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Wai Bother?

Factors encouraging and sustaining public involvement in the Christchurch West Melton and Waimakariri Zone Committees

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by

Hayden Zervos

Lincoln University

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Abstract of a Dissertation submitted in partial fulfilment of the requirements for the Degree of Master of Planning.

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by

Hayden Zervos

This research dissertation aims to investigate and identify what factors have an influence on the incentives of individuals to seek membership on the Christchurch West Melton Zone Committee and the Waimakariri Zone Committee in Canterbury. Since the implementation of the Canterbury Water Management Strategy (CWMS) in 2009, there has been an integrated and collaborative approach used towards land and freshwater management. The CWMS involved the creation of ten water management Zone Committees comprising of a range of government and non-government appointees and representatives. Committee members are tasked with working together to consult with their communities and deliberate amongst each other to decide how to implement the CWMS and the aspirations of their communities through their Zone Implementation Programmes. This collaborative form of governance is expected to contribute to a higher level of legitimacy in decision-making and lower barriers towards policy and plan implementation, monitoring and enforcement. This is achieved through providing a space for community actors to deliberate amongst each other to make trade-offs and compromises contributing to more rational and legitimate decision-making. However, the potential for participatory planning to yield these outcomes in practise has been subject to significant critique due to a lack of available evidence on under what circumstances participatory planning arrangements are likely to be effective. This includes what motivates people to become involved and remain involved in participatory processes or arrangements. Therefore, the purpose of this dissertation is to attempt to develop a greater understanding as to why people of all backgrounds become involved and remain involved in Christchurch West Melton and Waimakariri Zone Committees. To do this, the impact of contextual variables in the water zones, attributes of the institutional design of the Zone Committees and their tangible and intangible outputs to date were examined. All these

variables can have an influence on whether participants feel their time in a participatory process is worthwhile according to academic theory on participatory planning. Findings suggested that the incentives to participate vary between different community stakeholders depending on their respective circumstances and aspirations. The need to influence decision-making to prevent adverse outcomes and impacts on their interest is a key imperative for the farming community and Rūnanga to remain involved. Furthermore, the availability of alternative avenues to secure stakeholder interests and concerns that participants cannot contribute to better outcomes for their community and the natural environment, represent a challenge towards incentivising individuals motivated by environmental and community concerns to participate. Overall, it is important that members of the public view that the benefits of becoming involved and remaining involved in the Zone Committees outweigh the cons.

Key Words: Canterbury, Christchurch, Collaborative, Committee, Community, Legitimacy Outputs, Participants, Waimakariri, Zone.

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List of Abbreviations

1. **CCC**: Christchurch City Council
2. **CWMS**: Canterbury Water Management Strategy
3. **CWMZ**: Christchurch West Melton Zone
4. **CWMZC**: Christchurch West Melton Zone
5. **ECAN**: Environment Canterbury Regional Council
6. **IWRM**: Integrated Water Resource Management
7. **LAWF:** Land and Water Forum
8. **LAWP:** Canterbury Land and Water Plan
9. **LGA**: Local Government Act
10. **NPS-FM**: National Policy Statement for Freshwater Management
11. **RMA:** Resource Management Act 1991
12. **TLA**: Territorial Local Authorities
13. **WZ**: Waimakariri Zone
14. **WZC**: Waimakariri Zone Committee
15. **WDC**: Waimakariri District Council
16. **WRM**: Water Resource Management

Chapter 1:

Introduction

Freshwater has been regarded as one of New Zealand's primary national assets (Land and Water Forum, 2010), with well being of New Zealanders dependent on sustainable freshwater management. Despite this, freshwater quality and availability throughout the country has been declining over time (Fenemor, et al., 2011; Foote, et al., 2015; Howard-Williams, et al., 2010). Since the implementation of the Resource Management Act (RMA) 1991, freshwater has been managed through an effects based adversarial consult-decide, defend, litigate approach (Gorman, 2009; Kirk, et al., 2020). This approach has been critiqued for being largely unable to address the cumulative effects of water takes and diffuse source pollution (Brunette, 2006), which has contributed to the decline of aquatic ecosystem health, water quality, availability. (Ballantine, & Davis-Colley 2009; Cullen, et al., 2006). This has contributed to greater tensions between different user groups (Russell, Frame & Lennox, 2011; Suazo, 2019). These tensions have manifested in active and passive forms of resistance including petitioning (Ruddock, 2018) court cases (Maxwell, 2020), protest (Young, 2020), acts of vandalism (Earley, 2020), and threats against the wellbeing of proponents and opponents of water management projects (Thomas, 2014). This links to findings in a report on public participation by the Parliamentary Commissioner for the Environment (1996) that highlighted that if conflicts are unable to be resolved through decision-making processes, they will likely remain and contribute to a decline in public trust resulting in re-ligation, civil-disobedience, and political instability. Therefore, if participatory planning arrangements in New Zealand do not accommodate the diverse range of interests in its operating context, tensions between competing stakeholder groups may escalate. According to Sinner, Newton and Duncan (2015), the long-term prospects of success of collaborative arrangements depends on perceptions of their democratic legitimacy amongst stakeholder groups. This suggests that participant perceptions of the legitimacy of a participatory arrangement can have an impact on its prospects of success in regard to what it was set up to achieve. Decisions viewed as illegitimate may be confronted with various forms of resistance which may increase policy or plan implementation, monitoring and enforcement cost (Connelly, 2010; Lane, 2005; Sinner, Newton & Brown, 2015). That may lead to a less efficient water management regime and constrain action towards proactively addressing the underlying drivers behind pressures on freshwater resources. Therefore, it is important to identify and examine what factors influence the decisions of individuals to become involved and remain involved in participatory approaches for water resource management (WRM).

Over the last decade Canterbury (New Zealand) has been at the forefront of implementing collaborative management of freshwater through a series of collaborative "zone committees" to

implement a broader Canterbury Water Management Strategy. The sone committees approximate catchment boundaries and include representatives of the indigenous Māori communities and members of the public alongside local authority representatives. As the legitimacy of the collaborative approach in Canterbury could be greatly impacted by the willingness of members of the public to continue to participate in the Zone Committees. To answer the following research question:

> What factors encourage and sustain public involvement in the Christchurch West Melton and Waimakariri Zone Committees to become involved and remain involved?

This research dissertation investigated the factors which motivate members of the Canterbury Zone Committees to become and remain involved with their Zone Committee. Although there has been some research conducted on other Zone Committees such as the Hurunui-Waiau and Selwyn Waihora Zone Committees (Duncan, 2014; Memon & Duncan & Spicer, 2012; Sinner, Newton & Duncan, 2015), there has been no identified research conducted on the views of participants on the Christchurch West Melton and Waimakariri Zone Committees on why they participated. Therefore, this research will contribute towards better understanding what motivates individuals to become involved and remain involved with these Zone Committee. Therefore, the following questions will aim to be answered through this research:

1. Which context factors influenced participants to become involved and remain involved?

2. How have the attributes of the design Christchurch West Melton and Waimakariri Zone Committees influenced participants to become involved and remain involved?

3. How have the outcomes and impacts of the Christchurch West Melton and Waimakariri Zone Committee influenced participants to become involved and remain involved?

1.1 Structure of Dissertation

Chapter 1 will cover the background to the formation of the Zone Committees and their functions, responsibilities and composition. The contextual environment of the two cases studies will also be examined.

Chapter 2 the Theoretical Context with critically analyse and evaluate academic theory related on collaborative planning and factors which may contribute towards motivating people to become involved and remain involved in participatory planning arrangements.

Chapter 3 outlines my research approach towards answering the research aim and questions, reasons for using this approach, what went well and have I confronted challenges encountered throughout the research process.

Chapter 4 then identifies the findings from relevant literature examined and discusses their significance to each of the research questions.

Chapter 5 elaborates on the results from semi-structured interviews with members of the two Zone Committees.

Chapter 6 examines the significance of these findings from the interviews and relevant literature examined in the theoretical context.

Chapter 7 articulates and summarises the findings from this research dissertation and possible areas for future research.

1.2 Background

This chapter describes the situation in Canterbury in regard to WRM before the shift towards the collaborative approach through the implementation of the Canterbury Water Management Strategy (CWMS). Following this, the purpose of the CWMS as well as the purpose, responsibilities and compositions of the Zone Committees are examined. Finally, a brief background of the contextual conditions of the Christchurch West Melton Zone Committee (CWMZC) and the Waimakariri Zone Committee (WZC) are discussed.

1.2.1 Towards a Strategy

In Canterbury there has been a significant decline in the aquatic ecosystem health of many rivers, lakes, lowland streams and groundwater bodies, and the recreational, amenity and cultural opportunities supported by these water bodies and management remains relatively fragmented and the benefits of the use of freshwater resources being unevenly distributed (Kirk, 2017). Furthermore, water availability for irrigation and other activities has become less reliable overtime. This has been attributed to contamination of waterbodies by a range of pollutants including by sediment, nutrients and bacteria, and the unsustainable use of freshwater contributing to depletion of freshwater resources in some areas (Canterbury Water, 2019; Kirk, 2015; Lambie, Pham & Taiuru, 2019). One of the primary factors believed to be attributed to poor WRM outcomes in Canterbury and throughout New Zealand more generally, has been linked to a lack of clarity on how to give effect to the purpose and principles of the Resource Management Act (RMA). There had also been a lack of initial consideration of the cumulative effects of freshwater allocation and diffuse source pollution, poor monitoring and enforcement of policies and the design of central and local government institutional arrangements not reflecting the temporal and spatial variability and the public good element of freshwater management (Kirk, 2017; Talbot-Jones, et al., 2020). More so, there has been a lack of clear central government guidance, resulting in the RMA's definition of sustainable management being subject to interpretative flexibility contributing to a diverse range of interpretations on what should be done to promote sustainable management (Kirk, et al., 2020). This lack of guidance and assistance from the central government contributed to poor outcomes for WRM in Canterbury (Kirk, 2015). So much so, writing more than a decade ago Memon & Weber (2008: 1), argued that:

> The impending crisis of water resource use and management in Canterbury can only be described as acute and in need of a new approach capable of reframing stakeholder decisions in support of water resource sustainability for the long haul.

This illustrates that there was a need for a new WRM approach in Canterbury which must be able to contribute towards changing the way important stakeholder groups use and value freshwater in order to promote sustainable WRM.

In response to the increasing recognition of the high cost involved in top down adversarial WRM approaches, the Land and Water Forum (LAWF) recommended that a collaborative approach be used for WRM believing it would result in faster and more efficient planning and more equitable outcomes and impacts of decision-making outputs (Land and Water Forum, 2010). Since then, collaborative and participatory approaches to WRM have gained traction in different parts of New Zealand. Nine regional and unitary councils in New Zealand including the Greater Wellington, Northland, Waikato, Hawkes Bay, Southland, Canterbury Regional Councils have adopted participatory approaches for WRM which involve non-government participants in decision-making for WRM to varying extents (Duncan, & Robson-Williams, 2018, Sinner, et al., 2015).

1.2.2 The Canterbury Water Management Strategy

The Canterbury Water Management Strategy (CWMS) initiated by the Canterbury Mayoral Forum in 2009 set a vision for regional WRM focused around enabling communities:

> To gain the greatest cultural, economic, environmental, recreation and social benefits from our water resources within a sustainable framework (Canterbury Water, 2019: 6).

The increasing pressures on Canterbury's freshwater resources before 2010 were believed to have related to a highly permissive approach taken by the Environment Canterbury Regional Council (ECAN) in relation to consenting water and discharge permits and resource consents for large scale irrigation schemes being granted without adequate consideration of their potential cumulative effects on water quality and availability (Lomax, Memon & Painter, 2010). In response to these increasing pressures, the Canterbury Mayoral Forum determined that the best way forward should be based on a collaborative and integrated management approach to manage land and freshwater which maximises benefits and approaches the four well beings; social, economic, cultural and environmental (Duncan, 2017; Lomax, Memon & Painter, 2010). This integrated approach has been recognised internationally as necessary to promote sustainable water management. According to Wiek & Larson (2012: 3162) Sustainable water governance means:

> Coordinating all relevant actors and their water related supply, delivery, use and outflow activities in a way which ensures a sufficient and equitable level of social and economic welfare without compromising the viability and integrity of the supporting hydro-ecological systems in the long-term.

The CWMS aims to change the way in which freshwater in Canterbury is managed and allocated. When it was developed it was heavily based on the assumption that there remained significant opportunities for the expansion of agriculture throughout the Canterbury Plains (Jenkins, 2018). However, in order to realise Canterbury's agricultural potential required that existing and future users of freshwater use it more efficiently. The priorities and targets of the CWMS are shown on the table 1.1.

Table 1.1. List of targets of the Canterbury Water Management Strategy and first and second order priorities.

First Order Priorities	**Second Order Priorities**	**CWMS Targets**
Environment	Irrigation	Drinking Water
Customary Use	Renewable Electricity	Energy Security
Stock Water	Recreation and Amenity	Ecosystem Health
Community Drinking Water Supplies		Kaitiakitanga
		Character of Braided Rivers
		Irrigated Land Area
		Regional and National Growth
		Recreation and amenity opportunities

These priorities were identified through an extensive period of public consultation and workshops to better understand the values and aspirations of local communities regarding WRM. The first order priorities represent the primary values which must be maintained and enhanced, followed by second order priorities to a lesser extent. The CWMS intents that progress towards all its objectives will be advanced simultaneously to "ensure that all aspects of the solution are advanced in parallel (Canterbury Water, 2019: 39)."

1.2.3 The Zone Committees

To implement the CWMS, ten water management zones in Canterbury were established through the Local Government Act (LGA) 2002 as non-statutory bodies that were based largely of a mix of hydrological and administrative (District Council) boundaries (Canterbury Water, 2019; Lomax, Memon & Painter, 2010). Each of these zones would have a Zone Implementation Committee. Each Zone Committee would comprise a mix of community representatives and elected councillors appointed from ECAN and the relevant Territorial Local Authority (TLA) and Ngāi Tahu Rūnanga whose Rohe extends into the relevant zone (Salmon, 2012). The community representatives of each committee would be appointed in a way so the membership of a Zone Committee is able to better reflect the diversity, geographic spread and plurality of values of communities across a zone. All committee members had to reflect the interests of their whole community rather than one particular demographic or stakeholder group. It should also be emphasised that although non-governmental organisations (NGOs) can attend public Zone Committee meetings, these Zone Committees were not set up for NGOs to be directly represented at the table.

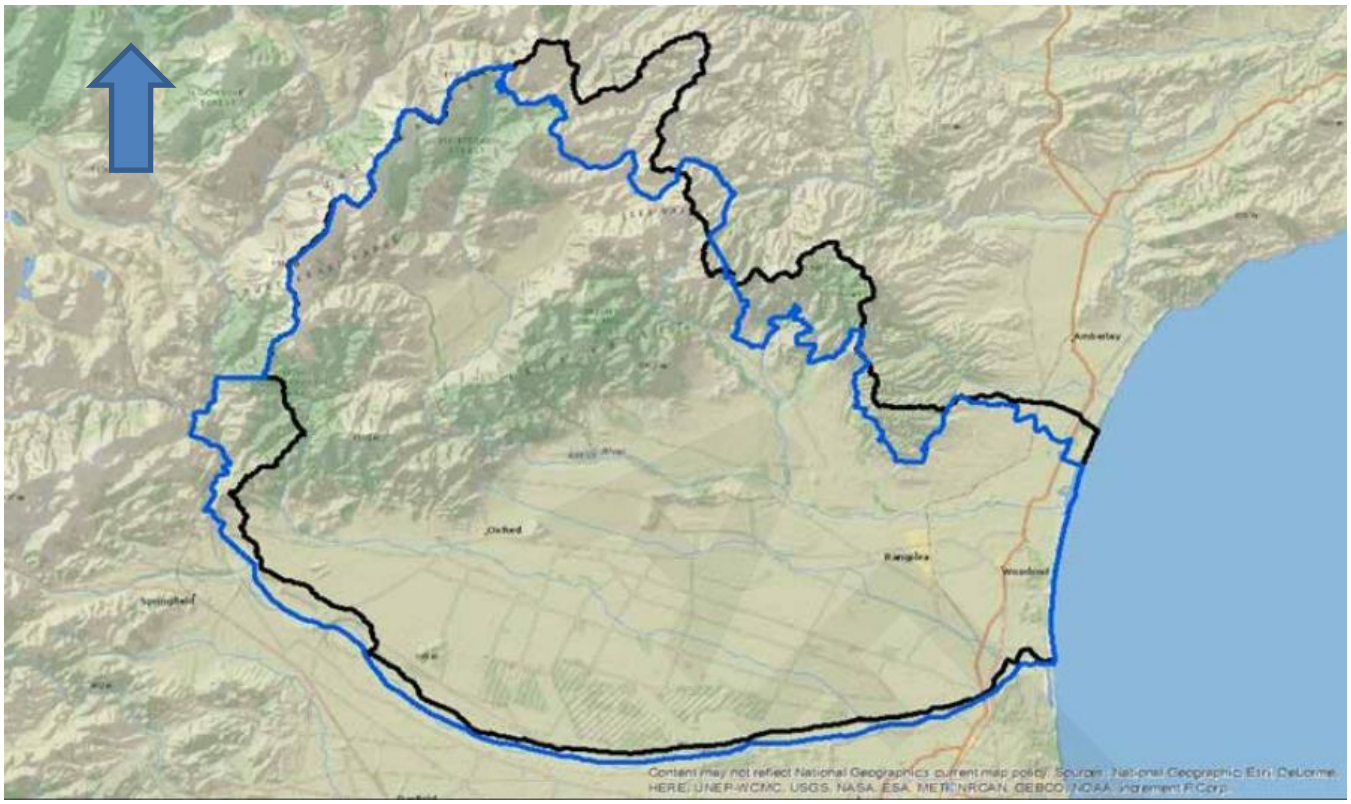
Zone Committee members are required to work collaboratively with each other to identify community values in their water management zone and seek group consensus to prepare a non-statutory Zone Implementation Programme (ZIP). A ZIP will identify what are the priority issues and recommend integrated priority actions to advance the objectives and targets of the CWMS within their zone while striking a balance between social, economic and environmental values related to freshwater (Canterbury Water, 2009). ECAN would then implement the ZIP into the Land and Water regional plan (LAWP) or sub-regional plans through a publicly notified plan change if the ZIP recommendations are consistent with the vision and principles of the CWMS and ECAN's statutory obligations. Furthermore, the Zone Committees must monitor progress towards achieving their ZIP and act as means to facilitate community involvement in WRM matters.

1.2.4 The Case studies

The rationale for choosing the Christchurch West Melton and Waimakariri Zone Committees is that although there are differences in contextual conditions in both zones, these Zone Committees are very similar in terms of their purpose, responsibilities and composition. For instance, these Zone Committees share similarities in size, terms of reference, group composition and purpose; research findings could help to understand the factors motivating participant involvement. For instance, the CWMZC and WZC are two of ten Water Zone Implementation Committees established through the LGA (Jenkins, 2018). There are seats at the table for seven community representatives on the Zone Committees, spaces for Rūnanga (vary depending on the number of Rūnanga whose Rohe extends into the zone), and one space for a representative each from the relevant District Council/s and ECAN. Community participants are appointed by a panel comprising of current Zone Committee members and ECAN staff. Appointees must have a significant connection to the zone, reflecting the geographic spread and plurality of values in the zone. Furthermore, members must be able to work in a collaborative and consensus seeking manner towards finding out how WRM issues should be addressed in a way which aligns with the interests of local communities. (Jenkins, 2018). These water management zones also neighbour each other and many people from the Waimakariri Zone (WZ) work in Christchurch, and vice versa. That demonstrates there is a high level of socio-economic connectedness between the zones. Furthermore, some agricultural land-use activities in the WZ have been found to be resulting in diffuse runoff of nitrates entering groundwater flows which threaten to contaminate aquifers in the Christchurch West Melton Zone (Environment Canterbury, 2018). That also shows that activities in one zone can have an impact on WRM challenges in the other neighbouring zone. As the purpose of this research is to attempt to better understand what factors have motivated participants (Zone Committee members past or present) to become involved and to remain involved in the Zone Committees, more than one case study would be preferable as findings in one Zone Committee study could be vastly different from another. Christchurch West Melton represents a largely urban zone, while the WZ could be regarded as a mixed urban and rural zone. Any differences in findings could suggest that differences in contextual conditions could be having an impact on participant involvement in one of the Zone Committees. Therefore, it is necessary for a closer examination of the operating context of these two Zone Committees and their history so far from their formation.

1.2.5 Waimakariri Zone Committee

As shown on the Map 1.1, the boundaries of the Waimakariri Zone mostly reflect that of the Waimakariri District Council. Note that the arrow inserted on the Maps 1.1 and 1.2 indicates North.



Map 1.1: Map of the Waimakariri Water Management Zone. (Environment Canterbury, 2018. P. 5).

Note that on the map above the blue line shown represents the catchment boundaries while the black line represents the boundary of the Waimakariri District Council (WDC). The boundaries of the WZ largely reflect that of the WDC. It borders the Hurunui-Waiau Water Management Zone to the North, the Selwyn Waihora Water Management Zone to the West and the Christchurch West Melton Zone to the South. This is despite the Zone Committees meant to be based on catchments (Canterbury Water, 2019). The exact Mana Whenua boundaries have not been mapped by ECAN the WZ is believed to fall within the Rohe of the Ngāi Tūāhuriri and the Te Taumatu Rūnanga. The Waimakariri Zone Committee established in 2010 submitted its ZIP in 2015. The WZ is relatively diverse with a significant urban and rural component with nearly 50% of the population living on farms while others reside in urban centres (Environment Canterbury, 2018). However, the zone's population is projected to increase from 59,000 to 97,000 by 2048 and the WZ will become increasingly urban and less rural. The bulk of urban development has been occurring in the Ashley Waimakariri Plain. Most the land located east of Rangiora is reclaimed swamp. This means the land is particularly vulnerable to surface flooding and inundation.

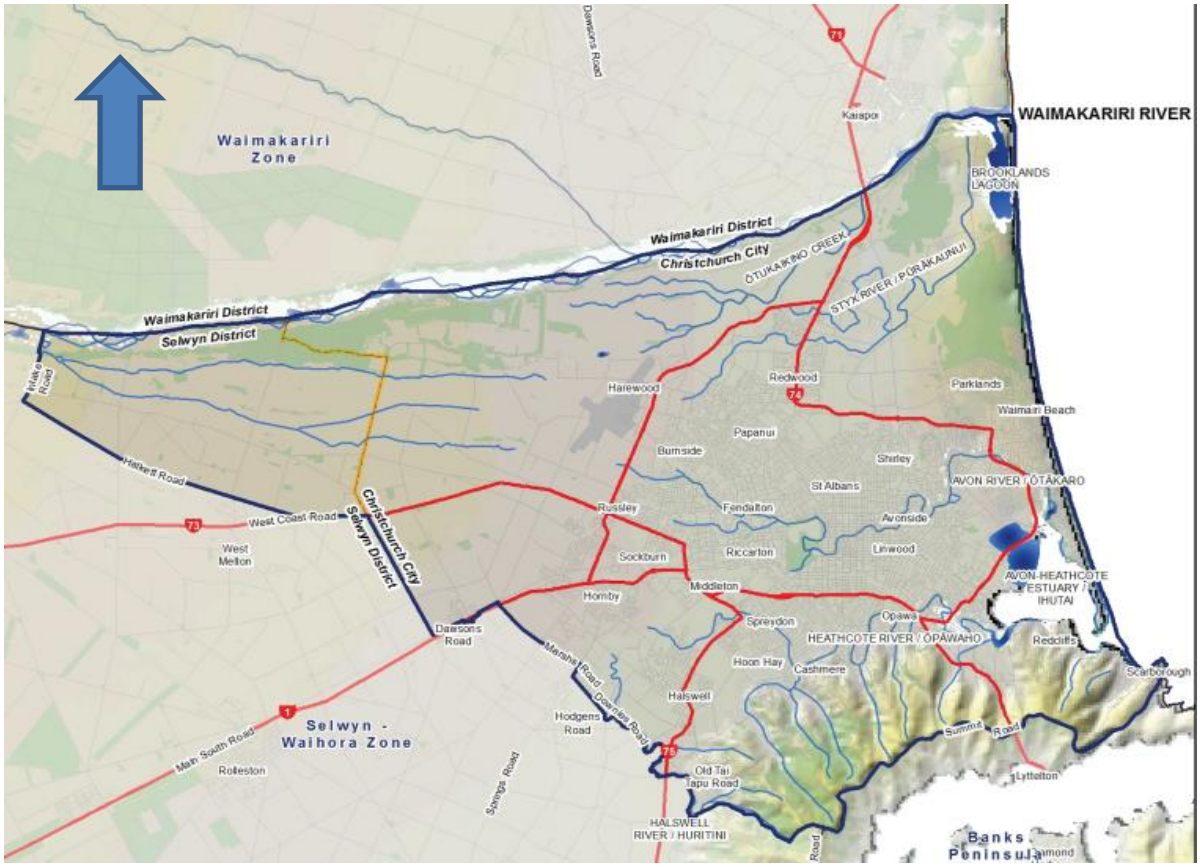
The north-western part of the zone is high country is more sparsely populated and has been relatively unmodified by human activities. The north-west hill country is also the source of the Waimakariri and Ashley/Rakahuri Rivers originate from and they receive significant runoff from these foothills. The average annual precipitation in the foothills is estimated to be around 1200mm (Environment Canterbury, 2018). Climate change is however projected to result in more sporadic precipitation, reduced summer flows and an increase in the frequency and severity of droughts and floods in the zone.

Population growth has driven construction and retail in the WZ. Furthermore, 40% of the local workforce works in Christchurch. In terms of land-use, 40% of the WZ is used for Sheep and Beef farming, while Dairy and Dairy support account for 16% (Environment Canterbury, 2018). Furthermore, according to Environment Canterbury (2018), 70% of the allocated groundwater is used for agriculture and 25% for community water supplies. Surface water bodies in the Zone including the Ashley and Saltwater Creek Estuaries and the have long been important mahinga kai gathering sites for local Māori and local recreational fisherman. These valued mahinga kai species include Inanga (Whitbait) and the Long and Short-Fin Eel. The Waimakariri River has also been recognised as an outstanding natural landscape and is highly valued for its amenity, aesthetic and recreational values.

The water quality of surface water bodies is regarded as mostly poor due to diffuse nitrate discharges, overland flow of contaminants including sediment (Environment Canterbury, 2018). However, groundwater quality generally meets National Policy Statement for Freshwater Management (NPS-FM) drinking water standards, but there have been freshwater availability issues with depleted spring fed streams and wetlands. Additionally, the WZC has produced a Zone Implementation Plan Addendum (ZIPA) which was adopted by ECAN and the WDC in 2018 which will inform a plan change to the LAWP and the Waimakariri River Regional Plan (Environment Canterbury, 2018).

Christchurch West Melton Zone Committee

The Christchurch West Melton Zone was established in 2011. The geographical area covered by the zone is 510km2. It borders the Selwyn Waihora Water Management Zone to the West and the Waimakriri Water Management Zone to the North. The Waimakriri River represents the border between the Waimakriri and Christchurch West Melton Zones. Additionally, the boundaries of the zone include Christchurch city and parts of the Port Hills the neighbouring Selwyn District including the town of West Melton as shown on the Map 1.2.



Map 1.2. Map of the Christchurch West Melton Water Management Zone. (Environment Canterbury, 2013. P. 710).

Therefore, the Zone Committee includes representatives from the Christchurch City Council (CCC) and the Selwyn District Council (SDC). Additionally, the zone includes areas within the Rohe (tribal area) of three different Rūnanga. Therefore, there are positions reserved on the CWMZC for the The Ngāi Tuāhuriri, Te Tāūmutu and the Te Hapū o Ngāti Wheke Rāpaki Rūnanga. The exact boundaries of were the Rohe of these three different Rūnanga is unclear however as these borders have not been clearly mapped by ECAN or the CCC.

Three major spring fed rivers being the Styx/Pūraākaunui, Heathcote/Opāwāho and Avon/Otākaro Rivers flow through Christchurch city. The Avon and Heathcote Rivers

discharge into the Avon-Heathcote/Ihutai Estuary while the Styx rivers flows into the Brooklands Lagoon which is adjacent to the mouth of the Waimakriri river. These rivers are highly valued for the amenity and recreational values they support. The bulk of drinking water in the zone however is sourced by aquifers eneath Christchurch. It is also important to note that the Christchurch West Melton Aquifer system are primarily recharged by leakages from the banks and riverbed of the Waimakriri River. Therefore, to a large extent the recharge of these aquifers will be affected by the quantity of precipitation in the foothills in the north-west of the Waimakriri Zone and the impact of land-use activities in the Waimakriri including the quantity is water taken for irrigation.

The Christchurch West Melton Water Management Zone is highly urbanised and is the largest Zone by population with over 380,000 people (Environment Canterbury, 2013). There is only a small rural area and activities including intensive dairy do not take place within the zone. Furthermore, its population is projected to continue increasing in the coming decades and also changing, driven by the continuing outwards urban expansion and intensification, as well as the ongoing rebuild of the city following the 2011 earthquakes.

The zone's primary water quality issues are associated with the degradation of urban waterways due overland flows of pollutants from activities primarily in urban areas. These include point and diffuse source discharges of stormwater carrying a variety of different pollutants into waterways including bacteria, chemicals, sediment, debris and other pollutants and waste products. Additionally, some waterways have been significantly degraded from the legacy effects of point source discharges of untreated wastewater and industrial waste, including the Heathcote River. Additionally, the 2011 Canterbury Earthquakes resulted in significant damage being inflicted on Christchurch’s Three Waters (Stormwater, Wastewaters and Drinking Water) infrastructure which resulted in untreated wastewater being discharged into waterways for an extended period of time. Other pressures include E-Coli contamination especially from invasive species including Canadian Geese. Collectively, this has contributed to the decline of many of the recreational, cultural, amenity and aesthetic values supported by waterways. Although groundwater is relatively abundant and meets NPS-FM drinking water guidelines, there is an increased threat from nitrification from nitrate leaching in the WZ infiltrating groundwater flows into Christchurch’s aquifers. Flooding and inundation are also important issues which has been exacerbated to an extent by the Christchurch earthquakes. The earthquakes resulted in land subsidence and the raising of the water table.

Chapter 2

Theoretical Context

This chapter provides a brief overview of academic theory of participatory forms of planning and the rationale for their use. This is followed by a more comprehensive examination of the factors which could have an effect on the involvement of individuals or groups in such participatory processes. These factors were identified as being heavily influenced by factors in the operating context, attributes of the design of the participatory process, and participant views on the outcomes and impacts of their involvement.

2.1 What is Participatory Planning at a Glance

Examining participatory planning requires understanding what constitutes a participatory approach and what are its strengths, weaknesses, and limitations (Cradock-Henry, et al., 2017). There have been a number of different definitions suggested on what is a participatory approach. Ansell and Gash (2008: 544) define a participatory governance arrangement as:

> A governing arrangement where one or more public agencies directly engage non-State stakeholders in a collective decision-making process which is formal, consensus-orientated, deliberative, and that aims to make or implement public policy, manage public programs or assets.

Participatory arrangements may take a range of formal and informal forms which enable non-governmental actors to influence management decision-making to varying extents (Arnstein, 1969; Fung, 2006). This is illustrated on the Spectrum of Public Participation developed by the International Association of Public Participation shown on figure 2.1 below, which presents one widely recognised model of degrees of participation in planning.

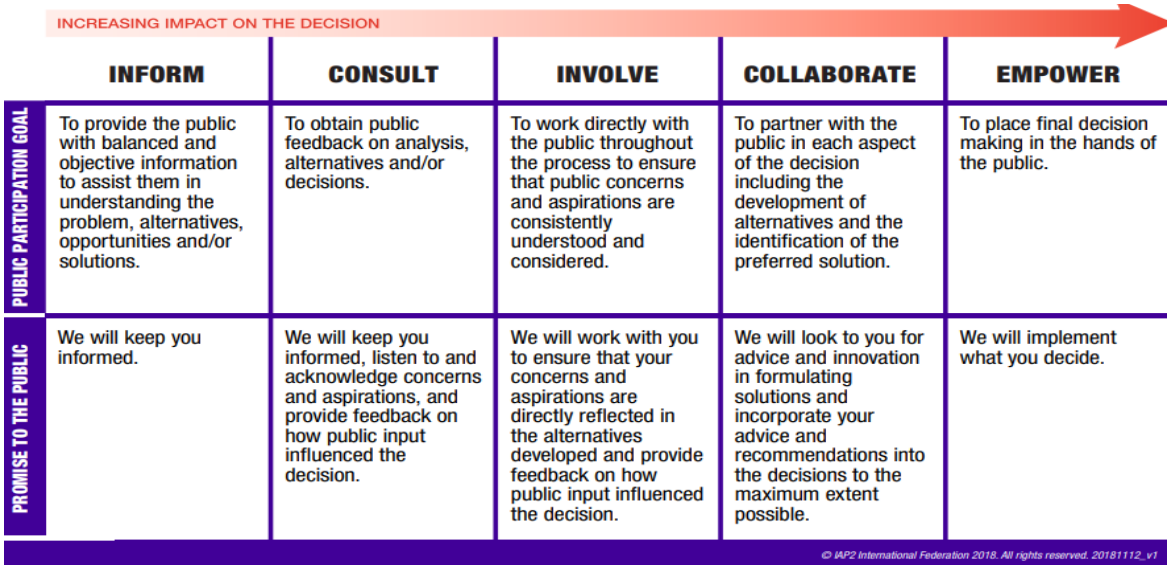


Figure 2.1: The IAP2 Spectrum of Public Participation. (Figure retrieved from International Association for Public Participation, 2018).

Broadly, public participation is an umbrella term covering public access to information, justice, and decision-making processes and institutions (Sumudu, 2006). Public participation in decision-making has been regarded as a necessity for sustainable development. For instance, the Brundtland Report (1987: 96) defines sustainable development as:

> A process of change in which the exploitation of resources, the development of investments, the orientation of technological development, institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.

This definition would suggest public involvement in WRM is an important part of achieving sustainable development, as the identification of human needs and aspirations is best accomplished through public participation in resource management decision-making (Cohen, 1989; Fischer, Angst & Magg, 2019). All forms of participatory arrangements can act as a space for deliberation between societal actors with different values, perspectives, skills and knowledge (Cohen, 1989; Fischer, Angst & Magg, 2019; Margerum & Robinson, 2015). Dryzek (2005: 8), defines deliberation as “changing judgements, preferences and views (through) precaution rather than coercion, manipulation or deception.” Therefore, participatory planning has the potential to contribute towards the transformation of the views of individuals which could contribute towards changing their views on the nature of challenges they face, reconciling tensions between different interest groups and enabling more timely and less costly decisions to be made on contentious issues. However, further research is required because evidence on the factors influencing the level of success of participatory planning arrangements and what factors may influence their outputs and overall effectiveness remains

relatively limited (Ananda, & Proctor, 2013). Greater evidence can help towards better understanding under what conditions or in what context are participatory planning arrangements most appropriate and likely to be effective.

2.1.1 Rationale for the use of Participatory Planning Approaches

There have been various normative and pragmatic reasons why participatory planning approaches have been used in WRM. Proponents of collaborative arrangements argue that effective environmental management requires a holistic perspective that includes non-governmental stakeholders in decision-making (Hughey, et al., 2017). Furthermore, collaborative governance and management approaches have the potential to be a more effective and efficient policy implementation pathway compared to top-down managerial approaches (Fung, & Wright, 2003; Galvez & Rojas, 2019). Additionally, in the 1992 Dublin Conference on Water and the Environment, it was recognised that community participation in WRM can be beneficial towards mitigating pressures on freshwater resources (Pirsoul & Armoudian, 2019). Additionally, one of the four Dublin Principles, is that WRM should be based on a participatory approach which would include planners, policymakers and the users at all levels (Pahl-Wostl, et al., 2011). However, there is a lack of evidence in regard to under what conditions participatory arrangements are most likely to be durable and successful (Agger & Lofgren, 2008; Connick & Innes, 2003; Koontz, Jager & Newig, 2020; Margerum, 2011; Scott, 2015).

2.2 Factors influencing Participant Involvement

Broadly there is no academic consensus on the conditions or design of a participatory process which will most likely be conducive to successful collaboration occurring through attracting the relevant stakeholder groups to become involved and remain involved (Akhmouch & Clavreul, 2016). However, there has been research conducted which indicates that the motives for stakeholders to become involved and remain involved in participatory processes are likely to be dynamic and variable, both spatially and temporally (Ansell & Gash, 2008). According to Ostrom (2010), if those on the inside feel that the cost of being involved outweighs the benefits they may cease their involvement. Furthermore, Sabatier, et al. (2005: 180) argues:

> The likelihood of partnership formation and success increases with stakeholder valuations of the benefits of partnerships, decreases with the magnitude of transaction cost involved in forming and running a partnership, and increases with the resources available to pay those costs.

The nature of the policy or planning problem and environmental contextual conditions can mean that transaction cost and resources available to cover these costs can be variable. That could

have an influence on whether participants perceive the benefits of their involvement to outweigh the cost. This is important because according to Memon and Weber (2008: 10):

> The durability and consistency of representation across time not only signals commitment, but also increases the prospects for collaborative success by minimizing the chance of miscommunication and reducing transaction cost associated with maintaining trust-based working relationships.

This suggests that if a Zone Committee has a relatively consistent representation of interest groups, it is an indicator that the participants feel there is sufficient incentive to continue to commit to the group. The Comparison of Participatory Approaches (COPP) framework developed by Hassenforder, Smajgi, and Ward, (2015), identifies these as context, attributes of the process and outputs. They acknowledge that there are other evaluation frameworks, but these focus more on the process and outputs while neglecting the importance of the contextual factors which can have a significant impact on the outcomes and impacts of the process. This links to findings by Memon and Weber (2008) and Hedelin (2008) that contextual environmental, community and existing legal or institutional conditions can impact on the likelihood of the success or failure of collaborative partnerships. Furthermore, Memon, and Weber's (2008: 2) suggested:

> The effectiveness of a collaborative approach is contingent on having in place appropriate institutional arrangements that take into account the nature of a problem as well as the social, economic and political context.

Findings from literature examined suggest the incentives of individuals to become involved and remain involved in a participatory planning process or group can be influenced by perceptions of its legitimacy and its inclusiveness (Bernstein & Cashore, 2007; Fenermor, et al, 2011; Schmidt, 2013). According to Sinner, Newton and Duncan (2015: 2), legitimacy refers to "the acceptance of a governing body, process or decision by those being governed as valid or right." This suggests that the legitimacy of a decision-making institution and its outputs can be influenced by the people residing within the jurisdiction or operating context of a decision-making institution or group. Therefore, contextual factors, the institutional design influencing throughputs and outcomes of the Zone Committee could all impact on community participation and perceptions of the legitimacy of the Zone Committees amongst outsiders.

2.3 The Importance of Contextual Factors

Context is important as factors such as the varying levels of interdependence and trust can impact on what is possible using different deliberative institutions and methods (Fung, 2006; Newig & Fritsch, 2009). According to Fenemor, et al. (2011: 11):

> Governance is therefore a fundamental contributor to the success or failure of water management initiatives because decision-making and implementation at the technical level are so dependent on organisational, legal, and policy context.

Differences in contextual conditions could have an impact on the motivations of community stakeholders to become involved and remain involved on these Zone Committees. For instance, the high degree of contextual heterogeneity means that a one size fits all interpretation of rules may lead to greater difficulty in implementing policies across different catchments leading to an inequitable distribution of cost (Tadaki, 2018; Thomas & Bond, 2016). To better understand whether this may be the case, more than one case study should be examined as findings in one Zone Committee could be vastly different from another.

2.3.1 Community Factors

Community factors refer to attributes of the community such as demographics, values, beliefs and social cohesion. The success of collaborative partnerships may be more likely in contexts where there is high social capital, a high level of trust, low socio-cultural diversity and in situations where the environmental challenge/s are perceived by the relevant stakeholders to be severe and dispersed in nature (Memon & Weber, 2008). That suggests collaboration is more likely to be successful in a community which is relatively homogenous in terms of values and beliefs, and there is a high degree of social cohesion. Memon and Weber (2008) also argued collaborative partnerships are more likely to emerge when the environmental challenge is viewed by the majority of stakeholders to be severe, and there is good scientific information available to make informed decisions on how to address these challenges. In Canterbury, Memon and Weber further argued that social capital and trust between stakeholders in Canterbury was relatively low and socio-cultural diversity was relatively high.

However, conditions of homogeneity have often been critiqued as unrealistic as many communities are heavily diverse and contain groups with different values and beliefs with varying levels of interconnectedness to each other. Furthermore, according to Sinner and Berkett (2014: 68):

> Research over the last decade has made it increasingly clear that value and values are often constructed in context: that is, how people value something depends on when, how and whom the question is asked.

If values are indeed constructed in context, it could also suggest that values of a community in one area may differ from the values held by communities in other contexts or at different points in time. Therefore, the assumption of a homogenous community neglects the plurality of values and the contextual factors which can influence local knowledge production (Innes & Booher, 1999).

Community social norms and expectations may have a significant impact on community participation in the Zone Committees. For instance, Thomas (2017) found that in the Hurunui Water Management Zone in Canterbury, constructions of community were heavily influenced by rural and neoliberal discourses leading to social expectations on how good community members should act. This included a notion that good community members should support the projects such as the 2010 Hurunui Water Storage Project in order to improve the well-being of the local population. Thomas further elaborates that some locals in the Hurunui towns of Hawarden and Waikari were discouraged from expressing their concerns about the Hurunui Water Storage Project due to fears of exclusion from the community social fabric. This suggests community social expectations may be a factor contributing to the marginalisation of the views of minority groups in a community. Potentially, this could be similar in some other smaller communities in the WZ. If this were true, it could contribute to the local knowledge from the more powerful or majority stakeholders being the primary force shaping Zone Committee decision-making and outputs. Therefore, the local knowledge and values expressed through the collaborative process may not necessarily reflect that of the wider community. That could result in outputs where the benefits and cost from decisions are unevenly distributed across a community (Thomas, 2014), which may weaken social capital by entrenching uneven power relationships within the operating context and thus creating conditions less conducive to successful collaboration.

One of the primary reasons for the use of participatory approaches is associated with the assumption that communities are definable groups who are close-knit where there is relative homogeneity in values and beliefs (Bernstein & Cashore, 2007). This suggests community members are able to rationally deliberate with each other and work towards consensus (Ansell & Gash, 2008; Taylor, 2007). However, Thomas (2017: 1416), argues that “communities can be understood as multiple, unstable and preformed, rather than bounded units of governance based on shared values and norms.” A community is also not necessarily bound to a particular place, and a community could represent a group of people who share the same values and aspirations but on a wider spatial scale (Memon & Weber, 2008). From this view, environmentalists could be considered a community of people who share values and beliefs related to how they ought to live within the world around them. This highlights a challenge in defining what exactly constitutes a community. Therefore, a catchment itself could be considered home to multiple different intersecting communities.

Within these different communities there may be varying levels of expertise, skills and resources. Brisbois and De-Loe (2016: 202) argue that "in the context of governance for water, the kinds of actors that come together in collaborative processes are rarely equal." This could be linked to the history of different places which may have resulted in differences and inequalities emerging overtime in terms of the resources, expertise and knowledge held by community members. The extent to which the balance of power is skewed towards particular stakeholders and the extent stakeholders are mutually dependent on each other to secure their interest, can also impact on the effectiveness and durability of collaborative partnerships. However, antagonistic relationships between participants may not necessarily undermine the effectiveness of participatory arrangements so long as the participants are interdependent (Flyvbjerg, 1998). Consensus based decision-making can promote interdependence between participants as it can incentivise them to work together in order to find common ground and for decisions to be made (Ansell & Gash, 2008). Ansell and Gash argue this keeps stakeholders participating due to the lack of alternatives and fear of losing their ability to influence decision-making, if they do not participate or they are unable to achieve their desired outcomes unilaterally. However, if the alternative avenues stakeholders could use to secure their interest are removed, it may result in backlash from some stakeholders. Cooke and Kothari (2001) argue participatory planning arrangements may weaken or obscure other existing processes to influence management such as the courts. Furthermore, Thomas (2017: 1416), argues that "devolved governance may simply reinscribe State and market power when people lack the capacity or capability to contest state and market influence." These arguments highlight a concern that participatory planning or management arrangements could undermine other existing alternative avenues to influence decision-making, which may diminish the capacity of some affected stakeholder groups or individuals from expressing their ideas, concerns and influencing decision outputs.

2.3.2 Institutional Factors

Institutional factors refer to the formal and informal rules that enable or constrain the actions of the individuals (Memon & Weber, 2008). Institutions can either be formal and informal. Formal institutions may be tangible laws, contracts or mechanisms to make decisions. Informal institutions broadly refer to community norms and groups including the family and social practises.

Before examining the Zone Committee's, the factors which have influenced their formation and design should be examined. Wiek and Larson (2012: 3156) argue that "governing water, and even more so, changing how water is governed in order to mitigate complex challenges, requires knowing who is doing what with water and why." This is because they argue that the primary contemporary pressures on freshwater resources are attributed to anthropogenic

influences. Therefore, proactively addressing pressures requires people do things differently to live within the carrying capacity of their environment.

In New Zealand, freshwater is regarded as a public good and is managed through a hierarchy of regulatory policy instruments including the Resource Management Act (RMA) 1991. The purpose of the RMA is to promote sustainable management of physical and natural resources including freshwater to meet the reasonable foreseeable needs of current and future generations (Robertson, 1993; Tadaki, 2020). Sustainable management in the RMA (Resource Management Act, 1991) is referred to as:

> Managing the use, development, and protection of natural and physical resources in a way or rate which enables people and communities to provide for their social, economic and cultural wellbeing and health and safety while sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonable foreseeable needs of future generations; and
>
> a. Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and
> b. Avoiding, remedying, or mitigating any adverse effects of activities and the environment; and
> c. Avoiding, remedying, or mitigating any adverse effects of activities and the environment.

Linked to the RMA are National Policy Statements (NPS) that provide guidance to local and regional government authorities on what must be done to give effect to the RMA in the creation of their Regional Policy Statements and Regional Plans (Buhrs, 2000; Davis, & Threlfall, 2006). This includes the NPS for Freshwater Management (NPS-FM) 2020 that directs local and regional government authorities on how freshwater resources should be managed (Ministry for the Environment, 2020. The original 2011 NPS-FM directed regional councils to maintain and improve water quality overtime (for waterbodies not meeting NPS-FM requirements) (Ministry for the Environment, 2019). To do this, collaborative approaches involving the community, Tangata Whenua and local and regional government should be used in order to identify their values and aspirations associated with freshwater and set timeframes and methods to achieve priority outcomes. These then inform the development and implementation of plan changes.

Furthermore, the Local Government Act (LGA) 2002 is also important as it sets out the roles, responsibilities, powers and accountabilities of local government (Fisher & Russell, 2011), Local authorities must develop and implement plans and policies for WRM and issue consents for activities in a way which maintains or enhances the cultural, economic and social well-being of current and future generations. On top of this, water management authorities must be viewed as capable of enforcing rules (Eppel, 2013).

2.4 The Importance of Characteristics of the Participatory Process

The characteristics of a participatory process refers to the rules and protocols which all participants must agree and adhere to (Cox, Arnold & Villamayor, 2010; Gray, 1989). Factors including the design of a participatory planning approach and contextual factors could have a significant impact on its outputs and impacts. For instance, Healey (2007: 312) argued that:

> Without attention to the hard infrastructure of institutional design, it will be difficult to challenge and change the power of dominant groups as this is embedded in the abstract systems of current governance.

The design of the participatory approach can have a substantial impact on its prospects of success or failure (Ananda & Proctor, 2013; Hamilton, 2018; Wondolleck & Yaffee, 2000). A flawed governance approach could impair the likelihood of success for management policies or interventions. Additionally, Eppel (2014) argues that the design of collaborative approaches is likely to influence the durability of their outputs due to the dynamic nature of complex adaptive systems within the operating context. That suggests that if recommendations by a participatory group are to be implemented and sustainable, it heavily depends on how well the participatory arrangement has been designed to accommodate unique contextual conditions within its operating context.

It is also important that there must be agreement amongst relevant stakeholders on the scope of management, how collective decisions are made and who gets to participate and in what way in order for freshwater to be managed in an integrated way (Memon, & Weber, 2008). Integrated freshwater management however may require broader institutional change to establish better connections between the different levels of management. This is because poor coordination between management authorities can diminish confidence among participants that they can influence change through a participatory process.

On top of this, there are critiques that despite the increasing popularity of collaborative approaches internationally, systematic factors have promoted individualism leading to greater competition between individuals and social fragmentation in communities. According to Brand and Graffin (2007: 283):

> There is an apparent paradox in the promotion of collaborative practices rooted in values of cohesion, solidarity and inclusivity in a world that can be seen as ever more individualist, socially fragmented, competitive, or in other words, uncollaborative.

Therefore, institutions which promote individualism and competition may create conditions less conducive to effective collaboration. Furthermore, Memon, and Weber (2008:3) argued that "The constraints and incentives derived from institutions influence the decisions and choices

people make and thus affect policy adoption, implementation and policy outcomes." This point is important because it suggests that antecedent institutions in the operating context can impact on the ways in which local people may get involved and in what ways. These institutions may therefore have an impact on the outcomes and impacts of a participatory arrangement.

Deciding on the scope of what a participatory group is able to make decisions on is also important. Thomas (2014) argues that in genuine environmental participatory decision-making, everything must be contestable including what are the desired outcomes, means to reach desired outcomes and mechanisms to monitor and evaluate progress. Furthermore, differences in values or beliefs held by participants must be acknowledged and respected (Ostrom, 2010).

However, there is no optimal participatory process which can be applied to all contexts (Ansell & Gash, 2008). Similarly, Berkes and Turner (2006) believe a successful collaborative process must be self-organising, constantly evolving, and able to promote relationship building and networking amongst participants. It must constantly evolve in order to accommodate the constantly changing community and environmental conditions in the operating context and promote interconnectedness in the community to encourage locals to continue to cooperate and work together.

2.4.1 Inclusiveness

Inclusiveness refers to how well a participatory group or arrangement has been able to have the plurality of different demographics or community the values and beliefs of actors in its operating context represented.

Perceptions of inclusiveness of a participatory arrangement can be influenced by the participation of non-government actors and the extent to which their values, aspirations are being represented (Benson, et al. 2013; Berkett, et al., 2013; Quick & Feldman, 2011). Participatory processes must be viewed as fair in terms of how the preferences of the participants are linked to decision-making (Boedeltje, & Cornips, 2004).

The extent to which a participatory group is viewed as inclusive can also be influenced by the extent that the participants at the table are truly representative of the values and aspirations of the group or community they represent (Memon & Weber, 2008; Nissen, 2014). All stakeholders with a vested interest in the problem in question should be included or have open access to the group and must be given a credible stake in the participatory group (Memon, & Weber). This means participants must have the capacity to influence decision-making including on how the group will operate. That might include when and where meetings are held and how decisions will be made. A consensus decision-making approach can be empowering for participants by requiring all to agree to make a decision (Booher & Innes, 2002). This

approach could encourage gifting and gaining amongst participants in order for them to reach mutually agreeable decisions. Furthermore, Memon and Weber (2008: 8) argue:

> The logic behind consensus decision rule is that granting all participants a veto power over decisions leads to broad agreement, thereby increasing legitimacy, lowering implementation resistance, engendering self-enforcement, and respecting minority rights.

In addition, the consensus approach can mean it may take longer for decisions to be made on issues. Memon and Weber (2008: 8), indicated that successful collaborative arrangements require that there are "a set of formal binding collective choice rules for governing the collaborative process and its aftermath." These rules must be agreed on by participants and be carefully monitored and enforced. That is important because if these rules are viewed as being enforced selectively or not at all, it may undermine participant trust in the process and discourage continued commitment by some participants. These rules should be designed to promote fairness and encourage cooperation between participants leading to collective gains for all those involved.

In addition, successful participatory planning requires a process of joint goal setting, information sharing and building trust to enable consensus decision-making. In situations where there is significant antagonism between stakeholders and few apparent opportunities for mutual gains, it may be difficult to create consensus amongst participants (Booher & Innes, 2002). If the participatory process is not perceived as truly inclusive of the diversity of community interest or does not allow the participants to express their views and knowledge on subjects which they deem important and allow them to influence substantive matters in meaningful ways, then it may result in participants feeling that their participation has not worthwhile. According to Memon and Weber (2008):

> Failure to practise inclusion thus lessens the probability that implementation and the establishment of the kinds of durable, effective policy programs able to deliver long-term problem solving benefits will occur (7-8).

This further illustrates how perceptions of the inclusiveness of a participatory group could impact on the outcomes and impacts of its decision outputs.

If important affected parties are excluded or view that they cannot achieve their desired outcomes through participating in the participatory group, they may resort to alternatives such as the courts to secure or advance their interests. Furthermore, participants who believe that they have considerable leverage power, will be more likely to explore alternative options to avoid having to bargain and make trade-offs with other participants with competing goals. If affected parties attempt to secure their interest through the courts, it could contribute to costly and time-consuming litigation and could lessen the likelihood of successful and durable

implementation of policies and plans (Kirk, et al, 2020). To encourage participation and commitment, all participants must feel that they have had a legitimate and meaningful opportunity to influence the decision-making process and outputs. Furthermore, Gray (1989: 155) argues that "successful collaboration depends on including a broad enough spectrum of stakeholders to mirror the problem." A similar view is expressed by Sabatier et al (2005: 59) who argue "the number of representatives from each group should be in rough proportion to the group's size and intensity of its interest in the policy outcome." That suggests that the number of affected stakeholder groups may vary depending on the issue in question. If the issue/s in questions will affect a wide range of individuals or groups, then a participatory group may therefore need to allow more positions in the group or allow time for all affected parties to have the opportunity to have meaningful input into the decision-making process.

There is also a risk that a decision-making group may become a more prone groupthink in which one group dominates discussions and may discourage participants representing a minority, or the quieter participants from dissenting or sharing new knowledge with the group. However, allowing smaller stakeholders disproportionate representation and decision-making power in the group may create grievances amongst stakeholders representing a larger segment of the population in the operating context. Additionally, some stakeholders may feel they will be greatly impacted by a proposal, but management authorities may not allow them their desired level of input into the decision-making process.

2.4.2 Accessibility and Capacity and Capability Constraints

The ability of stakeholders to access the participatory arrangement and meaningfully participate can be highly impacted by capacity and capability constraints. Capacity refers to the ability of an individual to meet particular ends in their society through set institutional frameworks which include social norms and legal rights. Capacity constraints come in a range of forms including social, cultural, economic, technical and legal constraints (Ananda, & Proctor, 2013). Capacity and capacity constraints can have a significant impact on affected individuals to participate, and what a participatory group might be able to achieve.

Effective collaboration may require significant time and resources depending on contextual factors and management objectives (Huxman & Vangen, 2000; Russell, et al., 2011; Scott, & Thomas, 2017). According to Ananda and Proctor (2013: 104), "A sufficient access to all dimensions of capacity is vital to the successful development and implementation of a water allocation plan by a community group working collaboratively." Therefore, every dimension of capacity can impact on the decision-making outputs from a participatory group or process.

Gaining sufficient representation in a participatory process may be challenging due to varying levels of organisational and human capacity for stakeholders to become involved, remain involved and participate in meaningful ways (Galvez & Rojas, 2019). Furthermore, participatory processes depending on their size and duration, may be costly and these costs could outweigh benefits obtained by some participants (Irwin & Stansbury, 2004; Leach, 2006). For instance, a highly time consuming or resource intensive participatory process may result in participant burnout or frustration, especially when participants demand immediate solutions to complex challenges with no practical quick fix solution. Therefore, it is important that water managers must have sufficient resources to subsidise initial transactional cost. These transaction costs may include capacity building, information gathering and staff cost (Eppel, 2013). In addition, Ansell and Gash (2008: 551) argue:

> If some stakeholders do not have the capacity, organization, status, or resources to participate, or to participate on equal footing with other stakeholders, the collaborative process will be more prone to manipulation by stronger actors.

In addition, Ansell and Gash (2008) argue that in communities that are more conducive to collaboration, there are established interest groups representing various segments of a population that desire to be involved in allocation decision-making. Such groups may not exist in all areas which means capacity building may be required to build or strengthen social networks in order for some stakeholders to participate (Gálvez & Rojas, 2019).

2.4.3 Factors relating to the Communication of Information

It is highly important that participants are able to understand important information they are presented with as it can influence how they view the issue, what decisions are made and therefore the outcomes and impacts of the participatory process.

Heikkila (2016) argues the operating context can influence the ways in which evidence is understood and utilised in water governance. This suggests the design of a participatory group could influence the way evidence might influence the decision-making process and outputs. This also could suggest that significant differences within a population in the operating context could have an impact in the way different groups view the significance of evidence and the nature of issues they are faced with. Additionally, Cooke and Kothari (2001) argue that western concepts of participation are not necessarily translatable into different cultural contexts. This is important because collaborative planning in the Zone Committees is largely based on Nordic models meaning they are based heavily on euro-centric beliefs on what constitutes an effective participatory process. However, this may not align with Māori beliefs or ways of managing the environment.

It is essential that the best available information is communicated in a non-partisan way which all participants can understand to maintain trust in the process (Fenemor, 2014; Irwin & Wyne, 1996). In addition, legitimating discussions and decisions made by the group requires that there is an agreement by participants in terms of when and how information such as agendas or reports are tabled and presented:

> To promote collaborative, inclusionary argumentation requires not merely a duty to report but the specification of the terms of reporting to emphasise the importance of giving good reasons, based on good arguments made legitimate by public discussion and decision-making (Healey, 2007: 299).

Therefore, as public discussion and decision-making is necessary to legitimate discussions, participatory arrangements should not be overly selective in who gets to participate and must promote cooperation and learning between the participants. Furthermore, Duncan (2014) argues that local knowledge may not always be accepted as credible by policymakers and scientists to be used as a basis for decision-making. This means values associated with the spiritual importance of water bodies might not receive the same weighting in decision-making compared to evidence which is quantifiable. Furthermore, there must be a high degree of accountability so that management authorities and participants are held responsible and answerable for their actions. According to Sinner, et al., (2015: 4), accountability can be defined as "being answerable to the person or group that has provided the mandate, i.e., representation, to their representative." It is therefore important that the population in the operating context feel that members of a participatory group are accessible and answerable to them.

2.4.4 Factors relating to Transparency and Accountability

Trust is essential towards enabling effective collective action to be undertaken. According to Ostrom (2010: 553), "Trust that government officials are objective, effective, and fair is more important in enabling a government policy to work than reliance on force." Maintaining trust requires that there is accountable and responsive leadership in both management authorities and in civil society (Eppel, 2014). In addition, according to Ansell and Gash (2008; 557), "Process transparency means that stakeholders can feel confident that the public negotiation is authentic and the collaborative process is not a cover for backroom private deals." Furthermore, all affected stakeholders must be involved early on before the definition of the problem and possible solutions to address it have been determined. A major critique of participatory processes is that in many cases they are controlled or sponsored by stakeholders with disproportionate political or economic power (Cooke & Kothari, 2001). Cooke and Kothari (2001) believe participation is often used as a mechanism to secure compliance to and exert control over existing power structures. This has contributed to the standardisation of participatory standards and procedures which neglect contextual conditions. For instance, Thomas (2014: 101) argued that on the Hurunui-Waiau Zone Committee, "People that applied

to the committee had to be able to understand and articulate what the problem was in a way that was intelligible with the CWMS rationality that sought “more water.” That could suggest that members of their Zone Committees had to conform to an understanding that the expansion of irrigation was in the public's best interest. If this was indeed the case on this Zone Committee, potentially this could also be the situation in other Zone Committees in Canterbury.

Furthermore, Kirk (2015) highlighted that there is a high risk of collaborative arrangements becoming dominated or captured by the more powerful stakeholder groups. This suggests a transparent participatory process must be viewed as not being influenced or controlled by an external party or the WRM authority. Ostrom (2010: 551), argues:

> Any policy that tries to improve levels of collective action to overcome social dilemmas must enhance the level of trust by participants that others are complying with the policies, or many will seek ways of avoiding compliance.

Therefore, greater trust could incentivise individuals to cooperate in the management of common pool resources. Ostrom (1990), found that small to medium sized groups can cooperate voluntarily to sustainability manage common pool resources without an external authority having to impose and enforce rules. Ostrom (2010: 551) further argued that “Individuals are boundedly rational and do seek benefits for self but do vary in their other regarding preferences and norms about the appropriate actions they should take in particular settings.” Therefore, the outcomes of participatory planning can be influenced by the levels of trust and reciprocity amongst participants. This links to a critique that the majority of studies conducted on participatory decision-making arrangements examined outputs rather than the micro-dynamics of deliberation (Backtiger & Parkinson, 2019). This can make it difficult to determine when participatory approaches are most likely to deliver desired outcomes.

2.4.5 Competence of the Participants

The effectiveness of participatory processes requires participants to have the skills and expertise to work effectively in a collaborative environment (Beierle, 2002; Cairns, Salu & Goodman, 2014; Coglianese, 1997; Connick & Innes, 2003). Recommendations made by a participatory group may be impractical to implement for political, economic, environmental and socio-cultural realities (Kirk, 2015). Furthermore, capacity and capability constraints may vary between different stakeholders resulting in an unequal balance of power within a participatory group. To lessen power imbalances which constrain important stakeholders from fully participating, Ansell and Gash (2008: 551) reason that:

> If there are significant power/resource imbalances between stakeholders, such that important stakeholders can not participate in a meaningful way, then effective collaboration requires a

commitment to a positive strategy of empowerment and representation of weaker or disadvantaged stakeholder.

Furthermore, Ansell and Gash argue that if participants cannot participate on equal footing, the process may be prone to manipulation by stronger, more resourced or organised participants. In participatory arrangements where the majority side triumphs and the interest of other groups are marginalised or ignored, it may discourage other weaker stakeholders from continuing to participate (Susskind & Cruikank, 1987).

2.4.6 Facilitative Leadership

Facilitation is important to promote effective group dynamics and enable stakeholders to cooperate, gift and gain and work towards consensus. The facilitator must be able to maintain and build trust in the participatory process (Fenemor, et al., 2011). Professional facilitation can promote structured knowledge exchange and mediation to translate lay and expert knowledge in a way all participants can comprehend and raise awareness of the responsibilities of members of the group and issues facing stakeholders (Coglianese, 1997).

A key challenge towards developing trust in participatory processes is the high level of staff turnover including facilitators and communicators of information to participants (Fenemor, et al., 2011). It may take time before participants could develop trust in new staff. A lack of trust in the facilitator may constrain their ability to promote structured discussion and understanding of different stakeholder positions on an issue. Ryan (2001) identifies three components of successful participatory leadership. These are to ensure the procedural integrity and transparency of the process is upheld, maintaining technical credibility and ensuring the participants are empowered to make convincing and credible decisions acceptable to all participants. Furthermore, according to Laskar and Weiss (2003) the facilitator must promote broad, inclusive and active participation amongst stakeholders and should have the skills to facilitate productive group dynamics, and control and extend the scope of the participatory process when necessary. However, doing this may be challenging across different contexts due to varying levels of power inequalities and antagonism between stakeholders. Furthermore, if the facilitator is viewed by one or more participants as favouring a particular participant, it may result in others not perceiving the facilitator as neutral (Warner, 2006). Therefore, it is important that the facilitator first gains buy-in from the group on a strategy aimed to ensure that all participants are able to participate in meaningful ways to improve the legitimacy of capacity building measures where necessary.

2.4.7 Adaptiveness

The ability of a participatory group to adapt to changing socio-economic, socio-cultural and biophysical conditions in its operating context could have an impact on the willingness of members of the public to become involved or to remain involved in the long-term (Sabatier, et al., 2005; Heledlin, 2008). For instance, Heikkila (2016) argues that as contextual conditions change over time, policies which may have been deemed the most effective for a particular location at that point of time may no longer be suitable or effective. This suggests that if members of a participatory group remain the same for a long period of time and continue to recommend the same policies to address WRM related challenges despite changing conditions, this may have poor results and be unable to proactively address these issues. That may have an adverse impact on the reputation of the participatory group as outsiders view it as being unable to proactively address important issues. Heikkila (2016: 19) further argues "Solutions to water management problems usually are incomplete and require constant knowledge building to adapt overtime." This is reinforced by Ostrom's (2010) argument that there are no optimal solutions to address common pool resource challenges. This suggests that successful participatory processes should be constantly evolving to accommodate socio-ecological change and change in the views and knowledge of participants and water management authorities in regard to the world around them and how they ought to live within it. If the membership of a participatory group is unable to represent the changing beliefs and perspectives of people in its operating context, it may not be viewed as inclusive of the plurality of interest and beliefs of local communities to the same extent. Additionally, Cradock-Henry, et al., (2017: 14) argues "Ultimately, a successful collaborative process is one that is able to incorporate feedback and adapt to changing the dynamic and often complex external environment."

Linked with adaptiveness, if a participatory process is to be sustainable, Eppel (2013) recommends the socio-ecological and hydrologic boundaries of the system or catchment must be mapped in a way which must not lose sight of the interactions between political influences on decision-making and hydro-ecological processes and resources.

2.5 The Importance of Outputs and Impacts

The outcomes and impacts of participatory groups can be heavily influenced by inputs in the group as well as characteristics of its design. Healey (2007: 311-312) argues that:

> Its qualities and outcomes are the result of the interaction between who gets involved and in what arenas, the communicative routine and styles which build up, and the existing social relational worlds which co-exist in a place.

This suggests that outcomes of the work done by participatory groups could be heavily influenced by attributes associated with their design and the contextual conditions which could

impact on how participants understand the environment around them. These factors can contribute to shaping participant perspectives in regard to if they feel that the benefits of their involvement outweigh the cons. Furthermore, Habermas (1984) argues that coordinated collaborative action by stakeholders requires agreed meanings on the world around them which can only emerge through open and authentic dialogue. All interested stakeholders must participate equally and fairly with no coercive force influencing anyone apart from the force of the better argument. However, Habermas's ideal conditions for authentic dialogue to take place have been critiqued for being unrealistic because politics is always influenced by power relations (Hiller, 2003; Purcell, 2009). Power imbalances could lead to consensus decisions by the group not being supported by others in the community they represent.

Stakeholders may also be more likely to commit to a participatory process if they view it as an attractive means to maintain or strengthen their political influence (Ansell, Sorenson & Torfing, 2017). Furthermore, if the citizenry perceives a governance process to be fair, they may be more likely to comply with policy its outputs (Sinner, et al., 2015). Therefore, incentives to participate may diminish if stakeholders perceive the participatory process to not produce desired outcomes or outputs (Gálvez & Rojas, 2019). Output legitimacy can be influenced by the effectiveness of decisions such as in terms of cost distribution (Tadaki, 2018). This could include how satisfied insiders and outsiders are with the environmental, economic, social and cultural outcomes and impacts of decisions (Konow, 2001). In situations where there are legitimacy deficits, challenges towards the implementation, monitoring and evaluation and plans and policies could be greater (Ananda & Proctor, 2013; Aggar & Lofgren, 2008). This suggests those participating in a participatory group or process must perceive the inputs, throughputs and outputs are acceptable in order to legitimate these groups. Additionally, experiences in a participatory process can have long-term consequences on participant and outsider views of such arrangements. In water governance, equity will normally refer to issues in the present including distributive justice issues and inter-generational equity. Distributive justice requires that all stakeholder values and beliefs be given equal weighting in the decision-making process. However, intangible values including socio-cultural and spiritual values often have not received equal weighting which risks marginalising important stakeholders (Harmsworth, et al., 2011).

2.5.1 Assumptions on Policy Implementation

Collaborative policymaking design between upstream and downstream stakeholders can be a way to break stalemates on contentious policy issues and improve policy execution in a way classical top-down policymaking cannot (Ansell, et al., 2017; Baber & Bartlett, 2005; Pateman, 1976). According to Ansell, and Gash (2008: 544):

> Collaborative governance has emerged as a response to the failure of downstream implementation and to the high cost and politicalization of regulation. It has developed as an alternative to the adversarialism of interest group pluralism and to the accountability failures of managerialism, especially as the authority of experts is challenged.

According to the outside-in explanation for policy implementation challenges, the unpredictable or unintended behaviour of stakeholders can hinder implementation of rules and policies (Kirk, et al., 2020; Thatcher & Rein, 2004). Stakeholders may be non-cooperative with new policies and attempt to obstruct their implementation. Furthermore, Ansell, Sorenson and Torfing (2017) suggest that policy design should be collaborative and implementation adaptive because contextual conditions are not fixed and collaboration can create flexibility to respond to evolving implementation challenges.

Participatory decision-making arrangements can also be a way of pressuring elected decision-makers to act in a way which aligns with the preferences of their constituents (Young, 2001; Lane, 2005). Furthermore, effective participatory arrangements may also increase public confidence in management authorities (Tadaki, et al., 2020), and therefore enhance their legitimacy. However, some politicians may be driven by strong ideological or political convictions which make them unwilling to compromise or make trade-offs in collaborative decision-making. This is because some of these elected representatives may view that doing so could diminish their popular support and prospects of being re-elected.

2.5.2 Assumptions on Lessening Uncertainties

Participatory planning has been regarded as a means for lessening or overcoming knowledge gaps, enabling greater problem solving capacity and better quality and more rational decision-making while reducing reliance on the expertise of experts from the outside (Ananda & Proctor, 2013; Lane, 2005; Pellizzoni, 2003). This is because some people in local communities may also hold knowledge about their socio-economic and biophysical environments that experts brought into these communities do not have (Heikkila, 2016; Henry, 2013; Petts, 2007). In addition, incorporating local knowledge holders into decision making may result in more responsive management to changing contextual conditions (Duncan, 2013). That could result in more positive outcomes and impacts from decisions made by management authorities. This is supported by (Ostrom, 2010) who believes those most affected by an issue are most likely to have the knowledge and expertise on it. Including local and lay skills and knowledge into participatory processes could help fill knowledge gaps on change in local environmental, demographic and social conditions. This process of knowledge building, exchange and uptake has been regarded as a process in which “opinions can be revised, premises altered and common interest discovered (Reich, 1988: 44).”

Bringing together local knowledge holders can also promote a higher level of mutual learning where participants are able to share knowledge and ideas on how to address shared challenges and share this knowledge in their social networks (Dietz, Ostrom & Stem, 2003). This can contribute towards more innovative problem solving which could help to break deadlock and create a sense of common ownership over planning and policy related problems (Garcia, Hileman & Bodin, 2019). Furthermore, creating a sense of common ownership over policy problems can provide greater incentive for stakeholders to make compromises and trade-offs (Ansell, et al., 2017).

Participatory arrangements could help convey knowledge to stakeholders about the nature of a problem and possible solutions to address it (Allen, et al., 2011; Innes & Booher, 2010; Pahl-Wostl, et al., 2010). That may increase awareness on how water related wicked problems are characterised by uncertainties, unpredictability and often there will not be a quick or optimal solution to achieve desired outcomes.

However, there is a lack of understanding of the processes and mechanisms that promote mutual learning in participatory processes (Heikkila, 2016). For instance, Duncan (2013) found from her research on the Selwyn Waihora Zone Committee that although the forum allowed for the expression of local knowledge, this knowledge was subject to aggregation and recalibration by ECAN. This resulted in local knowledge being stripped of its significance and complexity to a large extent. It is possible this could also be the case on other Zone Committees. Duncan also highlighted that some scientists and policymakers may push back against incorporating local knowledge into management decision-making as it may undermine their credibility or legitimacy. Furthermore, there is a risk that the exchange of ideas and knowledge can be impacted by the biases of particular participants or not necessarily reflect the knowledge or views of the community stakeholder they claim to represent (Lane, 2005). In addition, community level power inequalities may constrain the ability of some community members to effectively participate or express their views or concerns. This could result in the views of the more vocal group dominating the participatory process and disproportionately influencing its outputs. That could result in outcomes where the benefits and cost of decisions are distributed unevenly across a community while unequal power relations may be further reinforced. Social capital may be further weakened which could then make it more difficult to reconcile tensions between stakeholders and reach consensus on issues. Furthermore, Memon and Weber (2008) argue that the inequitable distribution of cost and benefits and weak social capital can hinder or undermine the sustainability of collaborative arrangements. If the outcomes and impacts from decisions made by a participatory group are unevenly distributed and weaken social capital in its operating context, this may foster conditions in the local community less conductive to effective collaboration occurring.

2.5.3 Assumptions on promoting better Social and Environmental Outcomes

There are assumptions that participatory forms of governance can result in better outcomes for the social and natural environment (Arias-Maldonado, 2007; Gerlak, et al., 2012; Koontz & Thomas, 2006).

Participatory governance arrangements may improve social capital in communities through the establishment of collaborative networks, while also enhancing the understanding of the issue or issues in question, amongst the participants (Broderick, 2005; Koontz, 2014; Lane, 2005; Petts, 2007). That can increase social and institutional capacity to address complex WRM related challenges. Additionally, involving local groups into planning can increase their sense of ownership over community level issues (Allen, et al., 2011; Sinner, Newton & Brown, 2015). Strong social networks are likely to result in greater trust in management authorities, resulting in greater compliance with policies and possibly less resistance towards their implementation (Dietz, Ostrom & Stem, 2003). Furthermore, Broderick (2005), believes strong community networks may be more conductive in changing community values and lifestyles. Therefore, the messaging coming about of participatory groups could contribute towards promoting more environmentally sustainable lifestyles if the community believes this change is necessary to maintain or improve community wellbeing. This links to assumptions that the preferences of stakeholders based largely on self-interest become more difficult to defend in the deliberative context (Smith, 2003), as deliberation amongst all stakeholders is more likely to lead to outputs which are more likely to advance the interest of the whole community (Alfred, & Jacobs, 2000; Miller, 1992; Smith, 2003).

Examining evidence to support these assumptions that participatory planning leads to better outcomes for the natural environment, Newig and Fritsch (2009) analysis of forty-seven global examples of participatory environmental governance found a high level of communication and cooperation amongst involved stakeholders tended to lead to better environmental outcomes. However, they also highlighted environmental standards are determined by the participant who will often have different views on what should be done to protect the environment. Conflicting targets can result in confusion amongst planners on how to meet desired outcomes, especially in the event they must be advanced simultaneously in parallel (Kirk, 2015). That may result in outcomes which reinforce the status quo rather than promoting better socio-ecological outcomes. Kirk (2015) argued the CWMS contains contradictory policy goals seeking to improve water quality, while also pursuing for more land to be irrigated which are outcomes which cannot be achieved in parallel. Therefore, it could be possible that the views of the CWMS having contradictory targets could have contributed to the decisions of some important stakeholder groups in Canterbury choosing not to participate in the Zone Committees.

2.5.4 Assumptions on Mutual Learning and Reconciling Competing Interest

Participatory planning approaches have the potential to contribute towards transforming adversarial relations between stakeholders into more cooperative relationships (Garcia & Hileman, & Bodin, 2019; Saarikoski, 2000). This can be achieved through bringing together individuals or groups which are most affected by an activity or proposal to deliberate and work towards compromises in order for decisions to be made (Margerum, 2011). Participatory planning can therefore enhance the legitimacy of management policies or interventions in environments characterised by high tensions between competing interests around how freshwater is being used (Tadaki, et al., 2020). This may lead to more sustainable policy outputs as stakeholders become less likely to challenge policy decisions. In this way mutual learning can support the capacity of stakeholders which Beierle and Cayayford (2002: 13) define as their "ability to understand environmental problems, get involved in decision-making and act collectively to implement change."

To maintain a good community reputation, mutual learning could incentivise broader change in the values and aspirations of stakeholder groups (Sinner & Berkett, 2014). Mutual learning may also help raise awareness of the possible pros and cons of different management responses to WRM issues. However, the realisation of these benefits could be highly influenced by contextual conditions (Connelly, 2010). The extent of mutual learning can also be influenced by the delegation of power to participants, the breadth of stakeholder involvement, duration of the process and intensity of communication and knowledge exchange. For instance, the delegation of power to participants to express their views and experiences is more likely to occur in empowered forms of deliberation compared to situations where stakeholders can only passively observe (Daniels & Walker, 1996; Leach, et al., 2013). Furthermore, areas that are characterised by antagonistic relationships between community actors may be less conducive to mutual learning. Weible and Nohrstedt (2013: 13), argue learning is most likely to occur in situations where "there is enough of a threat to attract the attention of rivals but not too much of a threat to entrench opponents on rigid policy positions." Additionally, Flyvbjerg (1998) argued that knowledge is shaped by power relations between individuals and groups. Therefore, if power is skewed towards particular stakeholders, it may impact on knowledge production within a water management Zone or within a Zone Committees in ways which could influence the views of the participants on issues or discourage those with divergent views from voicing any concerns.

2.6 Summary

The findings from the literature review suggest that there are a range of factors which could have an influence on the incentives of members of the public to become involved and remain involved in a participatory group or process. Contextual factors in the community and existing

institutions seem to be a significant variable, and literature suggests contextual conditions are diverse and unstable. Therefore, a successful participatory arrangement must be able to accommodate diverse contests and adapt to change overtime. Furthermore, attributes of the design or process can impact how individuals may view they would be able to secure or advance their interests through participating. There must be a high degree of trust in the facilitator of the process, and it is important that all technical and administrative information requested is presented in a clear, balanced and timely manner in a way that all participants can understand. Capacity and capability constraints in terms of time, money, energy or resources can also impact on the extent to which participants may be able to participate and contribute meaningfully. It is however important that these barriers be addressed to lessen the impact of balance imbalances at the table. Likewise, the tangible and intangible, short to long term outcomes and impacts of a participatory group can impact on whether participants feel that the time, energy or resources they devoted towards participating was worthwhile. If recommendations made by the group were not implemented or not implemented in the way participants may have intended, it could contribute towards perceptions that it was not worth the effort participating. Furthermore, the performance of the group can also impact on their reputations in terms of their credibility or legitimacy amongst those on the outside. If participants feel pressured by a stakeholder or demographic they represent or have ties with, this could discourage continued participation. Additionally, the availability of alternative avenues to secure or advance their interests such as through the courts may be more attractive for some stakeholders, as a way to avoid having to make trade-offs or compromise with competing interests. Overall, it seems that contextual factors, attributes of the design of the process, and its outputs and impacts all can have an impact to an extent on whether individuals will become involved and remain involved in participatory arrangements including the Christchurch West Melton and Waimakariri Zone Committees.

Chapter 3

Methodology

3.1 Research Approach

To carry out this research a qualitative comparative case study approach has been used. Qualitative research is concerned with understanding human behaviour and can allow the researcher to gain insights into individual perspectives (Davies & Dwyer, 2007; Frankfort-Nachmias & Nachmias, 1996). Therefore, qualitative methods could help to explain what factors encourage participants in the Zone Committees to become involved and remain involved.

There are advantages and disadvantages of qualitative research (Flyvbjerg, 2006; Valentine, 1997). Although qualitative research can allow for flexibility and potential to gain insights through open-ended research inquiry, results can be unreliable or biased because of the researcher's interpretation of findings (Creswell, 2013). This interpretation can be impacted by the researcher's positionality and the impact of intersubjectivity (Krefting, 1990). Individual experiences, education and values can influence interpretation (England, 1994). This means different conclusions may be derived from the same information (Flyvbjerg, 2006; Davies & Dwyer, 2007). Furthermore, Baxter and Elyes (1997), argue that one of the primary challenges towards ensuring the validity of qualitative data is associated with the misinterpretation of interviewee's constructions of reality expressed through interview conversations. For instance, a selective use of quotes may result in the researcher making conclusions reflecting their interpretation of results, rather than that of the interviewee. Therefore, when analysing interview data, I will carefully reflect upon the points made by different participants on each Zone Committee, while continuously reflecting on how my positionality may influence my interpretations of their arguments.

There is no general consensus on universally accepted prescriptions of good quality qualitative research (Smith, 1984). There is an assumption that establishing rules for qualitative research could constrain the creativity of the researcher. However, Lincoln & Guba (1985) have suggested four principles to guide qualitative research which are credibility, transferability, dependability and confirmability. The credibility of the research refers to if the research has examined what was intended, and if their interpretation of findings is an accurate reflection of the perspectives of interviewees. Baxter and Elyes (1997: 512), believe that "credibility is based on the assumption that there is no fixed reality but rather multiple realities, mentally constructed by ourselves." That suggests qualitative research can be shaped by factors including contextual power dynamics, values and environmental conditions (England,

1994). This assumption is supported by Swyngedouw (2009), who argues freshwater is given meaning through human social practises, cultural beliefs, and historical memory. Therefore, the importance of freshwater and views on how it should be used and managed could be variable between different individuals or groups. This means possible findings are only reflective of my interpretations. Secondly, the transferability refers to the potential for research findings to be transferred to other contexts. Lincoln and Guba (1985), argue that because qualitative research is context specific, providing an in-depth description of the context where the research is being conducted is important to allow the reader to understand whether findings could be transferable. Thirdly, the dependability requires that the research process be described with sufficient detail to enable another researcher to repeat the work. Fourthly, confirmability aims to ensure the research is trustworthy. This requires acknowledging the researcher's positionality and factors which could have influenced their interpretations of results. There is a strong link between clarity and validity, so the confirmability of findings is dependent on being able to communicate how I arrived at my conclusions. My interpretations of data should also be understandable to an academic audience and to lay people for my findings to be credible (Baxter & Elyes, 1997). Furthermore, confirmability also requires actively and conscientiously thinking about how personal bias and interpretation may impact on findings and to understand the perspectives of individuals being researched (Baxter & Eyles, 1997; Eyles, 1988). This is important as knowledge produced through interviews will be co-constituted by the researcher and interviewees, constant reflection of the impact of power relations is necessary as it can influence interpretation.

3.1.1 Case studies

Using the case study method can allow the researcher to better understand cause and effect relationships and compare their findings with relevant theory. Case studies should be carefully chosen in order to provide theoretical flexibility. For this research, the Christchurch West Melton and Waimakariri Zone Committees were examined. The similarities between these case studies share means they would be valuable to research. If findings are significantly different from the other despite similarities, it could suggest that there are other important factors which can contribute towards the decisions of community members to become involved in these groups.

3.2 Data Collection Methods

To collect data, semi-structured interviews and an analysis of Zone Committee related documents including minutes and reports were the primary approach. This section will explain the process of conducting the interviews including the recruitment of participants, analysis of Zone Committee related documentation and how the data has analysed.

3.2.1 Semi-Structured Interviews

To provide answers to the research questions, it is important to collect first-hand information from members of the CWMZC and WZC. Furthermore, there has been a limited amount of research done on the WZC and the CWMZC. Therefore, information available from existing literature would be inadequate for research findings to be transferable.

In-depth semi-structured interviews can help to better understand the impact of experiences, values and discourses on the way individuals perceive the world around them by generating discussion on the topic in the context of the knowledge, experiences and emotions of interviewees (Creswell, 2013). Therefore, semi-structured interviews with committee members were conducted to gain a better understanding of their perspectives, understand points raised during the interviews and identify patterns and themes (Aronson, 1994). It also allows the researcher to be more attentive and sensitive to ideas or stories participants. In turn, that can contribute towards more engaging and informative discussions (Minichiello, 1990). However, according to Baxter and Eyles (1997: 508), “similarities between the interviewers and interviewee’s may, for example, foster or stifle interview conservations.” That is important considering the assumption that knowledge is produced through social interactions and the power relations between the interviewee and the researcher. Similarities and differences in terms of my background and values compared to the interviewee may result in greater challenges or opportunities for more engaging conversations.

To ensure the confidentiality of participants, pseudonym codes were assigned to each participant and used when citing any information (Appendix C). Before the interview, participants were sent research information form containing information on measures will be in place to protect their autonomy and how much time they may have to contribute for this interview. Additionally, participants were advised they can choose not to answer any question which they feel uncomfortable with and they may leave the interview at any time.

3.2.2 Research Participants and Recruitment

For this dissertation, participants are defined as members or former members of the WZC and CWMZC. This sample size however will mean that the findings may not be representative of the wider group in each case study at that point of time. To recruit participants, tried to contact zone committee members via email and also attended committee meetings where I was able to introduce myself and my research to the relevant Zone Committee facilitator. Furthermore, I also asked interviewee’s if they could help connect me to other committee members. To account for uncontrollable events such as the event New Zealand moved back into Covid-19 Alert Level 4, my approach to participant recruitment was flexible. For instance, if I were unable to attend any Zone Committee meetings, I tried to recruit participants by sending email

messages. Overall, I conducted eight interviews. In the CWMZC, two interviews were with community appointees, one local government appointee and one member of their support staff. In addition, interviews were conducted with three community appointees and a Rūnanga appointee from the WZC. I felt for the purpose of producing balanced research, it would be worthwhile trying to gain an understanding from support staff and so findings can be compared and contrasted with findings from community appointees.

One challenge I encountered during the data collection process was finding committee members in the CWMZC and WZC case studies who were interested in participating. It is possible that some participants did not wish to risk disclosing sensitive information which they felt could potentially be linked back to them despite measures in place to protect their autonomy. Ultimately, I had to amend my research process. Originally my chosen case studies were the Selwyn Waihora and Hurunui Waiau Water Zone Committees. Two members of the Selwyn Waihora Zone Committee and one from the Hurunui Waiau Zone Committee were interviewed. Furthermore, one interviewed participant interviewed from the Selwyn Waihora ZC subsequently requested to withdraw from the research project. As a result, no information from the interviewee has been used for this research and the audio recording and transcript were promptly deleted and consent the form kept secure until deciding with my supervisor on how best to dispose or disintegrate. Having only been able to interview one community appointee for each of these two Zone Committees, I decided to change may case studies. Following consultation with my research supervisors, the Christchurch West Melton and Waimakariri Zone Committees were chosen as my new case studies. This also meant that although the Selwyn Waihora and Hurunui Waiau Zone Committees did produce valuable information, these findings will not be discussed in this research dissertation.

3.2.3 Interview Design and process

I prepared a list of questions for interviews designed to be completed within forty to fifty minutes, and arranged the interview days, times, and venues to accommodate the preferences of the interviewees (Appendix B). The list of questions was sent to the relevant participant upon request. Furthermore, developing interview questions in advance allowed me time to analyse and check with my supervisors that the questions were open ended and non-leading. Interviews took place between December 2020 to March 2021. Before each interview, a participant information and consent form (Appendix A) was sent via email at least forty-eight hours prior to the interview taking place which informed the participant of measures which will be taken to ensure their anonymity before participants consent to the conditions. If any wish not to be audio recorded, I was prepared to take notes on paper. The use of the audio recorder was preferred because it gave me capacity to fully engage with the interviewee knowing I could subsequently check transcripts. There was one instance where I held an

interview at a cafe where there was a moderate amount of noise generated in the background. The audio recording was still clear enough to transcribe, but to me this reinforced the importance of trying to hold the interview in a quiet place where possible. These texts were sent back to the relevant participant to read over and check if it was a fair and accurate account of the discussion. They then had two months to withdraw any information they provided during the interview.

3.2.4 Analysis of Water Zone Committee documentation

Document analysis was used to gain a greater understanding of the theory on participatory planning. Document analysis included analysis of reports, minutes, agendas, and the terms of reference documents of the Zone Committees to gain insights into the challenges they have faced, the nature of relationships between members. Therefore, document analysis could help reinforce findings from the analysis of interview data. However, Baxter and Elyes (1997: 509) argue that "Verification based solely on appeals to conventional wisdom does not necessarily lead to rigorous findings, it may be counterproductive to the development of new wisdom." This is important because the goal of this research is to contribute new knowledge on what encourages individuals to become involved and remain involved in the CWMZC and WZC.

I also attended two meetings of the CWMZC, and the WZC each, along with other meetings with the Hurunui-Waiau, Selwyn-Waihora and the Banks Peninsula Zone Committees. This helped immerse myself in the research context and identify similarities and differences in terms of group dynamics and the communication of information at these meetings.

3.2.5 Using Data from interviewers

All transcripts were proofread twice to ensure I did not miss important information, and to immerse myself with the data before the analysis. From analysing the literature and interview transcripts, I identified quotes related to themes. Following data collection, qualitative methods for data analysis including thematic was used. Thematic analysis centres around identifying patterns or themes of human behaviour (Aronson, 1994). Therefore, thematic analysis can help identify similarities and differences in the perspectives of those interviewed (Aronson, 1994). As seen on Appendix B, fragmented ideas and experiences identified in interview transcripts can be sorted according to sub-themes like outputs and impacts of a Zone Committee. These sub-themes were heavily based on the review of academic literature. That can help the reader to understand the process in which the researcher came to their conclusions. I firstly aimed to compare transcripts from participants in each case study separately, to identify themes and then compare and contrast with those which emerged from the other case study to develop a greater understanding of the motives of participants to become involved and remain involved.

Chapter 4

Findings

4.1 Introduction

The aim of this research has been to understand what factors motivate members of the public to seek membership of the CWMZC and WZC, and to remain involved. The literature review indicated that contextual factors, attributes of the process, and the outcomes and impacts of the Zone Committees can impact on the motivations of individuals to participate. The findings from the interviews with members of the CWMZC and WZC have reinforced these assumptions to an extent.

This chapter will describe the findings from interviews with members of the CWMZC and the WZC on their motives for becoming involved. Following this, their thoughts on contextual conditions, attributes of the design of the Zone Committees, and the outputs and impacts of the Zone Committees will be discussed to help understand possible reasons for their views.

4.2 Reasons for becoming Involved

There were a range of factors identified which have motivated members of the CWMZC and WZC to join. This includes a passion for the environment and protecting freshwater from degradation. This would suggest most if not all participants viewed becoming involved in the WZC could allow them to contribute towards the betterment of waterways. Interviewees highlighted that water bodies in both the CWMZC and WZ continue to support a range of values. In the WZ farmers heavily value a sustainable supply of freshwater for irrigation to continue farming and provide for their everyday needs. In the CWMZC, freshwater was said to be valued primarily valued the water for the aesthetic and amenity attributes of surface water bodies as well as the recreational and cultural values that they support.

All of these participants felt they had the knowledge and expertise which would allow them to make a positive contribution in their Zone Committee:

> I'm semi-retired and it was a way to give something back to the community I guess, and I have some expertise which could be quite useful (CWM2).

This could imply that the desire to contribute towards maintaining and enhancing the well-being of their community is a driver towards community participation in the Zone Committees. Linked to awareness, another motivating factor behind participants involved in the WZ was risk

prevention. This seemed to be focused around addressing risk to their community or their own interests. According to WZ4:

> For me, it was around a little bit of business risk prevention. To understand what is going on and where things are heading, then to be able to move my business to respond to that so I'm in a good position.

The Zone Committees have worked to raise awareness of the foreseeable impacts of changes in environmental conditions and regulatory changes on local communities. This includes communicating with different stakeholder groups in their zone such as farmers on how new rules and policies to address WRM related issues may impact on them and how they could adapt to be in a better position to respond. WZ4 elaborated that:

> I think in the long term, the rule setting process is probably going to deliver a lot of positive outcomes. It set farmers along a path to deliver positive water quality outcomes.

This demonstrates a view that the WZC, through being able to make recommendations on environmental limits, has put farmers in a position which will lead to better outcomes for the natural environment in the long term. Furthermore, WZ4 highlighted a perceived risk that if people without the necessary knowledge of farming practises dominate the membership of the WZC, it could lead to perverse outcomes for stakeholder groups in the zone:

> If you leave that to people who do not have a good understanding of how farming practices work, farming systems, what the options are and those sorts of things, then you end up with some pretty perverse outcomes.

This demonstrates a concern by farmers that if they do not participate, their interests and concerns may be neglected in Zone Committee decision-making outputs. A similar view for becoming involved was expressed by WZ2 who stated that:

> I was concerned that they had a good farmer voice with someone who was prepared to tell things as they are, because I didn't know who the other people on the committee were, and how well they were prepared to speak up and point things out to ECAN.

This reasoning by WZ2 could also suggest that there may be a lack of trust in other members of the WZC to represent the interest of farmers on the committee. Such concerns could create a greater incentive for farmers to become involved in order to better ensure that their needs and concerns are directly represented at the table and because if they do not participate, there may not be people on the committee who would be willing or able to do speak for and

represent their interests on the WZC. A similar view motivates Rūnanga participation on the WZC. WZ1 elaborated their involvement was motivated by a sense of responsibility as a Kaitiaki (guardian/Steward). Furthermore, WZ1 indicated that prior to the formation of the Zone Committee:

> Our voice was never heard. So, I looked at this and I thought this is possibly one way for our voice to be heard.

This suggests that Rūnanga appointees feel that in order to be heard and influence WRM, they must participate and remain involved in these Zone Committees. This imperative is driven by the need to uphold the Mauri of the water so it can continue to provide for their substantive, cultural and spiritual needs and the tangata whenua can continue to exercise their customary traditions now and into the future. WZ1 elaborated that, “We are still being denied access to our Mahinga Kai, not just physically, but also by the degradation of the waterways.” This represents a threat to the sustainability of cultural traditions of the Rūnanga. Therefore, to ensure that their customary traditions can be passed onto future generations, there is an imperative for Rūnanga to have an influence over WRM decision-making to maintain and enhance the Mauri of the water. Participating on the Zone Committees represents a means to help achieve this outcome.

4.3 Thoughts on contextual conditions

As previously indicated in the theoretical context text, contextual environmental conditions and how the local population perceive the issue/s, their community and attributes of the participatory decision-making process can all have an impact on the motivations of people to become involved and remain involved in a participatory decision-making group. This section examines findings from the interviews in regard to the views of committee members on contextual conditions in the CWMZ and the WZ.

4.3.1 Perception of the Problem

Understanding the perspectives of members of these zone committees on freshwater management issues in the zone could be a factor which motivates them to become involved or remain involved as discussed in the theoretical context. Interviewees highlighted there are a range of significant WRM issues in both zones which are illustrated on table 4.1.

Table 4.1: Significant freshwater management issues identified by interviewees in the CWMZ and the WZ.

Christchurch West Melton Zone	Waimakariri Zone
• Clean Drinking Water: Contamination of Christchurch's aquifers by nitrates. • Sediment Runoff (Primarily from Port Hills and residential developments). • Decaying Three Waters Infrastructure: • Stormwater Runoff: (Causing urban stream syndrome). • Lack of awareness and appreciation of the importance of freshwater.	• Degradation of surface and groundwater ecosystems: • Essential Freshwaters Reforms: (Implications for farmers). • Growth of urban centres: (Kaiapoi and Rangiora). • Stormwater runoff: (Carrying pollutants into surface water bodies around Kaiapoi and Rangiora). • Water security: (shortages in some areas at different times) • Uncertainties: (Health of groundwater ecosystems).

In the CWMZ stormwater runoff was highlighted as a key issue and the primary cause of the degradation of urban waterways. Another issue emphasised in interview discussions was the security of drinking water supplies which interviewees felt were being threatened by intensive agriculture in the neighbouring WZ resulting in nitrates infiltrating Christchurch's drinking water aquifers from groundwater flows flowing beneath the Waimakariri River. The degradation of surface and groundwater bodies has been perceived by all interviewees as a significant threat towards protecting the values supported by water bodies in both zones.

WZ1 felt that freshwater in rural areas tends to be more valued as an economic resource, while freshwater in the CWMZ is more valued for its cultural, amenity and aesthetic attributes. As participation seems to be higher in the WZC in terms of members of the public turning up to public meetings, the economic value could be a motivating factor behind the participation of some individuals. WZ1 also suggested that if a tax or royalty of freshwater use was introduced, that may enhance the economic value of freshwater including in the CWMZ as users would now have to pay for domestic consumption. As a consequence, they may use freshwater more efficiently to save money. This is elaborated on by WZ1 who argued:

> At the moment you pay for infrastructure just like the farmers do. You pay to get the water through your property, but after that you have no measurable control. To not have measurable control over it is not to value it. So, if you set a limit on it, people would value it more, and they would be mindful about how they use water.

That suggests that the absence of a charge for freshwater use and measurable control could contribute to people in urban areas especially, under-valuing freshwater which may have contributed to less incentive to become involved in the Zone Committees. This statement also implies that imposing a royalty on freshwater tax or limits could make people value freshwater

more. That could contribute to greater interests in the work being done by the Zone Committees and potentially more public interests in seeking membership.

However, although the threat posed by nitrates in the drinking water to human and aquatic ecosystem health was viewed as significant, it was also viewed as exaggerated to an extent:

> The Nitrates? No that is definitely a significant thing, but the magnitude of the problem is being over exaggerated (WZ2).

WZ2 reasoned that nitrate levels were still below the 11.3mg/L limit recommended by the Ministry for the Environment to protect human health. However, this limit has been critiqued for being too high to protect human health and the Styofaunna which inhabit these groundwater ecosystems (Hancook, 2021), and the NPS-FM now recommends a lower rate of 3.8mg/L (Ministry for the Environment, 2020). The perception by WZ2 is nonetheless important because it demonstrates that limits recommended by different organisations including health authorities could influence views of members of the public on the severity of the problem.

In terms of freshwater management challenges being dispersed, WZ4 argued water quality issues were definitely dispersed in the WZ. However, WZ1 emphasised water quality is generally in a good condition in the WZ, but also acknowledged that water quality is projected to decline in the future based on trends in the ECAN and Land, Air, Water Aotearoa (LAWA) monitoring data. Nitrate concentrations in surface and groundwater bodies are projected to increase in both zones due to the natural lag effect in time taken for nitrates to infiltrate water bodies (Environment Canterbury, 2018). The contamination of groundwater ecosystems was identified by interviewees on both Zone Committees as a significant issue. However, proactively addressing the underlying causes of degradation of groundwater ecosystems has been constrained because of inadequate monitoring data available and the reality of groundwater being an out of site resource. This means the effects of land-use activities on groundwater systems are not physically visible and it therefore may be more difficult for individuals to develop an understanding and appreciation of the importance of groundwater ecosystems and the impact of pollution on groundwater (WZ2, WZ4, CWM4). Linked to this, available monitoring data has been critiqued by WZ1 for being out of date and highlights that the data may not reflect the current situation on the ground. Furthermore, due to unique environmental conditions in Canterbury, options to proactively address the threats facing groundwater ecosystems which have been used in other parts of the country, may not have the same desired impacts if applied in Canterbury, or a specific catchment.

4.4 Interviewee views on the Community in their Zone

All respondents highlighted that there is no single homogenous community in either zone. In the CWMZ, interviewees felt there were multiple diverse communities in terms of backgrounds, socio-economic status, values and beliefs. CWM2 further elaborated that within the CWMZ "There are different players involved, different dynamics involved, whereas those that are mainly rural based (CWM2)." In the WZ, the community was described as diverse, relatively balanced and undergoing significant change. Those with radically different views were portrayed as representing a vocal minority (WZ2 & WZ4). Additionally, there are differences in the values and aspirations within different stakeholder groups including farms, community groups and Rūnanga. For instance, WZ1 argued that "There are different values amongst the different Rūnanga depending on their respective circumstances." Additionally, WZ4 emphasised that, "Even in the farming community there is probably an upper plains type community that farms a certain sort of way to suit the different soils, and another on the lower plains with the heavier soils." This suggests that contextual conditions can have an influence on people's priorities and aspirations within the WZ and potentially in the CWMZ. Therefore, it could be a simplification to label groups such as farmers as a single community.

It was also emphasised that attributes of the community in both zones are constantly changing in response to population growth, social change and urban development. For instance, when describing the community in the WZ, WZ3 stated that "There is a strong rural background, but it is disappearing because of the general growth of urban areas." This could contribute to change in the way many people view and value freshwater in the WZ. It may also mean that the emphasis on particular values or issues that emerge through community consultation and engagement may change overtime. This connects with views that freshwater resources were poorly understood or not valued as a critical resource in the mostly urban CWMZ, and urban areas in the WZ such as Kaiapoi and Rangiora (WZ1, & CWM3).

In the WZ, agricultural and land-use intensification has created jobs and driven economic growth. However, it has also contributed to adverse effects on aquatic ecosystem health and the recreational, cultural or amenity values supported by water bodies. This contributed to some resentment against the farmers by some individuals. For instance, WZ1 argues:

> They (farmers) had no problems going to the banks and expanding to fill their pockets to the detriment of the environment and now I'm hearing that they cannot afford to make all these new changes. Yet they could afford to go to the bank and borrow a lot of money to make changes which created this issue. If they cannot afford to make the changes, they should not be in the game.

This perspective suggests there may be a lack of solidarity with farmers to some extent in the WZ because of perceptions that many farmers have not taken sufficient action to reduce their adverse effects on the environment. That could indicate weak community social capital which can be detrimental towards successful collaboration occurring and enduring.

4.5 Thoughts on attributes of the design of the Zone Committees?

There were a broad range of opinions which emerged from the interviews on subjects related to attributes of the process and the design of the Zone Committees. Table 4.2 below identifies some of the main findings on the CWMZC and WZC in regard to attributes of the process.

Table 4.2: Interviewee perspectives related to the design of the CWMZC and WZC.

Positive features	Identified grievances
• Decision-making: Majority favoured decision-making by consensus. • Inclusiveness: Everyone who wished to take part could. • Technical Credibility: Most committee members felt that the reports presented were reliable and presented in a timely manner. • Trust: Mixed views of ECAN as an honest broker • Competence of the Committee: Majority felt the committee was extremely qualified, made positive contributions and had the right to be at the table.	• Inclusiveness: Meetings not overly accessible to urban working-class people and youth. • Technical Credibility: Some felt some communicators of technical information were not up for the job. • Trust: Mixed views on ECAN as an honest broker of technical information • Facilitation: High staff turnover, particularly in regard to facilitators (CWMZC) • Competence of the Committee: Emphasised that more induction for new members on the purpose of the WZC and their responsibilities as committee members would be beneficial.

4.5.1 Zone Committee Decision-Making Approach

Interviewees largely believed although there are issues in regard to the decision-making by consensus approach, there was a feeling that this approach was better than alternative options. If decisions were made based on majority voting, it could have resulted in cliques in the committee emerging. This could constrain the Zone Committee members from cooperating with each other and make timely decisions. However, consensus decisions may not necessarily result in the desired outcomes. For instance, WZ4 highlighted that when the WZC submitted its ZIPA, “While there might have been an initial commitment, I think that had

weakened overtime drifting from what the Zone Committee wanted to what ECAN wanted to see." That suggests there may have been some dissatisfaction within the committee if members felt that the work and time that they devoted towards preparing their package of recommendations did not have their desired impact on ECAN's decision-making. Additionally, WZ2 argued that the consensus approach made the WZC less ambitious by focusing on gaining consensus on small things stakeholders can agree on, rather than addressing the more contentious issues such as the impact of nitrate runoff on the cultural values supported by surface waterbodies such as mahinga kai gathering:

> You are never going to attain mahinga kai values because you will have to essentially switch off the flow of nitrates altogether. So, we compromised because we had to make a decision. There are two different value systems. So that's when consensus is difficult if the group sitting around the table does not share the same set of values - WZ2.

Potentially those who do not wish to change the status quo may feel that tougher rules and restrictions on intensive agriculture and the application of synthetic fertilisers to the land may negatively impact economic growth, the creation of jobs and the well-being of their community. However, others may view that intensive agriculture represents a threat towards maintaining and enhancing community wellbeing through degrading the carrying capacity of the natural environment to provide for the needs of future generations. Conflicting perspectives on what are the best means to protect and improve community wellbeing may constrain the potential for consensus to be reached amongst committee members on the more contentious and divisive issues. However, multiple interviewees noted that committee members do have the opportunity to abstain from voting. That could contribute to some committee members feeling they have the opportunity to express alternative views on a topic, without stopping decisions from being made.

There was another view expressed that due many committee members being highly socially connected in the WZ, it means many of these committee members may be less likely to make decisions which could be damaging to their reputation or relationships with others. For instance, WZ1 stated that:

> Come on, these are old boys, with all ties, the community ties, the school ties, the farming ties. They have positions on this board and that board. They may give some low hanging fruit, some easy wins that are not going to upset the farmers. That was how the Waimakariri Chair of the zone committee presented, saying oh here's one, here is something that we can all agree on. Because it was not going to affect the farmers. But 95% of the other, oh no, too hard, too much effect on the farming community. That's the language we were hearing (WZ1).

This view demonstrates a perception that there is a high degree of community social networking in the WZ, or amongst local farmers. That could mean some community

representatives on the WZC may feel less inclined to make decisions which could have a negative impact on their reputation within their social networks. This could have been a contributing factor towards a reluctance to make decisions on contentious subjects due to the risk of upsetting farmers. Additionally, community representatives with ties to the farming community may be less likely to vote in support of initiatives or projects which may upset farmers or those within their respective social circles. WZ1 argues that this significantly narrowed the scope on what the WZC was able to make decisions on, highlighting that up to 95% of the issues in his view were deemed too contentious for the Zone Committee to make decisions on. Therefore, if the consensus approach does reduce the scope of the WZC is able to make decisions on, it may contribute towards individuals feeling less incentive to become involved. However, this may not necessarily be the case on the CWMZC due to the zone having a far larger population and having a smaller farming community.

There was another critique which emerged from interview discussions that cantered on the legality of the Zone Committees to make decisions on WRM in Canterbury, as the legitimacy of ECAN to manage freshwater resources in Canterbury is still contested by Ngāi Tahu. WZ1 highlighted that, “At no time since 1848 when we sold the Kemp Deed have we ever given our right and responsibilities to a regional council to manage water.” If many people within the two local Rūnanga feel that they have never ceded their right to manage freshwater in Canterbury, then they may not regard the collaborative approach used by ECAN to be legitimate. This is especially so if they are treated as more of a stakeholder group rather than an equal treaty partner. Furthermore, WZ1 argued that ECAN was never prepared to make any meaningful changes to give effect to treaty principles:

> Environment Canterbury was never prepared to change the way in which it operated in this collaborative process and the only way to change them is to go to the court and force them to sit around the table and treat us as equal treaty partners and cut out all the others.

The point by WZ1 also illustrates a perception that ECAN is not having adequate regard for past agreements and the principles of the Treaty of Waitangi, despite the Zone Committee’s TOR requiring members to have regard for the principles of partnership, protection and participation in their decision-making (Environment Canterbury, 2020a).

4.5.2 Inclusiveness

To examine and analyse the inclusiveness of the Zone Committees, it is important to examine how members are selected to be on the committees. Community members are appointed by a panel which is composed of the existing community representatives, the Rūnanga appointees and representatives from the relevant TLA’s and ECAN. Prospective Community Appointees are assessed on their ability to meet the requirements of the TOR of the Zone Committee and are put through team building exercises where a panel examines group dynamics and their

ability to work in a collaborative and cooperative manner (CWM4). However, other members of the committee are directly appointed by the relevant Rūnanga and local government authorities and ECAN appoint their own representatives which are normally elected members. These Rūnanga representatives and elected local government members may not necessarily be appointed based on their knowledge of WRM and their ability to work collaboratively. Therefore, a significant portion of the committee may not necessarily have the desired skills and expertise. That could be detrimental towards the ability of committee members to work collaboratively and reach consensus. However, most respondents felt the size of the Zone Committees is ideal:

> I think that it is roughly right at the moment. If you had more, the risk is that you have a committee which is too big, too unwieldy, that will struggle. Equally, I think that if you reduce the number of committee members, then there is a real risk - CWM1.

If the committee becomes has to many members, it could create more difficulty for all members to speak and voice their ideas and concerns during group discussions. That could contribute towards some participants feeling they are unable to influence decision-making or that they are not being listened to. However, interviewees overwhelmingly felt for the most part committee members were able to listen respectfully to each other and there was an equal opportunity to speak during meetings. In addition, they did not express any grievances regarding the TOR which suggest they understood what is expected from them. This is important because creating and maintaining trust between participants requires they agree and adhere to the group's TOR. However, there are also grievances around some past and present members representing particular stakeholder groups rather than the public interest in the zone.

> I am looking at these people, and I'm thinking you're not representing the community. You are representing this one, this one and this one (WZ1).

This perception is important because in accordance with the TOR of the Zone Committees, members are meant to represent the whole community. If community representatives are not doing this, it could diminish the credibility of the committees if their TOR is not being upheld. In addition, the design of the Zone Committees may not be accommodating to the values and beliefs of Māori. WZ3 argued that:

> I think there is a barrier to Māori, and that's more to do with the structure of the committee. It is a very European way of running a committee. While we may sometimes have a meeting at a Marae, it is just a physical change of space, it wasn't a change of way of running a meeting and it is not changing the way the committee operates.

That could suggest the Zone Committees by design may not be overly accommodating to Māori values, which could have an impact on the ways and the extent to which Rūnanga representatives are able to participate. Furthermore, one of the main grievances with this approach comes from Rūnanga. WZ1 argued that:

> By putting us into these Water Zone Committees they have lumped us into a relationship with these groups and stakeholders which apparently have an equal voice in the same place.

That suggests Rūnanga do not believe they should have to compromise with other community members or groups as their partnership under the Treaty of Waitangi is with the Crown. Despite these grievances, Rūnanga have continued to participate in the Zone Committees.

The participation among the Rūnanga in both Zone Committees was indicated as being relatively inconsistent. In the WZC, interviewees highlighted that there was a long period where seats allocated for Rūnanga on the WZC were vacant. This inconsistency in participation has been believed to be related to capacity and capability issues amongst different Rūnanga with their expertise stretched thin across a range of different projects. This links to another issue identified which was around the physical capacity of some members to continue to remain involved. CWM4 told a story about a previous Rūnanga representative on the CWMZC who, due to old age, felt she no longer had the energy to commit to the committee. This point also has relevance in regard to the CWMZC youth representative (CWM4). Youth representatives may not have a driver's license or motor vehicle, which on top of having to balance Zone Committee commitments with other life commitments could mean they may struggle to participate.

Interviewees on both Zone Committees indicated that they are unaware of any stakeholder groups in their zone who have never participated in the Zone Committee in some way. Despite most Zone Committee members feeling that the plurality of public interest in the WZ had been captured in the ZIP presented to ECAN, WZ1 highlighted that:

> We should have engaged with the communities throughout the whole ZIP process. I know that in the Waimakariri, we had like thirty plus workshops in the space of eighteen months, only one was a community engagement and all the others were about engaging with the farmer groups. It's not a collaborative process.

That suggests that community consultation was heavily dominated and influenced by farmers, and the input from the community in the WZ was far more limited. If the urban community in the WZ which accounts for around half of the WZ’s population feel they did not have adequate

opportunities to input into the ZIP creation process, the ZIP may not be regarded by some as a legitimate reflection of the values and aspirations of people residing within the zone.

However, in the CWMZ participation amongst commercial and industry stakeholders and the small farming community had been low. In contrast, interviewees on the WZC indicated that participation by farmers had been relatively high, but participation by environmentalist groups such as Fish and Game and commercial and industry groups in the WZC has been low. The lack of representation for commercial and industry businesses may be because of a lack of an organised body to represent them (WZ3).

4.5.3 Timing and format of meetings

Another factor which can influence stakeholder participation is the format and timing of public meetings and workshops. Most meetings are open to the public, who also have the opportunity to present to the committees. Furthermore, meeting minutes, agendas and reports are accessible to outsiders online through the ECAN website. However, members of the public who lack internet access may struggle to find this information. Furthermore, the CWMZC typically holds meetings in the evenings, while the WZC typically holds meetings around mid-day. Mid-day meeting times were said to be generally more accessible for those in the rural farming communities, but less accessible for those who work normal working hours especially in urban areas. WZ1 elaborates that in the WZC, “Farmers in the community typically seem to have no problem attending during the day, but other committee members may have work and other commitments and meetings and they have clashes.”

Interviewees, particularly in the CWMZC, felt that the committee was very open and accessible so anyone who wished to speak to committee members. However, CWM1 felt that the public deputations were often rushed resulting in members of the public presenting being unable to effectively communicate all their concerns or ideas, while committee members lacked time to ask all their questions. Insufficient time available for community deputations could constrain the potential for mutual learning to occur and may result in those presenting feeling that their concerns and ideas were not being listened to by the committee. This possibility was acknowledged by members of both Zone Committees. CWM4 felt that it would be preferable for the committee to hear one public deputation per meeting rather than multiple as this could allow for a more engaging and informative discussion. That may be more likely to leave members of the public who present feeling that they were being heard.

4.5.4 Competence of Zone Committee Members

Most interviewees felt that the job of being a committee member can often be difficult, confusing and frustrating. There can be times when it is difficult to get everyone on the same page. Effective collaboration may require substantial investments before participants are able to listen, cooperate and reach consensus decisions. However, one similarity which emerged was interviewees all stated they become involved on the Zone Committee as a way to protect their community and felt they had skills and knowledge which would benefit the committee.

> Everybody in there has something to contribute and I think that's part of the idea that everyone comes in there with different backgrounds and different skills, and so everyone brings different things to it (CWM3).

This diversity in knowledge, expertise and skill sets contributed to a high degree of problem-solving capacity amongst members. WZ2 elaborates that:

> Generally, the Zone Committee has a very good range of skills and that's one of the things I found reassuring about it because we had an ecologist, an intensive large dairy farmer. If ECAN presented us with something, we could ask the ecologist and go what do you think about that? Does that make sense to you? You get some reassurance from their view.

This indicates that this diversity in skills and knowledge gave members greater confidence in their decision-making as they were able to ask other members with expertise in different subject areas their professional opinion on information presented to them. Therefore, having this range of expertise at the table could help break uncertainty induced deadlocks and enable decisions to be made. However, CWM3 highlighted that there is a perception that you must have a high level of expertise and knowledge to be on a Zone Committee which could discourage lay members of the public to seek membership:

> There is a perception that you have to be a scientist or that you have to have specialised knowledge to be there. But that's not real when you are there. When you are on the outside that is what you can perceive and maybe that restricts people from applying that are community involved.

Additionally, CWM3 argued “I think you are also limited by what people perceive it's about and what it's about.” Some people may be able to contribute significantly, but they feel are not qualified enough to be involved in the group.” Therefore, outsider perceptions of the Zone Committees could directly affect what skills and knowledge are brought to the table.

4.5.5 Transparency and Accountability

Interviewees on both Zone Committees acknowledged that they had difficulty understanding all technical and scientific information which was presented to them. It was further highlighted that the ability to comprehend and the ability of members to understand its implications was variable and dependent on the issue to an extent. For instance, CWM1 highlighted that “To do it well requires hours and hours of reading and time and understanding the issues.” Furthermore, these committee members have other work and life commitments that may limit the amount of time they can allocate towards their responsibilities as Zone Committee members. These factors may impact on the ability of committee members to make agree and make decisions when they feel do not have a good understanding of the information before decisions have to be made.

The capacity of Zone Committees to understand technical importation was also affected by the quality of technical experts communicating this information. WZ1 & WZ3 felt that the ability of ECAN scientists and staff to clearly communicate and articulate technical information to them was variable with some being better than others. That may result in committee members making decisions without understanding the full implications of the information, which could result in poor quality or misinformed decision-making which contribute to unsatisfactory outcomes of these decisions on the ground. For instance, in the WZC there were grievances expressed around the timing of request information being brought back to the committee during the Plan Change Seven (PC7) process in which some members felt they were under a lot of pressure to get things done in a short period of time.

New committee members on both Zone Committees may also require more time to understand the current situation and the implications of technical information they are presented with. This is important because misunderstandings of the information could contribute towards disagreements or conflict between members. This ties into a statement made by WZ2 who felt ECAN was restricting what could be discussed in the WZC in order to avoid conflict:

> The discussions were carefully led by ECAN, and the Zone Committee was limited in the discussion it was allowed to have. It seemed to me that ECAN were afraid of conflict. But if you do not have those big discussions that can get a bit headed, you do not get to understand other perspectives, and others do not get to understand your perspective.

This is relevant because restricting what can be discussed inside the WZC could constrain the potential for mutual learning and problem-solving ability amongst committee members.

Some participants felt the flow of information from ECAN sometimes seemed to support a particular narrative or agenda. “The information that is presented supports a view or image which ECAN wants to say (WZ1, 2021).” This could suggest that ECAN wanted to influence participant views on particular issues. Furthermore, some interviewees felt that ECAN had been evasive towards answering questions on certain topics. “If you keep asking the same questions and they keep not giving you the answers, why aren't they giving you the answers? Have they got something to hide (WZ1)?” This perceived evasiveness could contribute to views that ECAN may be trying to influence participant views on subjects through being slow to provide desired information or being evasive towards answering questions. In addition, WZ1 also highlighted that had been situations in which information they were presented with seemed to contradict other information:

> A lot of the reports on the state of the environment were funded by chemical companies who funded scientists who produced reports which contradicted all the other reports we received. It's a minefield. I think at the end of the day it was who could spend the most on scientists (WZ1).

This perception is particularly threatening to the credibility of scientific information as members could become increasingly sceptical of evidence-based policy if evidence presented has been financed by a group or stakeholder with a vested interest in the outcomes of their decisions. This point by WZ1 also demonstrates that its possible other committee members do not see evidence they are presented with as being apolitical. Furthermore, if information is perceived as contradicting information from other sources, that may contribute to suspicion amongst committee members that information in a way designed to influence the views of committee members to vote in a way which aligns with ECAN’s preferences. Additionally, WZ4 concerns with the reliability of monitoring data collected by ECAN overtime:

> For us as a community it was difficult to have a lot of faith in it because of the way it was created and the way ECAN was monitoring. But in saying that it is just the nature of the complexity of the system. It is not ECAN’s fault or anyone's fault. They did their best to present what I think is a very complex situation in a way that we could understand it.

In Canterbury, uncertainties due to outdated or inadequate monitoring data can make identifying results of management policies and interventions more difficult to determine. That could then make it difficult to determine what should be done to address WRM issues or what issues should receive priority. Furthermore, WZ1 highlighted:

> No scientist has been able to tell us how much our waterways can be improved over that ten years, twenty years, forty years. None of them have been able to tell us if we made all these sweeping changes, would we still be able to harvest our mahinga kai.

Such messaging could impact on the motivation of participants if they are told or led to believe that their desired outcomes may not be practicable or realistic. Although more time and investment into data collection could potentially contribute towards lessening uncertainties on some subjects, some interviewees argued that allowing committee members more time to understand all information may not necessarily translate to improved decision-making. It may even reduce the effectiveness of the Zone Committees in terms of being able to make timely decisions.

> The information we received is only ever as accurate as the data available. So, modelling has a huge margin of error sometimes and it can be prone to mistakes. I remember that after the ZIPA had been approved and it was going into the PC7 process, they discovered quite a significant error in the nitrate modelling and had to redo again which changed a few things. But I think that if you waited for the exact data, nothing would change (WZ2).

It should be noted that there is also a criticism that the Zone Committees have allowed mean moving to slowly towards meeting priority outcomes in the CWMS (WZ1). Therefore, if more time is allowed for committee members to understand information and could further reduce the likelihood of targets in the CWMS and their respective Zone Committee ZIP being met by the initially set timeframes. That could further increase grievances regarding the outcomes and impacts of Zone Committee decisions amongst some members. This statement by WZ2 could also suggest that some committee members may have varying perceptions of the severity of WRM related challenges which can contribute towards greater pressure to make and implement decisions. Additionally, there is still a degree of scepticism of the reliability and accuracy of reports and the science. Additionally, CWM2 highlighted that for a long time ECAN wrongly believed it was highly unlikely that nitrates were entering aquifers in the CWMZ from the WZ because the Waimakariri River formed a natural barrier: This is important because if the science is conflicting or later proven to be inaccurate, it may diminish the credibility of ECAN's scientist or other technical or scientific experts presenting to the committee and members may become increasingly sceptical of the reliability of information they present.

> You've got nitrates seeping in from under the Waimakariri, under the river, into Christchurch polluting the waterways. Tim Davie, the Senior scientist at ECAN when he first presented, he scoffed at us, saying or nah. Well, six months later yeah, we got a science report saying that it was real. I saw him the other day in the paper saying that Climate Change reforms are impractical, mocking the changes coming up in 2025. You know I thought to myself that he is just making a mockery out of it, and this is the regional council's senior scientist. It's not a good look (WZ1).

If those presenting to the Zone Committees including the hydrologist and groundwater scientist are not viewed as reliable or credible, that could constrain the ability of these Zone Committees to make decisions contentious issues.

Interviewees also elaborated that in some areas, discussion opportunities were confidential and limited. “The meetings were very structured, and we weren't given a lot of freedom, and rightfully so, to discuss everything (WZ4).” WZ4 argued that if what the Zone Committee were able to discuss was too broad, it could result in the committee becoming too bogged down and being unable to make timely progress on priority issues that need to be addressed. Linked to this, some interviewees expressed concerns that ECAN and the relevant TLA’s had set agendas and were not serious about changing these agendas to accommodate any recommendations made by the Zone Committees that may diverge from their goals. For instance, it was pointed out by some interviewees that some reports tabled to the CWMZC by the CCC conflicted reports tabled by ECAN. This point could suggest possible divisions between ECAN and the CCC if information presented to committee members from these organisations is indeed contradicting each other. Any divisions between management authorities will be detrimental towards achieving IWRM if the CCC and ECAN do not agree on a shared vision or the nature of the issue/s they are facing. Additionally, WZ1 highlighted that when the WZC submitted its ZIPA on PC7, two ECAN Councillors and three Councillors in the WDC also voted against the ZIP being formally adopted. This highlights a barrier towards the Zone Committees being able to influence change in their zone being they must also gain the support of elected representatives. These elected Councillors could be more likely to represent particular stakeholders or community groups and may be less willing to compromise and achieve a balance which takes into account the interests of minority stakeholder groups.

Some WZC members also felt information being presented was not being packaged in a way which lay members of the public on the outside could easily comprehend and therefore understand the implications of their decisions (WZ2 & WZ3). Therefore, despite information being accessible for those with the means and knowledge to find it, it may only be understandable to those with the time and expertise to read over and understand its implications. As many lay members of the public are likely very occupied by other work and life related commitments and may not be overly familiar with groundwater science and hydrology, few people on the outside may be able to make sense of the technical information and understand the rationale for decisions made by a Zone Committee.

4.5.6 Facilitation

Challenges around staff continuity in the CWMZC were also identified, with the committee having gone through ten facilitators since its formation (CWM4). This high turnover is believed

to be because the CWMZC was treated as a training ground for ECAN staff and facilitators before they are moved on to other assignments.

> It seems like a bit of a training ground like where people go on a secondment before moving on to something else and gaining some experience, and that is hard when you're making progress on something and then someone else comes along - CWM3.

A high turnover in staff, and committee members could constrain progress towards objectives, as more time will be required to inform new participants what the situation is, what are the objectives being pursued by the group and why. In contrast, staff turnover in the WZ Zone Implementation Team was relatively low with interviewees only recalling three facilitators since the group's formation. Interviews also highlighted the process was very well resourced and supported by ECAN.

4.6 How have the Outcomes and Impacts of the Zone Committees affected participant involvement?

As previously indicated in the theoretical context, outcomes and impacts of the decisions made by a participatory decision-making group and the impacts of being involved on the participants at a personal level can have an impact on individual incentives to become involved and remain involved. Interviewees expressed a range of views on the outputs and impacts of the Zone Committees which are further illustrated on table 4.3 below.

Table 2.3: Interviewee views on the outcomes and impacts of the CWMZC and WZC.

Outcomes and Impacts	Christchurch West Melton Zone Committee	Waimakariri Zone Committee
Positive Outcomes and Impacts	• Relationship building • Raising awareness of WRM challenges and solutions • Coordinating stream care groups. • Enhanced understanding of the values and beliefs of other groups. • Greater understanding of the machinery of local government. • Greater understanding of the natural environment and biophysical processes.	• Relationship building • Raising awareness of WRM challenges and solutions. • Coordinating stream care groups. • Enhanced understanding of the values and beliefs of other groups. • Greater understanding of the machinery of local government. • Greater understanding of the natural environment and biophysical processes. • Greater understanding of the implications of legislative and environmental change and how to adapt.
Grievances with Outcomes and Impacts	• Unsatisfactory Environmental Outcomes: • Confined scope: Lack of ability for the CWMZC to influence WRM in the WZ.	• Unsatisfactory Environmental Outcomes: • Lack of leverage power to affect change: (Lack of ability to influence WDC or ECAN) • Confined scope on what Zone Committees can make recommendations on:

4.6.1 Mutual Learning and Social Capital Building

Interviewees generally perceive one of the main benefits of their involvement has been the opportunity to build and develop relationships with other participants and gain a greater understanding of their values and worldviews. This mutual learning to an extent was enabled through the Zone Committee consensus decision-making approach which required participants to cooperate and listen to each other in order for decisions to be made. Some non-Māori participants expressed that their understanding of Tikanga Māori and the Treaty of Waitangi had improved through their time on the committees.

> I think for myself, probably the Rūnanga side of things is where I learned the most. I am not from Canterbury so my understanding of the history of Rūnanga, what is important to them in this part of the world, was something quite new to me.

Furthermore, this learning also contributed to shaping the views of the participants on WRM related matters in their zone and beyond. WZ4 stated that “Water management in Canterbury is a multi-decade issue because of the hydrology and that sort of thing.” It was also noted that having the TLAs involved helped keep committee members informed on who is working on what projects in the Zone, and where the money was coming from to fund various projects.

4.6.2 Better socio-ecological outcomes

Those who have been involved felt a higher appreciation of the environmental outcomes of the Zone Committees. It was emphasised on both Zone Committees that they have been most effective in raising awareness of WRM issues to change perceptions and the way people use and interact with freshwater:

> It's about changing people's perspectives and understanding. So, we are on the edge of change in water management. Four or five years ago people did not think much about water and what is happening, but the awareness is so huge now (CWM3).

Furthermore, CWM3 believed the CWMZC has had success in terms of being able to raise awareness amongst the population of the CWMZ on the effects of stormwater runoff from private properties on water quality of the city's waterways. Bringing attention to such issues could encourage people to make lifestyle changes to reduce their environmental impact, or pressure governing authorities to take greater action to address the issue. For instance, interviewees also highlighted that ECAN, the CCC and WDC had acknowledged their ZIP recommendations and have to an extent sought to provide for them in planning documents such as the Te Wai Ora o Tane Integrated Water Strategy for Christchurch.

The Zone Committees also helped to coordinate and organise stream care groups and biodiversity focused groups in their zone. These groups also help to facilitate the sharing of knowledge and expertise and attract volunteers to events such as clean-ups or planting days throughout their respective zone. These events further helped raise awareness of freshwater management issues in their Zone, the purpose and functions of the Zone Committees, and also helped to promote better environmental outcomes. Riparian planting for instance can have benefits of the aquatic ecosystem health of waterways and enhance their recreational and amenity values.

Some interviewees also indicated that the collaborative planning process has allowed a lot to get done in a shorter amount of time than what could have been achieved through a

conventional top-down planning process. “I think as opposed to every other process around the country, I think it is a very good way to deliver some good outcomes in some very complex and contentious situations (WZ4).” However, while some felt the collaborative approach did result in faster and more efficient policy implementation, others felt that this approach meant less timely decisions were able to be made on contentious issues:

> The implementable is all subject to the dollars. We asked a lot of this to be done by the Waimakariri District Council and ECAN, so we tried to think that is reasonable, in terms of cost, but we often did not have things costed (WZ3).

This could be another barrier towards committee members being able to make decisions advising where available funding should be allocated or what projects should receive IMS funding due to uncertainties on how much projects may cost to finance.

4.6.3 Grievances associated with Zone Committee outputs

Some interviewees expressed grievances regarding with the outputs of the Zone Committees. This includes a perception that there have been negligible improvements in indicators of environmental health and even a decline in some indicators. WZ4 stated, “At the moment we are only meeting every six to eight weeks but arguably we are not delivering a lot of value at the moment either.” However, it was emphasised that the Zone Committee’s to a significant extent were essentially volunteer organisations and their ability to promote better outcomes for the natural environment and their community is heavily influenced by the skills, expertise and time available of those appointed to be on a Zone Committee. For instance, CWM3 elaborates that “If we try and cope with everything, it can be impossible. It's basically a volunteer organisation.” That could suggest that the work that a Zone Committee is able to conduct could be heavily influenced by the expertise and time available of committee members to put into the job which is variable between members.

In addition, the continued degradation of many surface and groundwater bodies could reflect badly on the Zone Committee reputation amongst those on the outside due to the perception that the Zone Committees have not been able to contribute towards tangible improvements to the aquatic ecosystem health of these waterbodies. A lack of quantifiable positive outputs and a perceived lack of progress towards the CWMS and ZIP objectives may make sustaining public interest more difficult. It may also diminish the incentive for participants to remain involved to an extent. This perception is illustrated by WZ1 who stated:

> We have said as much as we can and we have done as much as we can, and we are no closer to our goals than we were ten years ago. But to withdraw from the game would give us little benefit.

This point suggests that some members of the WZC may feel unsatisfied with what has been achieved by the Zone Committee to date, but the imperative to be heard and input into discussions and Zone Committee outputs remains a sufficient incentive for some to continue to remain involved.

Grievances regarding what was included in the WZC Zone Implementation Plan Addendum (ZIPA) were also identified. “After the ZIPA was signed off, some of us were really unhappy about those changes (WZ3).” This point illustrates how the recommendations included in the ZIPA may have been deviated from what committee members wanted. This links to views that although ECAN expressed a commitment to listen to the Zone Committees, they have no obligation to act on their recommendations or to implement those recommendations in the way committee members may have intended. Furthermore, decision-making required the balancing of different participant interests which could have contributed to perceptions that the views of some participants were not being heard or taken seriously. “I guess one of the challenges in the collaborative environment, particularly for contentious issues, is that everyone disagrees, and no one is 100% happy with the outcome (WZ4).” Making trade-offs and compromises could be difficult for participants who feel that they are in the right or other participants or wrong or misinformed. In addition, WZ4 when discussing the participation of Fish and Game and Forest and Bird stated that:

> From my personal understanding, they do not see the collaborative process as having been effective and they would prefer to follow the legal process through the courts, rather than agree to a collaborative solution that does not 100% fit their philosophy.

That suggests the Environment Court represents an alternative which may be viewed as more attractive for groups intent on avoiding making trade-offs or compromises with competing interests in order to achieve desired outcomes. A similar view to WZ4 was expressed by WZ2 regarding Rūnanga participation on the WZC:

> I thought sometimes that they thought they were above the Zone Committee. That they preferred to have influence at a higher level, rather than at the collaborative level where the Zone Committee was. This was particularly so if they felt that things weren't going in the direction they wanted things to go.

It may be difficult to encourage stakeholders to become involved and remain involved in participatory decision-making arrangements such as the Zone Committees if stakeholders feel they could avoid having to make unfavourable trade-offs and compromises with others if they feel they could achieve their desired outcomes unilaterally such as through the courts. Linked

to this, WZ2 and WZ4 also felt that it is a good thing that actual groups are not directly represented at the table and that committee members must strive to represent the general population of the zone. If participants directly represented organisations, they felt it could have made it far more difficult for decisions to be made, if at all.

It was also highlighted that the effectiveness of outputs of the group also depends to a significant extent on monitoring and enforcement of rules and policies. CWM4 argued that "There are so many different issues that need to be looked at, it soon becomes clear that it isn't practical for the whole committee to address all these various things." However, not all interviewees agreed that the Zone Committee had a lack of leverage power. CWM1 felt that there is a good freshwater management regime in place now and its design to a large extent has been influenced by recommendations by the Zone Committee: "We've got a good regime in place and it's a matter of enforcing that (CWM1)." This regime has the potential to deliver some positive outcomes for the community and natural environment, but CWM1 acknowledges that outcomes and impacts to a large extent depends on good monitoring and enforcement. Therefore, the capacity of ECAN to monitor compliance with freshwater management policies could also affect the reputation of the Zone Committees and satisfaction with their outputs. Additionally, the Zone Committees do have leverage in the form of $100,000 annually in Immediate Steps Biodiversity funding in which committee members are able to decide what projects receive funding and which do not.

Interviewees also identified issues associated with the LGA and RMA which have constrained the effectiveness of the Zone Committees (CWM1, CWM2, & CWM3). CWM1 argued that "The complex ecosystem which is local government makes it difficult to get things done quickly." Therefore, regulatory constraints at the national level could constrain the ability of the Zone Committees to make progress towards addressing important WRM related issues. This could contribute to frustrations amongst participants that they are unable to contribute towards their desired change as fast as they would like. Additionally, there are multiple plans including the LAWP and WRRP which manage water allocation in the WZ (Environment Canterbury, 2018). This creates greater complexity for both ECAN and plan users that could constrain efficient and timely implementation of WZC recommendations.

Multiple interviewees also highlighted that there was a sense of community misunderstanding of the Zone Committee roles and responsibilities:

> I think that some people are not aware of what the Zone Committee is, who we are representing, what we are doing? People come to the Zone Committee and talk about

> something they are going to do, but we have no ability to provide any money to make that happen - CWM3.

This point is particularly important because it demonstrates the limits of the Zone Committees too affect change and help cover the cost of projects that could have high community and environmental benefits. However, potentially many people attending or coming to present to the Zone Committees may not be fully aware of these limitations. In addition, WZ3, CWM2 and CWM3 felt that many people were unaware of the extent of the work done by the Zone Committees to date and the benefits of participating in the Zone Committee. This perception was also held by some Councillors in the CCC, especially newly elected Councillors, who did not have a good understanding of the purpose and responsibilities of the CWMZC.

> When the Zone committees come to the Council to give a quarterly update for example, the Zone Committee chair might get asked about what research you have done, but of course that's not the role of the Zone Committee. Not all Councillors understand the roles and responsibilities of the Zone Committees - CWM4.

That lack of understanding represents an obstacle towards the CWMZC being able to work effectively with the CCC to implement its ZIP objectives. It is also possible that this situation may be similar between the WZC and WDC, and potentially ECAN now that the regional Councillors are all directly elected. That could mean there may be higher turnover in elected representatives following local government election cycles. All this could constrain the potential for the Zone Committee to contribute towards positive outcomes for the natural environment or communities in their zone and address priority issues. That in turn could result in outsiders viewing the Zone Committees in a more negative light. As CWM1 stated “If there is a somewhat entertained or mixed view of the Zone Committee, then why would good people put their hand up to be part of the committee.” This suggests if the committees are perceived as ineffective or unable to contribute towards desired WRM related outcomes in a timely manner, community members may be less inclined to participate. However, changes made to the CWMZC overtime including the live-streaming committee meetings and video archiving meetings is believed to have helped to address this issue and communicate what work the CWMZC has been undertaking to those on the outside (CWM4).

There were also views that central government interventions related to WRM in Canterbury have been disempowering for some participants and have negated some of the work done by the Zone Committees to an extent. According to WZ2:

> The National Policy Statement for Freshwater Management has been very frustrating because it has added $30 million dollars in the Land and Water Regional Plan, and now ECAN has to try

and line up the national policy with what has been developed over the last ten years in Canterbury.

This point could also imply that the central government have neglected consideration of the situation in Canterbury including what has already been done and the nature of the WRM related challenges. As a result, it has allegedly created more cost of the regional government, and therefore more unnecessary burden on local ratepayers. WZ2 also felt that ECAN is essentially being punished by the central government for being ahead of the game and has resulted in unnecessary cost for the local ratepayers.

There were also some grievances around the scope of what the Zone Committees were able to discuss. Namely, what they were able to discuss and make decisions on was limited and many of the more contentious issues were not up for discussion because reaching consensus decisions requires being able to balance out a wide range of interests: “So there are different ends of the spectrum and at times we had to refrain from discussing things at the extremes, which meant some people may have felt like they were shut down (WZ4).” In addition, WZ3 argued the WZC should have jurisdiction to make recommendations on Climate Change because it affects everything including freshwater management. However, climate is beyond the scope of what the Zone Committees are able to make recommendations on at this time. Some members of the CWMZC also felt that the Zone Committee should be able to make recommendations on land management practises in the neighbouring WZ. This is because of the threat of nitrates being leached in the WZ from farming activities threatening to contaminate aquifers in the CWMZ where Christchurch sources its drinking water supplies from. However, the Zone Committees can only make recommendations on WRM within the boundaries of their zone.

4.7 Summary

From the findings from interviews with members of the CWMZC and WZC, it appears that a key factor motivating some participants to seek membership and remain on the Zone Committees is an imperative to prevent adverse outcomes on the interests. This was more emphasised on the WZC. Their motives for participation seemed to be largely intrinsic seeking positive outcomes for their community and the natural environment, rather than extrinsic motives like political gain or momentary reward.

In terms of process attributes, grievances around the communication of information were heavily emphasised. Additionally, capacity and capability constraints can affect the ability of

members to comprehend technical information and be able to attend committee meetings. This was particularly the case for Rūnanga. Another noteworthy factor is the option for individuals or groups to seek to secure their interests through the courts to avoid having to make trade-offs or compromises with competing interests. There was also a need highlighted for a better induction of new members so they are able to build relationships with other members, understand the purpose of the Zone Committees and their roles and responsibilities as committee members. That may simplify involve more time after each Zone Committee refresh for new members to establish relationships with other members, be adequately briefed on the their responsibilities, what work has already been done or being done by the Zone Committee and where the Zone Committee is at in relation to what they are aiming to achieve. Some of the more positive outcomes and impacts from the time participants spend on both Zone Committees were around mutual learning and relationship building.

There was mixed satisfaction with environmental and community outcomes so far. Although some gains were noted, some participants were dissatisfied with progress towards key targets, especially in regard to improving the recreational and cultural values supported by surface water bodies. It is also noteworthy that tensions and disagreements between committee members were less emphasised on the CWMZC, despite the committee having a significantly higher turnover in facilitators in other support staff. Literature examined in the theoretical context suggest that a high turnover would make it more difficult to reconcile conflicts and build trust. Yet, if anything cohesion between committee members seemed to be greater in the CWMZC compared to the WZC, despite the WZC having a lower staff turnover. It was also emphasised that it will take more time for some of their recommendations to show dividends in terms of positive environmental and community outcomes, for reasons including continued environmental uncertainties.

Chapter 5

Discussion

The aim of this research has been to understand what factors motivate members of the public to become involved, and to remain involved in the Christchurch-West Melton Zone Committee (CWMZC) and the Waimakariri Zone Committee (WZC) in Canterbury, New Zealand. The literature examined in the theoretical context indicated that contextual factors, attributes of the process and the outcomes and impacts of participatory processes can all have impact on the motivations of individuals to participate. The findings from the interviews conducted with members of the CWMZC and WZC have reinforced these assumptions to an extent.

5.1 Key factors motivating participants to become involved in the Christchurch West Melton and Waimakariri Zone Committees?

There have been a range of different factors identified linked with contextual variables, attributes of the design of the Zone Committees, and their outputs and impacts of which the primary findings which emerged from the interviews as shown on the table below.

Table 5.1: Factors identified during interviews which may impact on the incentives of members of the public to seek membership or remain involved in the CWMZC and WZC.

Christchurch West Melton Zone Committee	**Waimakariri Zone Committee**
• Leverage to contribute towards positive environment and community outcomes. • Raising awareness of WRM issues and promoting behavioural and lifestyles changes: • Mutual Learning: • Kaitiaki Obligations: • Social Capital Building:	• Leverage to contribute towards good environment and community outcomes: • Risk Prevention: • Kaitiaki obligations: • To maintain a strong voice for farmers in the decision-making process: • Cost saving: More efficient plan development and implementation pathway. • Social Capital Building: • Mutual Learning:

5.1.1 Outsider Perceptions on the functions and responsibilities of the Zone Committees:

Although this research did not interview people who were not a member of either of the Zone Committees, those interviewed on the CWMZC and WZC overwhelmingly felt both Zone Committees were highly accessible to anyone to come along to their public meetings and the plurality of interests within their zone were able to be captured in their one Implementation Programme (ZIP). However, they did identify several factors which may contribute towards discouraging members of the public from becoming involved.

One potential factor behind a lack of community members applying for membership on the Zone Committee could be related to their reputation and that of ECAN as it is the authority charged with the management of the region's freshwater. The perception of ECAN varies amongst different stakeholders. Environmentalist and community groups have been critical of ECAN for its weak enforcement of environmental protection policies and weak punitive measures against polluters (Mitchell, 2018; Williams, 2020; Young, 2020). Farmers have also expressed grievances around not being listened to by ECAN and around the new freshwater reforms with new rules being viewed as treating farmers unfairly and being impractical to implement within set out timeframes (Allot, 2021; Squires, 2020).

There have also been views that ECAN is being heavily influenced by the interests of farmers. A lack of trust in ECAN and in the collaborative approach links a critique by Memon, and Weber (2008) who argued the uneven distribution of the cost and benefits of freshwater use has served to enhance the established rural-urban divide and distrust. Furthermore, the dominance of farming interest was indicated as a factor motivating Fish and Game to cease their participation in the Hurunui-Waiau Zone Committee (Mitchell, 2017). It was also highlighted that Forest and Bird and Fish and Game have also largely not participated in the WZC due to similar grievances (WZ2 & WZ3). This demonstrates how a lack of trust or perceived power imbalances within the Zone Committees could contribute towards committee members having less incentive to become involved or remain involved.

Literature examined also suggested that social capital (mainly in terms of social relations between urban and rural communities) in Canterbury had been negatively impacted by the decline of the recreational, amenity and cultural values supported by waterbodies, to allow for agricultural intensification. Social capital has further impacted by the sacking of ECAN's elected Councillors in 2010. According to Salmon (2012) collaborative capital in the zones was also significantly impacted at the beginning of the CWMS process due to the implementation of the Environment Canterbury (Temporary Commissioners and Improved Water

Management) Act 2010 (Salmon, 2012). This intervention by central government had a detrimental impact on social cohesion across the recently created water management zones. Furthermore, according to Kirk (2015: 98):

> The concord established between farming and environmental interest groups during the collaborative CWMS process eroded after the enactment of the ECan Act. Environmental interest groups who were opposed to the extra powers given to commissioners, especially the ability to amend WCOs. By contrast, farming interest groups supported the change.

This suggests that the ECAN Act had diminished trust between environmentalists and farmers to an extent, making them less likely to cooperate and listen to each other. In addition, the ECAN Act temporarily removed the right of individuals to make appeals to the Environment Court against the implementation of a regional plan or regional policy statement (Rennie, 2011). That may have further contributed to outsider views that ECAN was not serious about empowering local communities through the collaborative CWMS approach. Similarly, the new freshwater regulations being imposed on Canterbury by the central government may have a similar effect, potentially leading some stakeholder groups such as the farming communities to feel that the time and effort they spent working through the collaborative process to agree on environmental limits and targets was not time well spent. All this is significant because it could contribute towards individuals feeling those decisions on targets and how these will be achieved were predetermined and they will not be able to make a difference through participating on the Zone Committees.

Another factor which could be having an impact on the incentives for members of the public to become involved was identified as linked to a possible lack of awareness of the Zone Committees and their purpose and responsibilities amongst the general population in these water management zones. It was highlighted that in the WZC, there had previously been committee members who some interviewees believed did not understand the purpose, responsibilities and scope of the WZC (WZ2 and WZ4). Although it was emphasised that these people have since moved on, this could suggest that the purpose and responsibilities of the Zone Committees may not be being clearly communicated to members of the public and prospective committee members at the early stages of the WZC. As a result of a potential misunderstanding of the purpose and roles of the Zone Committees, some members of the public may not feel they have the capacity in terms of the necessary skills and knowledge and time to fulfill their responsibilities as a committee member. For instance, it was emphasised from CWM3 who used to present to the CWMZC during public meetings before seeking membership, that from the outside it seemed that you had to be someone with a background in or closely related to environmental science to be a committee member. That perception

could contribute towards members of the public feeling they may not have the qualifications or knowledge to be on the committee. To encourage more members of the public to consider applying for membership, if the purpose, functions and responsibilities of the Zone Committees are able to be clearly articulated and communicated to a wider group of people, it may help break down that perception barrier. While the Zone Committees have utilised several mechanisms to help raise awareness of their work such as media releases and newsletters, many people may still not be aware or overlook these community outreach efforts.

In addition, being a Zone Committee member was highlighted by interviewees as hard work and members have a responsibility to represent the public interest in their decision-making in regard to the way freshwater is managed. This is important because to an extent the liability on poor outcomes of WRM decision-making is being transferred from ECAN to the Zone Committees to the collaborative approach. Therefore, to an extent, Zone Committee members are liable for poor WRM outcomes and if funds allocated to biodiversity projects from the IMS funding deliver over results, as it is ratepayer money which funds their operations and the IMS fund. This means some outsiders may be discouraged from seeking membership due to them viewing the responsibility of being a Zone Committee member as too substantial. In addition, with a relatively low remuneration of $4000 for Zone Committee members (Environment Canterbury, 2020a), it was viewed as more of a voluntary job by committee members interviewed that cannot be treated as a full-time occupation. If the job is seen as a volunteer role, people on the outside with already substantial work and life related commitments may feel that they do not have the time and energy to do the job.

5.1.2 Awareness or appreciation of the importance of freshwater

Evidently, different participants had different views of the perception of WRM challenges. The decline of water quality, availability and new understandings of the natural environment and environmental processes which may emerge could impact upon the wider population perception of the severity of the problem and the way in which they value freshwater.

Variation in contextual conditions in these zones could impact on the way they create meaning for the world around them and value their surrounding environment (Ananda & Proctor, 2013). Therefore, different community level socio-cultural, economic and political contextual conditions and institutions could have an influence on how people the CWMZ and WZ value freshwater. It was emphasised by interviewees on the WZC that the zone is rapidly urbanising and many people from WZ work in Christchurch. Therefore, many of these people could be more influenced by urban ideas and thinking around their relationship with freshwater. The amenity and intrinsic values supported by water bodies were emphasised in the CWMZC, so

these values may become more influential towards shaping community perceptions of freshwater in the WZ as the zones urban population grows.

It was emphasised that there had been low public participation in CWMZC meetings and few people applying for membership. Interviewees were unsure why people in urban areas tended to hold relatively more apathetic attitudes towards freshwater issues. However, Memon and Weber (2008) highlighted that mixed messaging and scientific uncertainties has been a factor in why the perception of the severity of the issue of water security in Canterbury have been variable. This relates to how some interviews expressed varying perspectives on the severity of issues such as nitrate pollution due to the implications of nitrate pollution on human health and groundwater systems continuing to be disputed resulting in mixed messaging. Furthermore, it was acknowledged that due to the lag effect in the time taken for contaminants including nitrates to infiltrate water bodies, some of the changes in terms of changing land management practises in the WZ may not be seen for a long period of time. In addition, some interviewees acknowledged that there is no quick fix towards remediating damage that has been done to the natural environment and for farmers and growers to transition towards more environmentally friendly land management practises. It is therefore important that the nature of the problem is clearly communicated and packaged in a way those on the outside can comprehend. If this cannot be done, they may still view the Zone Committees as ineffective for failing to reverse the trend in the deterioration of water quality in parts of both zones. If those on the Zone Committees do not fully understand the nature of the challenges they are facing, and the logic behind assumptions by technical experts, it may be even less likely lay members of the public will understand. That means mixed messages, together with environmental uncertainties and disputed science, could be a contributing factor to why some community members may hold more mixed views in regard to the severity of WRM issues in Canterbury.

Potentially, the increasing nitrate concentrations in Christchurch drinking water aquifers could contribute towards changing the urban populations perception of the severity of the issue, due to emerging evidence that high nitrate levels in drinking water are linked with higher rates of Colorectal Cancer (Schullehner, et al., 2018). However, if farmers were to meet long term nitrate reduction targets and water quality and availability do improve in the WZ, that could reduce grievances against farmers amongst the membership of environmentalist, recreationalist and community groups and local Rūnanga. That may give groups like Forest and Bird a greater incentive to participate in the Zone Committees and be more willing to listen and cooperate with farmers.

5.2 Why might some participants remain involved or cease involvement?

It is important that the Zone Committees can attract people with the skills to work effectively in a collaborative environment. However, this has been difficult in both case studies: “Finding people with the right skills and the desire and passion, and then the ability to fit this commitment into their daily lives, you know it can be difficult (WZ3).”

Additionally, the Zone Committees are reliant on the willingness of these people to participate in a highly time-consuming work. This means the work in which a Zone Committee is able to perform could be heavily impacted by the expertise, skills and the time available of those who are selected to be on a Zone Committee. Therefore, identifying what factors might motivate members of the Zone Committees to remain involved, or not, is essential towards understanding why those involved what it is about the Zone Committees which makes individuals willing to put the time and effort to work through a collaborative process. According to Memon and Weber (2008: 10):

> Credible commitment to the collaborative institution means that participants willingly direct their power and resources to cooperate in good faith towards mutually agreeable decisions and then to promote, protect, and enforce such deals.

Therefore, if participants did not speak highly of the outputs of their Zone Committee, it could suggest there may have been a lack of credible commitment to the Zone Committees. However, those interviewed overwhelmingly felt that the recommendations that they had made to date have been practical and implementable, and they devoted a great deal of time and effort into consulting with the community and reading over information in order to make quality recommendations.

From the interview findings, most interviewees on both the CWMZC and WZC expressed favourable views of the collaborative approach and felt that they were able to strike a balance and deliver practical and implementable recommendations in their ZIP. However, there were also a range of grievances expressed with the process and outputs. These will be further elaborated on below.

5.2.1 Desiree to influence Zone Committee decision-making

Some members of the community felt there is an imperative to become involved to influence outputs of the Zone Committees which will be more accommodating to the needs and concerns of their community. This was particularly so for farmers and Rūnanga.

Furthermore, multiple interviewees expressed concerns regarding the imposition of the central government's new freshwater reforms are neglecting consideration of the unique contextual conditions and challenges in Canterbury. Therefore, these regulations have been viewed by many farmers in the WZ as unrealistic to implement within set out timeframes. Furthermore, to protect the quality of drinking water supplies, the WZC ZIPA recommends that farmers in nitrate priority areas in the WZ should reduce nitrate leaching by 15% by 2030 (Environment Canterbury, 2018). It was acknowledged in the ZIPA that it will likely be very difficult for many farmers to achieve nitrate reduction targets. Therefore, for some farmers it is important to be able to have a strong farmer voice represented on the WZC, so the concerns and knowledge by the farming community is heard and so the farming community is better positioned to respond to regulatory changes.

It is possible that farmers and Rūnanga members will continue to have a high incentive to participate in the WZC primarily due to concerns of the outcomes and impacts of WZC decision-making outputs if their interests were not represented at the table.

5.2.2 Alternatives to the Zone Committees

It was highlighted in the results that some groups had not participated in the WZC including environmental and recreational groups who allegedly viewed the courts as a more favourable avenue to secure or advance their interests. Their preference for the courts to an extent could be driven by the group's membership or supporters who are against making trade-offs or compromises with groups such as farmers. This could be particularly influential in the case of groups which are heavily reliant on volunteers in order to function. Therefore, there is an imperative for such organisations to be accountable to their supporters. According to Memon, and Weber (2008):

> A clear, strong commitment to one's own agency or group mission is required because without it there will be little respect for the participant. The inability to make such a commitment weakens the capacity to influence proceedings, raises suspicions about where loyalties lay (i.e., what is their agenda?), and increases the chance they will be replaced by their organisation, along with the probability that deals will be short-lived once the homes organization learns of the apostasy.

This statement has relevance because if a representative from a stakeholder group deviated from the organisation's vision or philosophy, it could result in that representative losing their legitimacy to represent that stakeholder group amongst the group's leadership or its supporters.

If a group's supporters view a participatory group or process to be contributing to outcomes that are detrimental to their interests and aspirations, they may pressure their representative to cease participation or be less cooperative with other participants who hold competing goals or interests. This demonstrates how the nature of the relationships between different stakeholder groups within the operating context of the Zone Committees could affect the potential for effective collaboration to occur. It is possible that as long the membership and supporters of a stakeholder group hold negative views of ECAN and other stakeholder groups, organisations like Forest and Bird and Fish and Game will be more likely to view the courts as a preferable alternative to participating and contributing to the Zone Committees. Therefore, improving the reputation of ECAN and the farming community amongst environmentalists, recreationalist and Rūnanga could increase the incentive for these groups to participate to some extent such as attending or presenting to committee members during meetings.

If the Zone Committees are unable to address issues such as the decline of water quality of highly valued waterways, it may contribute towards participants who wish to see quick quantifiable improvements in aquatic ecosystem health feeling that their time spent on a Zone Committee is not worth their time and effort. Therefore, some participants may feel that they have little reason to continue to remain involved going forwards. Furthermore, dissatisfaction with outcomes and impacts of Zone Committee decision-making outputs may dissuade outsiders from applying for membership if they view that they will not be able to make meaningful progress on addressing issues they view as important. Therefore, they may look to alternative means to secure or advance their interests and achieve their desired outcomes.

There was also a perception that Rūnanga appointees on the Zone Committees felt that they were above the collaborative process and may prefer the courts to protect or advance their interests. According to Te Aho (2010) Māori have long been excluded from the decision-making process and have therefore sought to assert their rights and interests in relation to freshwater, through the courts in order to be taken into account by decision-makers. Therefore, if local Mana Whenua feel that their rights in regard to freshwater management are not being adequately protected by management authorities, meaning their ability to practise Kaitiakitanga, maintain connections with their Whakapapa and pass on their cultural traditions to future generations is being threatened, they may be more likely to seek to secure their interests through the courts. This could have been a motivating factor behind the recent claim brought to the high court by Ngāi Tahu, seeking recognition of their Rangatiratanga over freshwater in Canterbury, driven by concerns of poor management by ECAN (Maxwell, 2020)

5.2.3 Communication of information

Interview findings suggested that there were grievances associated with the communication and presentation of information to the committee members. It was emphasised on both the CWMZC and WZC that collaborative approaches can often be hard work and a significant time commitment. That is important because across the zones, there are different levels of resources and expertise in communities which can impact on their ability to participate in a collaborative process. The level of expertise, time available, and resources of community members could impact on the extent to which they are able to participate on the Zone Committees including being able to read over and comprehend the technical and scientific information presented to them. This links to the argument by Hekkila (2016) that the decision-making context can impact on the ways evidence is interpreted and utilised in WRM.

Those interviewed on both committees overwhelmingly felt that they did not have sufficient time to read and comprehend all of the implications of technical information. Additionally, some felt that the quality of ECAN staff who were tasked with communicating and articulating this information and answer questions posed by committee members were variable. This was emphasised to a greater extent on the WZC however. Furthermore, there were suspicions that ECAN was trying to control the Zone Committees and influence the way community appointees viewed particular WRM related issues in their zone. This was partly linked to the amount of time taken by ECAN to bring requested information to committee members and at times tabling reports or documents that were not send to committee members prior to meetings taking place. There were times when staff had been evasive towards answering questions on some subjects. This can give the impression that ECAN has something they wish to hide from committee members. Findings which emerged from the WZC interviews suggested the flow of information presented to committee members was not always apolitical. For instance, some reports that were tabled at committee meetings were said to have been funded by chemical companies. Chemical companies would likely have an interest in farmers and growers using their synthetic fertilisers as they make profits selling these products to farmers and growers. Control over the flow of information to participants could influence the ways that they view the problem in question and what means should therefore be used to address it (Susskind & Cruikank, 1987). This means the flow of information to Zone Committee members could have an impact on how they view WRM related problems in their zone including in terms of their severity, and what would be the best ways to address these problems. Furthermore, disputes may arise in a decision-making situation when participants do not have access to the full details about a proposal, its potential effects, perceive the importance or reliability of information they are presented with differently, or have divergent perspectives on what should be done based on the evidence they are presented with.

All this is important because if ECAN is no longer perceived as a neutral honest broker of technical and scientific information, it may diminish trust in ECAN and discourage individuals from participating. For instance, when the Rural Advocacy Network withdrew from the Hurunui-Waiau Zone Committee in 2019, their spokesperson argued ECAN had a predetermined agenda and had been controlling the flow of information from outside experts in a way which marginalises other relevant information (Bristow, 2019). Furthermore, in 2020 there were three resignations from the Orari-Temuka-Opihi-Pareora Zone Committee with the chair alleging that ECAN was attempting to steer the Zone Committee in a way which did not necessarily reflect upon the values and aspirations of the wider community (Littlewood, 2020). This was partly attributed to information requested by some of the Zone Committee members including an economic analysis of the zone not arriving before committee members had to sign-off on the PC7. That further demonstrates the importance of presenting requested information to the participants in a timely manner, especially before important decisions need to be made.

The amount of time available to understand relevant information before decisions have to be made could pressure stakeholders into making concessions while concerns or grievances by some participants remain. This also connects with findings from other collaborative environmental governance arrangements in New Zealand. For instance, Sinner & Harmsworth (2015) found that Māori representatives in the TANK (Tūtaekurī - Ahuriri - Ngaruroro - Karamū) participatory group for WRM in Hawkes Bay felt pressured to compromise due to a lack of understanding or acceptance of Māori worldviews and difficulty communicating Māori aspirations accurately into management plans. This could also potentially be the case on the Zone Committees due to the consensus decision-making approach being used that may result in Rūnanga representatives feeling pressured to compromise or abstaining from voting in order to see action be taken despite them potentially continuing to have some concerns. However, findings from interviews suggested that most participants felt they learned a great deal about Māori worldviews and aspirations through the Zone Committees. That could suggest that the consensus approach did not constrain the expression of Māori views.

5.2.4 Participant satisfaction with outcomes and impacts

Interviewees overwhelmingly felt that through their participation on these Zone Committee, they were, to an extent, able to make a positive contribution to their community and the natural environment. The learning and relationship between committee members and those on the outside were identified by participants as some of the main positives during their time on the Zone Committees. This demonstrates an alignment with academic literature examined which suggests that if a collaborative process is able to strengthen social capital and promote learning, it is a sign of an effective or well-designed process (Ansell & Gash, 2008; Ostrom, 2010). On top of this, mutual learning may also increase the capacity of stakeholders to

participate and work constructively in participatory arrangements and contribute towards transformational social change through allowing for a greater exchange of knowledge and ideas which can contribute towards more innovative solutions to contentious ad multi-faceted issues. Therefore, bringing together a broad range of participants representing the plurality in ways people in a particular area understand and relate to the world around them could allow for mutual learning, helping people understand the reasons why participants might hold particular views on different subjects (Leach, et al., 2013). This aligns with findings from interviews as multiple committee members felt that having a broad range of knowledge holders at the table contributed to a higher level of problem-solving capacity and gave committee members greater confidence in their decision-making.

It is however important that recommendations the Zone Committee produce are implemented selectively or not acted upon by management authorities, it could incentivise participants to cease involvement. It has been emphasised by committee members on both Zone Committees that from the beginning of the process ECAN had expressed a commitment to listen to the recommendations made by the Zone Committees, but not necessarily to act on them or implement them the way in which some members may have desired. That could have contributed towards some participants feeling frustrated with the process. Such frustrations in other participatory groups in New Zealand have contributed to the decisions of participants to withdraw. This is illustrated by a statement made by Forest and Bird's Chief Executive in 2017 on the then government not implementing LAWF recommendations in full:

> This is a timid gesture by the government in the face of actually some pretty good consensus recommendations from the Land and Water Forum really says there's nothing to be gained for Forest and Bird to stay in this process (Gudsell, 2017).

This example demonstrates the importance of recommendations made by a Zone Committee being implemented in the way participants intended them to be implemented. If participants feel that they are unable to contribute to positive change on the ground due the relevant governing authorities being unable or unwilling to implement their recommendations in the way they were intended to be, it may result in participants feeling disenfranchised with the process. The findings also suggest that the outcomes and impacts of the Zone Committees can impact on participant incentives to work collaboratively, or resort to alternative options. Furthermore, Healey (2007: 224) argues that when stakeholders come to a participatory arrangement with fixed positions and are not prepared to compromise:

> This then makes it difficult to open up discussion to explore new possibilities, still less to learn about cultural differences in the construction of meaning and values. Such processes in effect

> come to generate a NIMBY-style politics, in which groups retreat to saying ‘no’ to anything government or other group propose, in order to safeguard their position.

This illustrates the importance of having Zone Committee members with the skills and willingness to listen, cooperate, and consider the view of others, as well as being prepared to make trade-offs and compromises in order for decisions to be made. The extent to which the membership of a Zone Committee has these competencies could impact on their outputs. The outcomes and impacts of these outputs could then have an impact on the views of participants and outsiders in terms of whether becoming involved would be the best use of their time. In addition, there should also be a clear and agreed upon mission statement which will remind the participatory group of its purpose and what it is aiming to achieve:

> There needs to be greater assistance for those joining the committee to understand why they are there, what the desired outcome is, what are the success factors towards delivering a good collaborative outcome, and probably mutual expectations too - WZ4.

It is also important that all the Zone Committee members can comprehend what are their responsibilities, what is the situation and the nature of the problem. This is important because WRM was argued by multiple interviewee’s to be a wicked problem characterised by uncertainties. Therefore, some policy impacts may not be seen for long periods of time due to the lag effect in policy implementation (Guckman, 2017), and natural lag effects such as the time taken for pollutants to runoff into water bodies (Painter, 2018). This also highlights the importance of presenting the best available information in a way all participants can understand (Forester, 1999; Rouse & Norton, 2017). This links to recommendations in the WZC ZIPA for increased monitoring and research to help the wider community understand what progress is being made towards priority outcomes (Environment Canterbury, 2018). Greater resourcing towards monitoring and research to lessen uncertainties could contribute towards improving outsider perceptions of the WZC. However, having already defined objectives and targets in their respective ZIP based on what is believed to be in the public’s best interests could potentially discourage individuals from participating who do not agree with the outcomes Zone Committees are aiming to achieve. In addition, Memon, Duncan and Spicer (2012: 22) argued that the CWMS targets which the Hurunui-Waiau Zone Committees had to strive to achieve served to:

> Close off discussion of some potential paths of inquiry and impose artificial and possibly counter-productive boundaries around issues that cannot and should not be bounded, at least initially, in a collaborative and deliberative process.

That is important because it suggests that by design the Zone Committees in Canterbury may have constrained the potential for the contestation of the definition of the WRM related issues in a zone and how they could be addressed. This could impact on participant involvement.

Related to grievances associated with the outcomes and impacts of the Zone Committees, is the scope of what they can discuss and make recommendations on. It was highlighted in the CWMZC, that the committee were unable to make recommendations on land-use activities in the WZ, despite land-use activities in the WZ resulting in nitrates being reached into groundwater flows which threaten to contaminate Christchurch's drinking water aquifers. This suggest the ability of members of the CWMZC to protect Christchurch's drinking water is limited because the ability to make recommendations around environmental limits in the WZ resides with the WZC. Furthermore, CWM4 and WZ3 also felt that the design of the water management zones should have been based on the hydrological boundaries of catchments. These water management zones are based on a mix of hydrological catchment and political jurisdiction boundaries. Davis & Threlfall (2006: 86) argue that "IWRM (Integrated Water Resource Management) is best achieved at the river basin or catchment scale - that is at scales comprised of hydrologic drainage basins or sub basins." This is relevant to the WZ boundaries which are primarily based on that of the Waimakariri District Council, rather than the Waimakariri River Catchment. Although the Zone Committees have adopted the holistic Māori Kai Uta Kai Tai operating philosophy which acknowledges that sustainable management requires a whole system approach and parts cannot be managed in isolation (Jenkins, 2018), currently, WRM in both case studies is fragmented between ECAN, District Councils and a variety of other actors. However, the WZC ZIPA does address the issue of protecting Christchurch drinking water supplies from nitrate contamination. Priority Outcome Nine of the ZIPA stated that:

> Land and freshwater management in the Waimakariri Water Zone will, over time, support the maintenance of current high-quality drinking water from Christchurch's aquifers (Environment Canterbury, 2018: 12).

Another factor which has constrained the ability of the WZC and WZ to influence WRM in their zone is related to the lack of networking amongst some stakeholders, especially industry and commercial businesses in Christchurch, Kaiapoi and Rangiora. A lack of an organised body to represent these stakeholders represents a challenge towards these Zone Committees being able to communicate with them. That is important considering many industrial and commercial businesses can have an adverse impact on the health of urban waterways especially through stormwater runoff. If organised groups representing commercial and industrial businesses were established, the Zone Committees could be better able to effectively communicate with them and offer guidance on how they could reduce their impact on waterways. That could contribute to greater satisfaction amongst Zone Committee members if this enables more positive change to be achieved.

5.3 Discussions of options to encourage participation on the Zone Committees

During the interviews, a number of interviewee's expressed suggestions on what they believe could enhance the Zone Committees and what could be done to encourage members of the public to become involved, and for participants to remain involved. Although it is beyond the scope of this dissertation to provide recommendations, these perspectives by interviewees should be discussed and analysed to identify possible ways to encourage members of the public to become involved and remain involved. These suggestions are illustrated on table 5.2.

Table 5.2: Recommendations suggested by interviewees.

Recommendations by interview Zone Committee Members	**Explanation**
Less ECAN Driven	TLA's should have an equal role to ECAN in the Zone Committees
Change time of day Zone Committee meetings are held (Only mentioned for the WZC)	To make Zone Committee meetings more accessible for urban working class population and the youth demographic to attend
Reduce frequency of Zone Committee meetings and workshops	To make the workload more manageable for Zone Committee members
Zone Committees should have more of a Team Approach	Zone Committees should be treated as more of an implementation exercise, than just a planning exercise
Social and Cultural Impact Assessment of ZIP Recommendations	To better understand how recommendations may impact on different socio-cultural groups in the zone, so committee members can factor this in their decision-making.
Expand the scope of what the Zone Committees can make decisions on.	Desiree for the Zone Committee to be able to make recommendations or submissions on subjects such as climate change, the Long-Term Plan (LTP) of TLA's and land-use activities in other zones.
Change Zone Committee boundaries to be catchment based	To help address cross boundary issues such as nitrate entering aquifers in the CWMZ through groundwater flows
More Induction for new members	Greater assistance for new members to understand why they are there, mutual expectations, what are the desired outcomes and where the committee is at in relation to what they are aiming to achieve
Extent the refresh period	Potentially extend the tenure of Zone Committee members from three years to four years. CWM3 argued that this would allow members more time to deliver positive outcomes and may help avoid having to spend more time constantly informing new members on the situation.
Keep the Regional Implementation Committee	Rationale being that if one Zone Committee is doing something good, it makes sense for other Zone Committees to be made aware of this. Furthermore, there needs to be good communication between Zone Committees in order to address trans-boundary issues.
Change the purpose and functions of the Zone Committee	That the Zone Committee could be better just being a group which takes care of coordinating stream care groups and taking care of water quality monitoring.
Allow for more positions at the table for community representatives	May improve outsider perception of the inclusiveness of the Zone Committees and may improve mutual learning and the problem-solving capacity of a Zone Committee through bringing a wider range of expertise, skills and knowledge to the table.
Change the composition of the Zone Committees	Zone Committees become joint bodies with three Rūnanga representatives, and three representatives from regional/local government. Community representatives are excluded.

Some interviewees felt that reducing the frequency of meetings and workshops held during a year could reduce the workload of being a committee member to an extent, making it easier for some participants to balance this job with other work or life related commitments. However, reducing the frequency of meetings could mean outsiders wishing to attend or express their concerns or ideas to a Zone Committee may have less opportunity to do so. It was also noted that time available for public deputations, and questioning was already limited which may have contributed to members of the public feeling they were not being heard or listened to by committee members. This may have a negative impact on outsider perceptions of the CWMZC and WZC, and the attractiveness of membership. Therefore, allowing more time for public deputations could result in a more engaging discussion and leave those presenting to the committee feeling they were being listened to too.

Interviewees also suggested moving the time during the day when public meetings are held. There were suggestions that if WZC public meetings were moved to evenings, they may become more accessible for working class people and youth to attend. However, this could potentially make these meetings more difficult for other individuals to attend in some cases.

Findings also suggest the competence of committee members including their ability to work in a collaborative consensus seeking manner, to the extent to is limited by who applies to join. This also aligns with findings from academic literature that suggest the effectiveness of participatory planning requires participants to have the skills to work collaboratively with each other (Beierle, 2002; Coglianese, 1997; Connick & Innes, 2003). If the WZC and CWMZC are unable to attract people with the desired skills, expertise and knowledge, then the Zone Committees may not be able to promote mutual learning, social capital building and positive outcomes for the natural environment and the local communities to the extent. As these factors were identified as being among the primary positives of interviewee experiences on the CWMZC and WZC, future participants may have less incentive to become involved and remain involved if they view that these Zone Committees are not producing their desired outcomes and impacts. However, if these Zone Committees are able to attract competent and knowledgeable people to become involved and remain involved, it could result in greater mutual learning, social capital building and positive socio-ecological outcomes. That could give participants greater incentive to remain involved.

If the scope of what the Zone Committees are able to make recommendations on was expanded, it could create a greater incentive for some participants to remain involved. However, expanding the scope could result in more work required for both committee members and their support staff. That is important considering that interviewees emphasised that the commitment of being a Zone Committee member was hard work and a significant time

commitment, especially regarding the amount of time required to read over understanding technical information they are presented with. Therefore, increasing the scope of what the Zone Committees to include making recommendations on climate change action as an example, may mean that more time would be required to consult with the people within their zone, and read information they are presented with related to the projected impacts of climate change before they would make their recommendations. This relates to the argument by Sinner and Berkett (2014: 71) on defining the problem in a participatory process:

> Define the problem too broadly and the complexity will overwhelm the process; define it too narrowly and stakeholders will be disempowered and the options will be too limited for diverse stakeholders to construct an outcome that has something for everyone.

Therefore, although widening the scope of what the Zone Committees can make recommendations on could contribute towards empowering some participants, this could risk contributing to participants feeling overwhelmed by the expanded workload. It may also increase the likelihood of quieter participants not voicing their opinions and concerns due to the complexity of the subject and magnitude of information being presented.

Helping participants to understand technical and scientific information will be important as it can have an impact on the way they view an issue, what they view as the best response, and the outcomes of their decision. This means improving participant satisfaction with the outcomes and impacts of Zone Committee decisions and actions requires improving the communication of information to an extent. There were a range of suggestions by interviewees on possible ways issues associated with the communication and presentation of information could be addressed which are illustrated on table 5.3 below.

Table 5.3: Interviewee suggestions to improve the communication of information.

Proposal	**Rationale**
Template for Presentations to Zone Committees	To allow for more focused presentations which articulate their key points and relevance to the CWMS, the LAWP and ZIP
Scorecard System for Monitoring Progress towards CWMS Targets	To indicate the current position in relation to objectives and what needs to be done to achieve desired outcomes
New Zone Committee Report format	Reports should detail what are the existing assumptions, who is working on what, were the resources being allocated
Reports on progress and outcomes of projects which received IMS Funding	It was highlighted many projects which received IMS funding from the Zone Committees, few have ever been tabled at committee meetings as of the end of 2021.
Utilisation of Cultural Health Indicators	CWM2 highlighted there was a lack of monitoring of the cultural health of waterbodies and the use of monitoring tools designed by Māori for Māori to use.

Several interviewees suggested that having more time to comprehend all important information presented to them, and more time to consult with their local communities, could have potentially resulted in better outcomes. If more time did improve participant satisfaction with the outcomes and impacts of decisions made, this could potentially contribute towards greater incentive for participants to remain involved. However, more time may have a negative impact on outsider's perceptions of the performance of the Zone Committees. There were however other suggestions made by interviewees which could help participants understand complex information. For instance, WZ3 noted that ECAN had previously promised the WZC additional resources such as an online library of Zone Committee resources including technical reports and the result of past public consultation exercises. Furthermore, the WZC was also promised an online mapping software which would allow members to see what projects are going on in the WZ related to the CWMS, what are the targets and objectives of these projects, and who is working on what. Neither of these projects were implemented. However, if they were, it could help some members to understand the WRM related issues in the zone, what is the situation and make decisions with more confidence, which could also help build trust, lessen capability and capacity constraints and could potentially help break uncertainty induced deadlock on a Zone Committee.

If being a Zone Committee member was viewed as a full-time job and remunerated accordingly, it could result in committee members being able to invest more time and energy into the job. That may mean committee members have more time to better able to comprehend important information and fulfill other committee member responsibilities, if they no longer have a balance the job of being a Zone Committee member with their other primary occupation That could also potentially allow the scope of the Zone Committees to be widened so they are able to make decisions on subjects such as climate change without overwhelming committee members. There may also be some potential for better outcomes and impacts of Zone Committee decision-making as members have more time to deliberate, comprehend important information and conduct community consultation. In addition, that could potentially give members of the public greater incentive to become involved if the position is treated as a full-time job, as they would not necessarily need to balance the commitment of being a committee member with their other job or jobs. However, it is also possible that this may dissuade other community members from seeking membership, as they may not wish to give up their other occupation/s to become a Zone Committee member. It was also highlighted by one interviewee that increasing the remuneration of Zone Committee members may result in the membership of the Zone Committee in general becoming increasingly dominated by those motivated by monetary incentives.

If the scope of the Zone Committees was widened, its leverage power increased or being a committee member is to be viewed as full time job and renumerated accordingly, then perceptions of the inclusiveness of the Zone Committee may become more important. People on the outside may increasingly feel that if their rates are used to fund pay increases for Zone Committee members, and cover increased cost associated with expanding the scope or leverage power of the Zone Committees, they may care more about the inclusiveness of the Zone Committees, especially in terms of how well their values and concerns are being represented or heard by Zone Committee members.

One possible way to increase the perceptions of inclusiveness of the Zone Committees could be to allow for positions in the group from community representatives, or allocate seats reserved for particular demographics such as the CWMZC was reserved a position for a youth representative on the committee. As findings from the literature indicated that the durability and effectiveness of outputs from participatory groups can be affected by views of its inclusiveness, if some important affected parties or demographics are not being represented directly at the table it could potentially have an adverse impact on reputation of that Zone Committee. It was noted in the WZC interviews that environmentalist and recreationalist groups have largely not participated in the WZC, and the urban community and youth have often struggled to attend meetings for reasons including the timing of WZC public meetings. This is important because if the WZC is not viewed as having taken into adequate account of the views and interests of these groups, the academic theory would suggest it would be less likely to have durable and effective outputs. As highlighted by Eppel (2013) & Sabatier, et al., (2005) the composition of the participatory group should reflect the diversity of interest in a community and their stake in the issue or issues in question. However, allocating positions on a decision-making forum based on this logic may result in larger groups or demographics in the operating context dominating the composition of the group (Newig & Fritsch, 2009. This could result in the smaller stakeholders being unable to influence discussions and outputs despite them having a high interest in the policy outcome. Looking at the membership of the Zone Committees, it seems that some groups could be considered over or under-represented based on the possible size of that particular group in the zone. For instance, on the CWMZC, there are three Rūnanga appointees and seven community representatives. However, Māori comprise of around 10% of Christchurch's population (Environment Canterbury, 2020b). Furthermore, Māori have two Rūnanga reps on the Waimakariri despite the Waimakariri Districts population being over 90% non Māori. However, the Rūnanga do have a very high interest in the policy outcome despite their smaller size in terms of population. Furthermore, as discussed in the Waimakariri Zone the urban population is relatively under-represented on the Zone Committee, despite accounting for around half of the Zones population and projected to become the majority in the coming decades. Potentially, it could be argued that the rural

population has a higher stake in the policy outcome of WRM decision-making as their ability to profit and make a living from farming heavily depends on WRM decision-making. However, so does the urban population depend on sustainable WRM, although they may not use freshwater at the same intensity farmers do through intensive irrigation and land-use practises. Furthermore, Oslon (2012: 53) argues that:

> When the number of participants is large, the typical participant will know that his own efforts will probably not make much difference to the outcome, and that he will be affected by the meeting's decision in much the same way no matter how much or how little effort he puts into studying the issues.

Therefore, increasing the size of the Zone Committees could contribute towards some participants feeling they will be unable to influence outputs, which could discourage long term commitment. However, if the number of positions for community representatives were reduced, it may result in important stakeholder perspectives within the zone not being represented by the membership of the Zone Committees or reflections in their recommendations or actions. As highlighted in academic literature, if there is an inequitable distribution of cost and benefits of management policies or interventions, it may weaken social capital in the operating context. Therefore, it is very important that the outcomes and impacts of Zone Committee decision outputs are distributed as evenly as practical in order to foster community conditions that are more likely to motivate community members to participate.

Chapter 6

Conclusion

This dissertation aimed to provide a better understanding on what factors encourage individuals to become involved and remain involved on the Christchurch West Melton and Waimakariri Zone Committees. Overall, it is evident that contextual factors, the attributes of the design of the two Zone Committees and perceptions of their outputs and impacts on the natural and built environment so far all have had an impact on the motives of members of the public to become involved and remain involved in the CWMZC and WZC to varying extents. Contextual factors have had an impact on the capacity, capability and the willingness of members of the public with different backgrounds and beliefs to on the Zone Committees.

To an extent, capacity constraints can hinder the ability of individuals to participate. The most significant issue related to the design of the CWMZ and WZ seemed to be around the communication of information and the capacity of participants to comprehend its implications. The timing of meetings particularly in the WZC is also a significant factor which could make it more difficult for the growing urban community to attend committee meetings. Furthermore, alternatives to the collaborative approach such as the courts represent a challenge towards encouraging environmentalists and to an extent Mana Whenua to participate.

Many participants did express favourable views of what has been achieved by the Zone Committees and felt that they had learned much and have built some great social relationships. These could encourage some participants to remain involved. However, there were mixed views on the effectiveness of these Zone Committees. There is an imperative for some groups including the farming community and Rūnanga to be heard in the decision-making process which could be the primary reason for their continued interest in the Zone Committees, despite grievances around their decision and their outcomes and impacts to date.

Furthermore, the perception of WRM challenges also affects perceptions of the value of the outcomes and impacts of the WZC and CWMZC. Additionally, contextual factors can impact the perceptions of individuals on the nature of WRM related challenges in their zone including their causes and what should be done to address them. As contextual conditions will continue to change overtime, this will likely impact on the perceptions of the value of participating on these Zone Committees. Furthermore, communicating information in a clear, accurate and timely manner in a way in which committee members can understand will impact on perceptions of the transparency and the effectiveness of the Zone Committees.

6.1 Limitations of this Research

The findings of this research only reflect the perspectives of a sample of participants in these two Zone Committees at one point of time. This means that these findings may not reflect the views of all of the members of these two Zone Committees, former members and potential future members. Additionally, these two Zone Committee are ongoing participatory processes and expected to exist until 2040. This means their outcomes and impacts to a large extent remain to be seen in full. This is important because unforeseeable outcomes and impacts of these Zone Committees in the long-term may have an impact on the perspectives of committee members in terms of whether they feel that being involved is the best use of their time for instance. Furthermore, for more robust findings, it would have been preferable to interview a larger number of present and former members of these two Zone Committees as well as members of the public or individuals representing groups who have participated in one of these groups to some extent. That could include attending committee meetings or giving presentations. Better understanding these perceptions of those on the outside is important because they may differ from those on the inside.

6.2 Future areas of research

To build on the finding of this research dissertation, there are several different areas which could be investigated which would help to better understand what motivates participants in the Zone Committees to become involved and remain involved. Firstly, as contextual conditions will change overtime including the attributes of the population in the CWMZ and WZ and the nature of the WRM challenges and how they are viewed, similar research will be required in the future to confirm whether findings from this research are still valid, or if the attitudes of Zone Committee members have substantially changed.

It would also be beneficial for a larger scale research project aiming to identify what motivates individuals to seek membership on all ten of the Zone Committees. This would help to identify if findings from this research are similar across the Zone Committees and could suggest what could be done to incentive members of the public to become involved and remain involved across the Zone Committees.

There is also a challenging dilemma in trying to address Rūnanga grievances with the design and purpose of the Zone Committees, without marginalising important community stakeholders. This could be an area of future research to investigate whether it would be possible to create an alternative design for the Zone Committees in which Rūnanga grievances are addressed.

It could also be worthwhile investigating how a potential charge or royalty on freshwater use in urban areas such as Christchurch could impact on their interest in WRM issues. This was highlighted as a potential way to make more people care and potentially become involved in the CWMZC, and research on this topic could help to identify whether this will have an impact on public involvement on the CWMZC.

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Appendix A:

Research Information and Consent Form

Lincoln University

Faculty of Environment, Society and Design

Research Information & Consent Form

You are invited to participate in a project entitled:

The perspectives of participants in the Christchurch West Melton and Waimakariri Water Zone Implementation Committees

Please note that your participation in this project is voluntary. This research project aims to gain an insight into your experience in collaborative freshwater planning in your region. Please read the information sheet before deciding whether to participate.

This research is part of a Master of Planning dissertation at Lincoln University. This dissertation aims to gain a better understanding of the factors affecting the legitimacy of the Christchurch West Melton and Waimakriri Zone Committees.

This research has been approved by the Lincoln Human Ethics Committee. Your participation in this project would involve a face-to-face interview. This interview may take between 45 minutes and one hour to complete. You may leave the interview at any time or retract any statements made up to two months after the interview has taken place.

Questions will be open ended, and the interview will follow a semi-structured format. The exact questions which will be posed have not been fully determined but will expand depending on the way the interview develops. If any question makes you feel uncomfortable, you may decline to answer. With your consent, the interview will be audio recorded, solely for the purpose of accurate

transcription. However, should you choose to be interviewed without audio recording, only paper notes will be taken.

Once interview recordings and notes have been transcribed, you will be offered the opportunity to review the transcript from your interview and to check that all the information is accurate and a fair account of the discussion. You will then be able to withdraw or change any statements made for up to two months, before I analyse the data.

To protect your identity and ensure confidentiality, pseudonym codes will be used for any information you provide, which cannot be linked back to you. All information will be uploaded to a secure Lincoln University server with double password protection, which will be accessible only to me and my supervisors.

A summary of the results of this research, including direct quotes, will be used in a Master of Planning dissertation, and will be presented to the Lincoln University faculty of Environment, Society and Design, as well as to those who have contributed to this research project. Research findings may also be published in other forms, but your anonymity will be guaranteed. Your identity will not be made public to any other individual other than the researcher, his supervisors (Dr Edward Challies and Dr Hamish Rennie), and the Lincoln University Human Ethics Committee in case of an audit.

To ensure your identity and input remain confidential, the following measures will be undertaken.

1. The data collected will be securely stored in a way so that only myself and my supervisors will be able to gain access to it.
2. After this research project has been completed, any personal information provided will be destroyed immediately, except for that featured in published results.
3. When the data is reported, pseudonym codes will be used rather that the names of participants. This means the data cannot be linked back to participants.

The completed dissertation will be submitted for marking to the faculty of Environment, Society and Design. You may receive a final report with my findings if you wish. If you have any further questions at this time, please contact me on 021 139 1121 or hayden.zervos@lincolnuni.ac.nz.

Research Supervisors

Dr Hamish Rennie: Associate Professor, Faculty of Environment, Society, and Design, Lincoln University. hamishrennie@lincolnuni.ac.nz

Ph: 6434230437 (work).

Dr Edward Challies, Senior Lecturer, Waterways Centre for Freshwater Management, University of Canterbury.

Email: Edward.challies@canterbury.ac.nz

Mobile: 64 3 3692545

Thank you for considering taking part.

Consent

1. I have read and understood the description of the project above.

2. I have been given sufficient time to consider whether or not to participate in the project and to ask questions.

3. I have been given a copy of this Research Information and Consent Form to keep.

4. I understand that I may withdraw from the project, including withdrawal of any information I have provided, up to *two months after the interview.*

☐ **I consent to participate in the project.**

☐ **I consent to publication of the results (which may include my anonymised information).**

☐ **I consent to having an audio or video recording made of my interview.**

☐ **I do not consent to having an audio or video recording made of my interview but agree to notes being made.**

☐ **I Would like to receive a summary of the research findings**

Name: _____

Signed: _____ Date: _____

Please provide the researcher a signed copy of the consent form before the interview takes place.

Appendix B: List of Interview Questions

Impact of Antecedent Conditions

1. What drove you to become involved on the Zone Committee?
2. What has motivated you to continue to remain involved on the Zone committee?
3. How would you describe the community in the Zone?
4. What are your thoughts on how freshwater management challenges in the Zone and how should they be addressed?

Perceptions on Accountability and Transparency

1. Did Environment Canterbury express a commitment from the beginning of the process to listen to recommendations by the Zone Committee in their decision-making?
2. Were opportunities to input into discussions limited to particular subjects?
3. Were there any barriers to participation in the decision-making process? If so, how do you feel these barriers could be addressed?
4. To what extent do you feel the recommendations made by the Zone Committee has influenced water management in the zone?
5. Are you aware of important groups/stakeholders who did not participate in the Zone Committee? If so, why do you feel they did not become involved?
6. What was your opinion on the value of consensus decision-making approach?
7. Do you feel the work by the Zone Committee has captured the plurality of interest in local communities?

Thoughts on the Communication and Presentation of Information

8. Do you feel sufficient time was provided for members to understand the importance and implications all technical and scientific information communicated to them?

9. To what extent do you feel information provided for Zone committee meetings clear, accurate and made available in a timely manner?

Power Relations and Group Dynamics

11. Were there subjects that were deemed non-negotiable during your time in the Zone Committee process?

13. How well do you feel Māori were represented on the committee?

14. To what extent do you feel knowledge, resource and skills constraints have impacted on the ability of members of the group to participate effectively?

15. For the most part, do you feel everybody was able to listen respectfully to each other throughout your time in the group?

17. Do you feel your knowledge and understanding of the values and interests of other groups has improved through the process?

18. Do you feel the recommendations members provided were practical and implementable?

Closing Section

19. What, from your point of view, were the main things you gained through participating in the Zone Committee process?

20. Overall has the process been satisfying to be involved in?

21. Looking back now, would you have done anything differently during your time in the group?

22. Do you have any final comments you wish to make?

Appendix C:
Human Ethics Permission

Research Management Office

T 64 3 423 0817
PO Box 85084, Lincoln University
Lincoln 7647, Christchurch
New Zealand www.lincoln.ac.nz

17 November 2020

Application No: 2020-51

Title: Wai Bother: The Perspective of Participants on the Christchurch West Melton and Waimakariri Zone Committee's

Applicant: H Zervos

The Lincoln University Human Ethics Committee has reviewed the above noted application.
Thank you for your 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 note that this approval is valid for three years from today's date at which time you will need to reapply for renewal.

Once your field work has finished can you please advise the Human Ethics Secretary, Alison Hind, and confirm 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

Grant Tavinor

Chair, Human Ethics Committee

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 D:
Example of email message sent to participants

Hi (name).

My name is Hayden Zervos and I am a Masters of Planning student at Lincoln University doing a research dissertation on Canterbury water management and the role of the Zone Committees.

I am aiming to better understand what factors encourage people to become involved and remain involved in the Water Zone Committees.

I would really appreciate getting your perspective as an experienced member of the (committee member name) as I think you could provide valuable insights. If you are happy to participate, your involvement would simply be to meet me (in-person or via zoom) for a 30-50-minute interview. This would take the form of an informal, semi-structured conversation based on your own experience of the Zone Committee process. You will not be identified in my final dissertation.

Please let me know if you are interested in taking part, in which case I will get in touch with some further information about the research and to arrange an interview time/location that is convenient for you.

Many thanks for your consideration, and kind regards,
Hayden.

Appendix E: Copyright Permission for use of the IAP2 Spectrum of Public Participation

Dear Hayden,

Thank you for demonstrating your interest in the work and in the copyrighted materials of the IAP2 International Federation.

As you may be aware, IAP2 is a *Not-for-Profit* international organization and a pre-eminent actor in the field of public participation globally. Remaining faithful to our mission, we believe in the importance of conserving the integrity of our publications and our training course materials which are a product of the generous volunteer contributions of numerous individuals from around the world.

On behalf of the IAP2 International Federation, this message is to confirm that we grant you permission to use the following IAP2 material for the purposes as stated in your request: **IAP2 Spectrum of Public Participation.** We understand you agree to provide proper attribution to IAP2 as (c) International Association for Public Participation www.iap2.org. This attribution must be included in all citations of IAP2 copyright protected material including the IAP2 Spectrum of Participation, the IAP2 Core Values, and the IAP2 Code of Ethics for Public Participation Practitioners.

Current versions of the SPECTRUM, Code of Ethics and Core Values are available in PDF format on the IAP2 website, https://www.iap2.org/page/about and click on the Resources link.

We wish you success in your endeavours. Let me know if you need anything else.

Regards,
Ellen

Ellen Ernst | Executive Manager | IAP2 Federation

T: +1 858 837 0124 | S: Ellen Ernst
Email: operations@iap2.org | **www.iap2.org**