will share the interview transcript with you. In the performance of the tasks and application of the procedures, there are no foreseen risks.

The results of the project may be published, but you may be assured of your anonymity in the way the comments and judgments are reported: you will not be linked to any particular views or statements in reports of the interview, or made known to any person other than myself, my supervisors and the Human Ethics Committee, without your consent. To ensure your anonymity the following steps will be taken:

1. *Your name will not appear in any oral or written report or presentation.*
2. *Data will be interpreted and presented in such a way that no link will be established between you as the participant and the data.*
3. *The consent forms and data will be stored separately and securely and will only be accessible to me as the researcher and my supervisors.*
4. *The data you provide will be held by the university for 6 years after which they will be destroyed by shredding and incineration.*

This study is funded by Otago Regional Council (ORC) through the Otago Regional Council's PhD Scholarship in Landscape Planning at Lincoln University. However, you are assured that if you choose to or not to participate in the study, this will not affect your relationship with the ORC, neither will the ORC be made aware of who has or has not participated in the study.

The Otago Regional Council wishes to develop landscape policy to better manage sustainable landscape change in the region in a way that is consistent with the aspirations of both local and wider communities. In order to do this, the ORC seeks to better understand the nature of landscape change and to identify principles that may inform future Regional Policy Statement and help guide Territorial Local Authorities in their day to day decisions on landscape issues.

The research has been reviewed and approved by the Lincoln University Human Ethics Committee.

My supervisors are;

Kevin Moore,
Associate professor,
Faculty of Environment, Society and Design.
Contact Details 03 325 3838 Extension 8644 Email: Kevin.Moore@lincoln.ac.nz

and

Simon Swaffield,
Professor,
School of Landscape Architecture.
Contact Details 03 325 3838 Extension 8442 . Email: Simon.Swaffield@lincoln.ac.nz

Thank you for taking time to participate in this research. I will be pleased to discuss any concerns you have about participation in the project.

Dennis Karanja,
PhD student in the School of Landscape Architecture.
Contact details +64 3 423 0459 | **m** +64 21 0256 7306
Email: dennis.karanja@lincolnuni.ac.nz

Appendix G: Consent form



School of Landscape Architecture
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New Zealand

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Consent Form I

Name of Project: Pathways to robust Futures; Distilling Principles to Guide Landscape Policy Decisions.

I have read and understood the description of the above-named project. I have also been informed that participation in this project is entirely voluntary. On this basis I agree to participate as a subject in the project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved. I also consent to this interview /discussion being recorded by note-taking or digital audio record. I understand also that where this is a group discussion I may not withdraw from the project, including withdrawal of any information I have provided without affecting the project. Therefore my participation is regarded as an indication that I will not withdraw. *(Single interviewees may withdraw their participation by calling the researcher using the contacts provided)*

Name:.....

Signed:..... Date:.....

This project has been reviewed and approved by the Lincoln University Human Ethics Committee.

New Zealand's specialist land-based university

Appendix H: Initial key informants Phase I

ID	Occupation
I 1	Engineer/ Resource Planner
I 2	Landscape Architect/ Planner
I 3	Policy expert/ Resource planner
I 4	Resource planner
I 5	Resource planner/ engineer
I 6	Landscape Architect/ Planner
I 7	Landscape Architect/ Planner
I 8	Landscape Architect/ Planner
I 9	Lifestyler
I 10	Landscape Architect/ Planner
I 11	Resource Planner

Appendix I: Professionals Phase II

ID	Occupation
P 1	Landscape architect/ Planner
P 2	Engineer/ Planner
P 3	Resource planner
P 4	Resource planner
P 5	Landscape architect
P 6	Landscape architect
P 7	Landscape architect/ Farmer
P 8	Landscape architect
P 9	Landscape architect
P 10	Landscape architect/ Planner
P 11	Landscape architect
P 12	Resource planner/ Landscape architect
P 13	Landscape architect/ Planner
P 14	Landscape architect
P 15	Landscape architect
P 16	Academic
P 17	Academic/ Landscape architect
P 18	Resource planner
P 19	Resource planner
P 20	Resource planner/ Policy expert

Appendix J: Community Phase II

ID	Occupation
C 1	Farmer
C 2	Lifestyler
C 3	Lifestyler
C 4	Lifestyler
C 5	Business
C 6	Business
C 7	Business
C 8	Community leader
C 9	Community member/ resource planner
C 10	Teacher
C 11	Business
C 12	Community leader
C 13	Farmer
C 14	Farmer
C 15	Farmer
C 16	Farmer
C 17	Farmer
C 18	Farmer

Appendix K: References Phase III

ID	Occupation
R 1	Landscape architect
R 2	Policy expert
R 3	Community member/Resource planner
R 4	Community member/Farmer
R 5	Community member/ social commentator
R 6	Landscape architect
R 7	Planning consultant
R 8	Policy expert
R 9	Resource planner/ Engineer
R 10	Landscape architect
R 11	Landscape architect

Appendix L: Field notes

<p>KI1 26/10/2012</p>	<p>Audio D&C 01</p>	<p>NO. 5</p>
<p>R. Is the consent with strategy group?</p> <p>KI. Yes - we present scenarios to examine SWOT</p>		<p>Scenarios of SWOT Analysis</p>
<p>Q. Is that a group process?</p> <p>KI. Yes. - Helps iron out issues before/addressed earlier - need not arise at consent</p> <p>Different groups understand others' opinions</p>		<p>clarify?</p>
<p>Q. Are there independent persons guiding the process?</p> <p>KI. The Chair is from outside the area - no economic vested interest - works as mediator</p>	<p>Relieve transcript</p>	<p>Mediation / Negotiation Independent Impartial</p>
<p>Q. What are the challenges of this process?</p> <p>KI. Different backgrounds but essentially better process involving farmers, district council, Environmental groups - But no complete agreement - there is good will. - proposal doesn't divide the community -</p>		<p>Inclusive</p> <p>- compromise</p>
<p>Q. Has the process worked elsewhere?</p> <p>KI. - <u>Coasterbury Water Strategy</u> (ECAN?) where whole community is involved in long term before consent hearing</p>		<p>continuous engagement?</p>
<p>Q. Any other thing we haven't addressed?</p> <p>KI. - Start with big issues & narrow in to other issues</p> <p>- Main challenges are around water quality & quantity</p> <p>- Address issues with most controversy and potential to drive contentious</p>	<p>Check ECAN website</p>	
<p>Q. What do you mean by Phases?</p> <p>KI. Feasibility study</p> <p>We have worked for 12 months - The next phase is a detailed study - landscape assessments, geology trials</p> <p>Phase will last 18 months - 2 years to consent.</p> <p>Q. Is this a long term view?</p> <p>KI. Yes maybe 4 years.</p>		