

**The Hurunui Waiau
Zone Implementation
Programme as a
Collaborative Planning
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A Preliminary Review**

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Report prepared for Environment Canterbury by

Ali Memon

Ronlyn Duncan

Anne Spicer

Lincoln University

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24 Edward Street, Lincoln
PO Box 345
Christchurch 8140
Phone (03) 365 3828
Fax (03) 365 3194

75 Church Street
PO Box 550
Timaru 7940
Phone (03) 687 7800
Fax (03) 687 7808

Website: www.ecan.govt.nz
Customer Services Phone 0800 324 636

**The Hurunui Waiau Zone Implementation Programme as a Collaborative
Planning Process:
A Preliminary Review**

By

Ali Memon, Professor of Environmental Planning & Management

Ronlyn Duncan, Lecturer in Water Management

Anne Spicer, Research Assistant and Doctoral Candidate

Department of Environmental Management, Faculty of Environment, Society and Design
Lincoln University, Canterbury, New Zealand



May 2012

EXECUTIVE SUMMARY

The objective of this report is to provide a preliminary assessment of the development of the *Hurunui Waiau Zone Implementation Programme* as a collaborative planning exercise to progress the implementation of the *Canterbury Water Management Strategy* (CWMS) in the Hurunui Waiau catchments. This report builds on an earlier study (Lomax, Memon and Painter, 2010) on the development of the CWMS as an innovative collaborative regional strategy to address exacerbating conflicts over the allocation and management of freshwater resources in the Canterbury region in New Zealand. Past attempts to satisfactorily address these concerns within the framework of the Resource Management Act 1991 statutory planning regime have encountered significant barriers. The formulation and implementation of the CWMS is expected to overcome these barriers by having adopted a collaborative governance model. This report reflects upon and presents observations of the Hurunui Waiau Zone Implementation Programme process. As such, it flags for the Canterbury Regional Council a number of issues which have emerged from this valuable learning experience and concludes with a number of questions drawn from our observations for consideration by the CRC with zone committees and other stakeholder groups and recommendations for research.

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1. INTRODUCTION

Collaborative dialogic governance approaches, informed by different ways of knowing, are advocated in the current academic literature to resolve deep-seated freshwater resource conflicts (Scholz and Stiftel, 2005; Warner, 2007; Pahl-Wostl et al., 2008; Berry and Mollard, 2010). Allocation and management of water resources in Canterbury, New Zealand, have become highly contested during the last two decades. This is a reflection of rapidly increasing water demand for multiple and competing uses. The *Canterbury Water Management Strategy* (henceforth the Strategy or CWMS) is a potentially innovative strategic planning initiative based on a relatively informal collaborative governance model. It provides strategic direction on the allocation and management of available surface and groundwater freshwater resources in the Canterbury region. A key attribute of the Strategy is that it was developed through an informed collaboratively-derived consensus amongst local Canterbury government elected leaders, senior officials and key water stakeholder groups. Implementation of the Strategy is likewise being undertaken via collaborative processes at regional and zonal levels.

A key reason for initially adopting the relatively informal, non-statutory pathway on the regional and zonal basis relates to widely shared concerns amongst key water stakeholders in Canterbury about the Resource Management Act 1991 (henceforth the RMA). The RMA pathway to resolve water conflicts is seen as resulting in relatively adversarial, costly and time consuming statutory planning processes that has not been capable of dealing with cumulative environmental effects. At the time of its inception, the Strategy represented an expectation that informed deliberation amongst relevant stakeholders in a non-statutory process would lessen the risks of subsequent conflicts during the course of implementing the Strategy under the RMA processes. These concerns and expectations are supported in the recent academic literature on collaborative planning. From a theoretical perspective, the CWMS embodies many of the essential elements for an innovative collaborative water governance regime and represents considerable promise for managing water in an integrated and participatory way.

2. RESEARCH QUESTIONS AND METHODOLOGY

This report is part of our research programme on water governance in Canterbury (Memon and Skelton, 2007; Memon and Weber, 2010; Memon and Kirk, 2012; Weber, Memon and Painter, 2011). It builds on a recent study on the development of the CWMS as an innovative collaborative regional strategy to address exacerbating conflicts over the allocation and management of freshwater resources in the Canterbury region in New Zealand (Lomax, Memon and Painter, 2010).

This report focuses on the decision-making process we have witnessed at the zonal level. Specifically, our research examined the deliberative process followed by the Hurunui Waiau Zone Committee (HWZC) in the development of its Zone Implementation Programme (ZIP). As an innovative collaborative planning process well rehearsed in theory, the aim of our research has been to examine the relative strengths and weaknesses of the governance process that have culminated in the production of the HWZC ZIP. Hence, the research question that guided our research was how has the Strategy been implemented in practice? A key additional question that arose as the research proceeded was how has the Canterbury Regional Council managed its dual role of facilitator of the process and regulator?

Our report provides preliminary reflections on these questions. Accordingly, set within the broader context of the drivers which have shaped the CWMS and its priorities and targets, this report focuses on the *process* undertaken to develop the ZIP as a collaborative planning exercise, and raises questions about the context of the policy recommendations contained in the ZIP as the key formative output of the collaborative process. The research on which this report is based was funded by the Canterbury Regional Council (also known as Environment Canterbury).

The data collection and analysis approach for the report was three-pronged:

1. A review of the international collaborative water governance literature was undertaken.
2. Regular attendance and observation of committee meetings.
3. Review of published and unpublished documentary resources.

The third author of this report attended all except one of the meetings of the HWZC and Regional Committee during the period April to September 2011 while the other two authors also attended some of the meetings. The meeting proceedings were recorded and an in-depth report was prepared after each meeting based on observations and reflections. These confidential notes, together with formal meeting minutes and published and unpublished documentary information, coupled with weekly discussions by the research team are the main data sources on which this report is based. While we have been involved in informal conversations with various zone committee members and others involved in the collaborative process over the past twelve months, we have not held formal interviews with members of the HWZC, the CRC or other stakeholders because it was agreed premature to do so. We would like to conduct these interviews after the finalisation of the statutory RMA planning instruments and the implementation of measures for improving water quality in these catchments has progressed. We will need to secure further funding for this research. For these reasons, the findings of this report should be regarded as preliminary. The authors are also very aware that the Hurunui Waiau Zone Committee was the first to be established and consequently what occurred in the development of its ZIP and the associated proposed Hurunui Waiau River Regional Plan (HWRRP) may not be replicated in other zones. Nevertheless, we believe that there is considerable value in reflecting on issues that have arisen at this early stage of the implementation of the CWMS.

A significant omission in this report is that we do not address the issue of the role of Maori in governance of the Hurunui-Waiiau rivers within the HWZC framework. This is an important consideration that requires further study.

3. THEORETICAL CONTEXT

Water conflicts in the 21st century generally belong to the class of ‘wicked problems’ (Rittel and Webber 1973) which fail to be adequately resolved by regulatory agencies accountable to elected leaders. Water conflicts, along with other wicked problems, involve a complexity which is caused by goals and means of stakeholders becoming inseparable, as well as the dynamics of socio-ecological processes which characterise water as a multiple use common pool resource. Traditional top-down hierarchical government institutions often lack capacity to avert water conflicts (Memon and Skelton, 2007). What needs to be recognised in these situations is that optimal solutions are unlikely to exist and ‘best’ solutions are a ‘mirage’ (Innes and Booher, 2010). On this basis, it is argued in the literature that the aim should therefore be to engage diverse actors “in dialogue [that] offer[s] a wide variety of experience, knowledge, and ideas that offer a rich terrain of options to explore” (2010, 9-10).

A growing realisation regarding these dilemmas amongst environmental policy and planning theorists has caused a shift in their ideas about how institutions which deal with water conflict should be configured. We refer to this shift as the ‘collaborative turn’ in water governance, which is typified by the European continental theories about discursive ethics proposed by Jurgen Habermas (Habermas, 1984). The Habermasian school of deliberation asks how people with different conceptions of the good life can shape a co-existent and just society? Habermas answers by proposing a process of discursive arguments where the norms and rules of a society are decided by the force of the better argument. This regards language and the exchange of ideas in deliberative forums as the source of social reform; regarding knowledge as something which can weave between debates presented on opposing sides.

The ‘collaborative turn’ in water governance in Western property owning democracies is grounded in a complex series of factors which include concerns about social and ecological impacts of the neoliberal political project; an attempt to solve the cynicism and disengagement of citizens from political processes; a deeper understanding of the social exclusion some (e.g. indigenous peoples) feel in regards to decisions relating to allocation and management of resources; and finally a realisation by government agencies that ‘wicked problems’ such as non-point source water pollution need to

include multiple stakeholders from private, public and community sectors (Barnes *et al.*, 2004; Maginn, 2007; Memon and Weber, 2010; Memon and Kirk, 2012).

The strengths of and barriers to collaborative approaches based on deliberation have been the primary focus of both political scientists (e.g. Bohman, 1998; Pettit, 2001; Williams, 2004) and planning scholars (Flyvberg, 1998; Healey, 1998; Tewdwr-Jones and Allmendinger, 2002; Memon and Weber, 2010). It is argued that a collaborative turn will promote governance legitimacy (Dryzek, 2001); foster better decisions (Forester, 1999) and widen participation to include previously disinterested or disempowered stakeholders (Versteeg and Hajer, 2010). On the other hand, deliberative processes have been criticised for a number of reasons: it is easier for well-educated and middle class citizens to participate in the deliberative process (Versteeg and Hajer, 2010; Ryfe, 2005); the sizes of the group have a large role in deciding the success of the deliberation process (Parkinson, 2006); the Habermasian notion of 'ideal speech' situation being possible to achieve and available to all is unrealistic (Mouffe, 1999; Bond, 2011) and more generally, as a theory, it fails to elucidate the pervasive impacts of social factors (Fraser, 1987; Ryan, 1992) and veiled political power (Hillier 2003).

The focus of communicative planning scholars has been on the quality of the collaborative process itself. Innes and Booher (2010, p. 97), for example, emphasise the need for "authentic dialogue" which they define as being "accurate in a scientific sense, comprehensible, sincere and legitimate". They claim that well run processes come close to achieving these aims by:

- a. Using expert knowledge (and preferably triangulation of the views of more than one expert);
- b. Ensuring that all participants fully understand what other participants or experts have said and therefore there exists a shared understanding of an issue;
- c. Having face to face dialogue, communal meals, group trips etc which all help to ensure that participants get to know each other and therefore find it harder to be insincere and are more likely to acknowledge their real concerns;

- d. Having stakeholders that have the authority to speak for a constituency or who speak for “the knowledge, concerns and interests of a category of people who are not or could not be organized” or who speak for themselves, based on their own experience (2010, 98-99).

The goal of such dialogue, Innes and Booher argue, “is not to choose who or what is right, nor even what is true or best, but to find actions that all or most can support and that are [creative and] workable” (2010, p. 100).

Elinor Ostrom (1990) proposed eight design principles for management of common pool resources. Her principles were evaluated by Cox et al. (2010) in a meta-analysis of 91 empirical studies of collaboration. Cox et al. found that the following design principles were strongly supported:

- The benefits obtained by users of the resource must be proportional to the input costs (labour, materials, money etc);
- Rules that regulate access to a resource are customised to reflect local conditions;
- It is clearly understood by all who the legitimate resource users are.

Ansell and Gash (2008) conducted a meta-analysis of 137 cases to ascertain the critical variables that produce a successful collaboration. They found that the following factors were important:

- Issues present at the beginning of the collaboration effort have an influence over the level of cooperation received from stakeholders e.g. the level of previous antagonism;
- Power imbalances between stakeholders are common and if this is the case, the process will be prone to manipulation by the stronger actors;
- Facilitative leadership is critical particularly at times of disunity. It is also important in building trust, exploring mutual gains and empowering and involving stakeholders;

- Face to face dialogue, trust building, commitment to the process by all participants and a shared understanding are all considered to be vital to the success of the process.

Other authors that have contributed to this debate include the following:

1. Hillier (2002; 2003) and Mouffe (2000), in critical response to the Habermasian school of communicative rationality, argue that conflict is a healthy development in collaborative situations because, handled sensitively, it can lead to creative and radical solutions;
2. Versteeg and Hajer (2010) maintain that collaborative governance methods increase the chances of previously disinterested people becoming involved but that it is easier for well-educated and middle class citizens to participate than for marginalised groups;
3. Ryan (1992) claims that equity issues such as gender and ethnicity are usually not adequately addressed;
4. Elliot (1999) suggests that the use of a neutral facilitator improves the chances of success;
5. Lawrence argues that members of a collaborative committee must be able to disassociate their *modus operandi* from their decision making and thus ensure that “radical reassessment and re-alignment of production regimes” is not off the agenda (2005, p. 157);
6. Mehta et al. criticize collaborative projects that use a simplistic view of community i.e. that it is “homogeneous, bounded, local and designated to a particular “user group”, neglecting questions of social difference and the diverse” (2001, p. 4).
7. Bryson et al (2006) state that having linking mechanisms in place (such as networks, powerful sponsors or objects that span boundaries) as well as ensuring that knowledge held by the community is integrated with that of experts will together contribute to the success of a collaborative undertaking.

Having articulated the theoretical context that has served as the lens through which we have observed this collaborative process and contributed to our understandings of it, we now move onto presenting and discussing our research findings.

4. HOW WELL HAS THE HWZC PROCESS WORKED?

In general terms, it is our view that the collaborative process within the HWZC has worked reasonably well. Overall, we observed that members of the HWZC became quite familiar with and trusting of each other. While it could be argued that the spirit and implementation of collaboration was not assisted by demanding timeframes and externally imposed deadlines, it could equally be argued that these pressures facilitated the process. Either way, it is our observation that in meeting its timelines, work undertaken by the HWZC was challenging and demanding for all committee members. Indeed, in the final stages of the development of the ZIP, members of the HWZC commented that they were 'exhausted'. It was also our observation that the proceedings were by no means smooth sailing and amicable all the way.

A key aspect of the Habermasian-inspired collaborative governance model is that dialogue in a deliberative forum enables stakeholders to put forward their often divergent viewpoints in good faith. The potentially powerful outcome of such practice is that by doing so others come to understand another's point of view – to stand in the shoes of another. If anything is to be taken from the HWZC governance process, it appears to be a success on this score. It was observed that representatives of the HWZC had not only moved to accommodating each other's positions, but also to acknowledging and on some occasions defending another's position in his or her absence.

4.1 Inclusiveness

While members of the zone committee built a rapport with each other, an important question for us as observers was whether each member's peer group would endorse their changed views? Obviously, the standing that these people have in the community

is expected to contribute to public acceptance of their decisions within the committee. However, given how far the committee members appeared to have moved to accommodate each other, we were asking how far these accommodations could extend outside the committee?

This issue appeared to be recognised by the HWZC and we observed that its members made considerable effort to engage with stakeholder groups and this continued after the ZIP had been finalised. Of course, this strategy is substantially limited given the lack of remuneration and time available for zone committee members. The question we are now asking is whether consensus around collaboration and the Strategy is anchored to the energy of zone committee members? If so, this is clearly unsustainable. It is our view that the CRC needs to be thinking about how to sustain these broader and critical links that could be viewed as a 'safety net' for the decisions derived from the collaborative process and its ongoing outcomes on the basis that collaboration is a marathon, not a sprint.

The issue of inclusion is critical for collaborative governance and presents a challenge for the CRC given the design of the zone committees and how they were originally established. In theory, and reflecting practice reported in the United States (e.g. Innes and Booher 2010), everyone who has a stake and wants to have a say should be given the opportunity to participate as members rather than having to rely on their interests being represented (or not) or by making submissions on decisions already substantially finalised. On this basis, the HWZC was limited in its constitution as a truly collaborative process, particularly to the extent that its membership was handpicked. Clearly, it is not practical in the Canterbury situation to aim to include everyone but if the CWMS genuinely hopes that "Allocation decisions will be resolved in most cases without resorting to the courts" (CWMS, 2009, p. 6) within 10 years time, then the possibility of alienated, disaffected or 'unconsulted' stakeholders may need to be considered. Figure 1 illustrates the zone committee context and shows a hierarchy of stakeholder involvement that could be useful for the CRC to reflect upon to consider how it might engage with these different levels of inclusion.

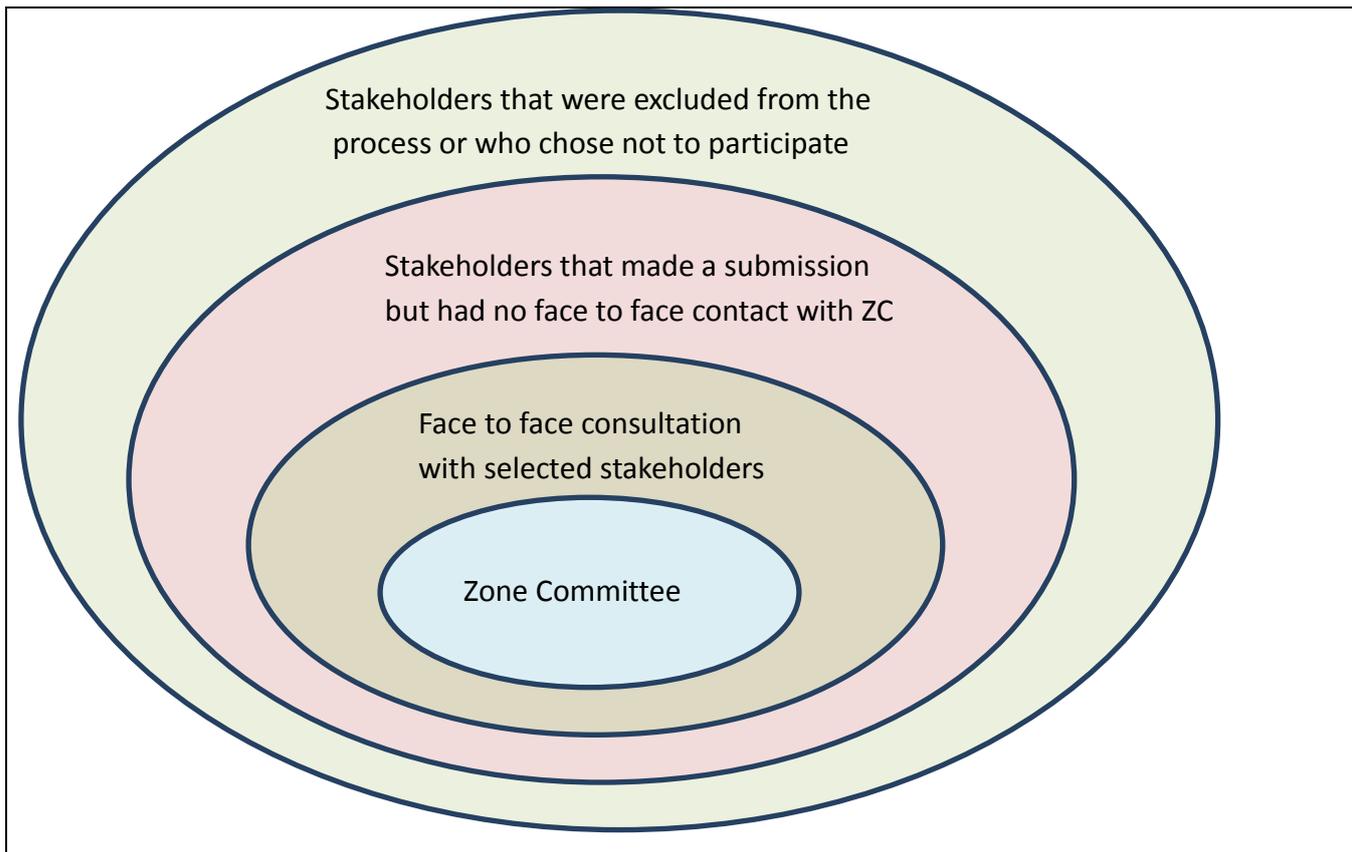


Figure 1: Inclusiveness of the HWZC ZIP Process.

The recently released publications by the CRC, namely, *Wai Water* and the *Canterbury Water – The Regional Context: Supporting the Canterbury Water Management Strategy*, are excellent documents that will assist in reaching the broader publics. However, the critical science communication literature (e.g. Irwin and Wynne, 1996) would caution that a consultation strategy reliant on publications can limit dialogue to a one-way flow between an authority and its constituency. What is problematic about this *modus operandi* is that it usually assumes, firstly, that the publications will be read and, secondly, that they will be read by willing and relatively informed readers. Unfortunately, this is often not the case. Hence, the literature advocates the development of communication channels that facilitate two-way dialogue around an issue that does not impose pre-conceived ideas about what the issues are and their solutions (Irwin and Wynne, 1996). Indeed, the literature argues that imposed and narrowly defined framings of problems and solutions can alienate people (Wynne, 2001). Two way communications can take the form of periodic phone surveys, continued public meetings or a network of communication that utilises already established groups and organisations.

4.2 Process Facilitation

It is our view that no committee member would say that they had been denied the opportunity to speak during meetings. However, some might say that the ideas or issues that they raised did not get fully discussed, especially if other committee members did not immediately appreciate and acknowledge the significance of their issue. For example, one member with an interest in the benefits of increased development in the area had raised at more than one meeting the issue of the nitrogen load limit stopping new farming development in the area but the issue was not addressed and he became frustrated by this.

We observed that some issues were elaborated or extra information was provided while others were left unexplored. We are not sure if this was done on purpose. Examples of potentially critical issues not resolved or explored and adequately debated in the lead up to the finalisation of the ZIP include:

- The HWZC is aware that there is no guarantee that implementation of best practices will result in the outcomes listed in the ZIP, particularly if further farming intensification takes place. The Committee has discussed the need to monitor and adjust limits/outcomes if necessary (i.e. use adaptive management); however, the implications of this for the farming community and the extent to which this is understood by that community is not clear.
- One member asked for information on the economic effects of the ZIP recommendations on local communities and particularly wished to hear from “bankers, accountants, economic consultants” or the like. Time pressures may have made this untenable but the financial and economic implications of the ZIP recommendations remains an open issue.

We observed that often issues, such as these, were raised at meetings but then were left hanging with little or no discussion or committee members would express their individual views on the respective issue but then no elaboration would follow. Notwithstanding the clarity that appears in the zone committee meeting minutes, from our observation of the meeting dynamics, resolution on some of these critical issues was not so clear cut. This raised questions for us about how well the HWZC was deliberating

as distinct from collaborating. In theory, deliberation – the thoughtful articulation and consideration of an issue that considers its dimensions from multiple angles – is key to collaborative governance.

It is our view that there needed to be a better process for adequately investigating and reflecting on the consequences of decisions that were reached. We were concerned that not all committee members fully understood the underlying assumptions and advantages/disadvantages of committee decisions. Often, the committee members were encouraged to “not think like planners” and to focus on outcomes and targets rather than on detailed implementation. However, as the translation of ZIP recommendations into the proposed HWRRP process has shown, the consequences of broad level recommendations do not always become apparent or fully understood until the detailed implementation is addressed.

We felt that if, at least for major decisions, the underlying assumptions, advantages and disadvantages were more clearly laid out then all committee members would be made more aware of the implications (positive and negative) of the decisions that they were agreeing to. Such practice may encourage some of the more silent members of the committee to take part in discussions. This should enable the committee as a whole to be more confident that the decisions reached were a true reflection of all stakeholder views rather than reflecting the views of the more articulate, quick to understand, members.

It is on this basis that we recommend an expanded the role for the Facilitator and the Chair. An expanded Facilitator role could be charged with ensuring that all members of a committee have an adequate understanding of an issue, that the science has been well explained in layperson’s terms and successfully integrated with local knowledge and that the views of relevant stakeholders have been included. As explained in a case study from Innes and Booher (2010, p. 61) “the director [i.e. facilitator] frequently articulated and reframed his interpretation of the meaning of group members’ statements until all parties were satisfied that they understood one another”. A person in this role could also play the part of ‘devil’s advocate’ and challenge the committee’s or an expert’s

views in order to tease out environmental, social, economic and cultural implications. Similarly, there is scope for an expanded role for the chairperson. Innes and Booher (2010, p. 92) state that “Most of the leaders in successful processes we are aware of were instigators and inspirers” who built “capacity amongst others and [initiated] networks”. This is a much wider role than simply chairing a meeting as was the case for the HWZC in the development of its ZIP.

4.3 ZIP Translation

While there are good reasons from the CRC’s perspective that a decision that was perceived by some as “interventionist” had to be made on the HWRRP¹, there was some disquiet that this move had the potential to undermine the collaborative process. Some stakeholder groups expressed concern that a collaboratively produced recommendation could be overturned by the CRC. We were left asking how one of the more important recommendations in the ZIP could have been endorsed by the zone committee if it was so deficient as to require subsequent CRC intervention. Was that a reflection of the fact that the zone committee members and stakeholder groups had not adequately understood the science on which the ZIP recommendations were based?

At the instigation of CRC, new (and potentially more amenable to the HWZC) recommendations on implementation of water quality targets were subsequently developed within the zone committee based on deliberation during October and November 2011.

From the point of view of ECAN, the HWZC had been made aware that they could not expect to commit ECAN to any actions in the Code of Conduct that was adopted by the HWZC on 6th September 2011². This point was also made in the Terms of Reference³ for

¹ In particular the lifting of the moratorium on resource consent applications relating to water in the Hurunui River and its tributaries on 1 October 2011.

² The Code of Conduct states: (<http://ecan.govt.nz/publications/Council/hurunui-waiiau-zone-committee-agenda-060910.pdf>)

Limitation of power:

15. The committee has no authority to commit Hurunui District Council or Environment Canterbury to any path or expenditure.

the committee. Consequently, the HWZC could not have been unaware of the potential for one or more of their recommendations to be questioned or overturned by ECan and the Hurunui District Council. Whether this point was well understood by the wider stakeholder community is not known. If ECan had not been faced with an imminent moratorium expiry deadline, then the inconsistency identified in the ZIP may have been referred back to the HWZC to be sorted out.

That the HWZC undertook further deliberation to establish an alternative (and arguably potentially better) set of parameters to set and monitor water quality limits is testament to the power of the collaborative process. It also illustrates our point about the need for better facilitation and deliberation within zone committees.

4.4 Trust

The importance of gaining and maintaining trust is thoroughly rehearsed in case studies from the literature. It is well known that the intentional or unintentional undermining of trust and goodwill consistently serves to unravel collaborative processes (e.g. Innes and Booher, 2010). Harkes (in Cox et al., 2006, np) for instance, suggests that “the real ‘glue’ [of collaboration] is trust, legitimacy and transparency”.

Informal conversations with members of the public at committee meetings showed that they were disappointed at what they perceived to be a breach of trust when the nitrate limit was temporarily raised in the HWRRP and the intent of the ZIP recommendation that the zone committee members had contributed toward formulating appeared to have been changed.

Throughout the ZIP development process, the HWZC showed that they took their responsibility towards community stakeholders very seriously and now, perhaps, felt that the trust they had built with them could potentially be damaged by events outside of their control. Perhaps the committee set its expectations too high. These events

16. The committee will operate in such a way as to not compromise the Hurunui District Council’s or Environment Canterbury’s freedom to deliberate and make such decisions as the Council(s) deem appropriate.

³ See <http://ecan.govt.nz/publications/General/hurunui-waiiau-initial-briefing-material.pdf>

around the HWRRP highlight the challenge for the CRC as both facilitator and regulator and regarding how and when it deploys its authority.

Likewise, the CWMS may have raised false expectations when it states that implementation programmes are “social contracts ... [and] legal processes that follow in the wake of the adoption of the programmes should not be allowed to undermine this balanced, holistic approach to managing water resources in each zone and across the region as a whole” (Canterbury Water, 2009, p. 15). Arguably, the CWMS is not as explicit in recognising that zone committees cannot expect to commit ECan to any actions.

4.5 Science Policy Interface

An issue that is not well-explored in the collaborative governance literature is the dynamics of the science policy interface (Weber, Memon and Painter, 2011). The translation of science into policy is usually conceived as an input/output process – assumed good science goes in one end and assumed good policy prescriptions come out the other end (Duncan 2011). Of course, the reality is fraught with uncertainty and contestation, collectively described as knowledge politics. From a theoretical perspective, the practice of using numbers to establish rules, based on the widely held assumption that these are value-free tools of environmental management, has its challenges (Porter 1992a, 1992b, 1995; Wynne 1988). With an issue such as nutrient load limits, that is so politically controversial and where the science is so uncertain, difficulties arise in gaining agreement from both those who are to be regulated and those who want to see regulation enforced about how the numbers were arrived at and negotiated, and how they will be monitored and adjudicated. It is our concern that the knowledge politics that has undermined the CRC’s past attempts to allocate water resources and regulate cumulative effects has not gone away (Weber, Memon and Painter, 2011) even though recourse to the courts has temporarily. It occurs to us that an important difference is that a court case ultimately hands down a decision. The danger for the Canterbury collaborative process is that there is potentially no resolution on these issues or that only continual tentative consensus is possible.

To resolve these issues, science policy theory would advocate that zone committees should become more closely involved in the process of developing the numbers and testing various scenarios with modellers in a process of knowledge co-production (i.e. a two-way process of knowledge-making) (Cash et al., 2006; Landstrom et al. 2011; Callon 1999). This knowledge co-production process is in contrast to the dominant mode of knowledge production (i.e. involving one-way communication) we observed occurring for the HWZC, which involved the committee being presented with numbers subsequent to their framing, testing and calculation by the Land Use and Water Quality Project (LUWQP) process. We understand this situation was unavoidable in this case as the LUWQP had undertaken its work before the establishment of the HWZC. We further understand that the LUWQP is more closely involved with other zone committees.

While it appears this shortfall has been recognised by the CRC, we are unclear on how future processes will operate. There are many lessons to be learned from the literature which provides a range of case studies on how to deal with issues associated with knowledge politics. For example, convening, translation, collaboration and mediation have been identified as necessary institutional functions for the development of knowledge that is salient, credible and legitimate and for these knowledge attributes to be appropriately kept in balance (Cash et al., 2006). There are also case studies which advocate the close involvement of stakeholders in the framing and developing of predictive computer models and their simulations (Cockerill et al. 2006; Costanza and Ruth 1998; Videira et al. 2009; Voinov and Bousquet 2010). This is a departure from the LUWQP process for the Hurunui whereby stakeholders' participation extended only to determining the acceptability of scenarios with which they were presented. While there was flexibility in terms of the scenarios (with the addition two focusing on water quality objectives rather than development futures), the stakeholder group involvement in the knowledge production process was substantially limited which, according to theory, could have implications for the legitimacy and credibility of the derived catchment limits (Cash et al. 2006). It should be noted that the relevance of these participatory modelling case studies is dependent upon the scale of the issue at hand and so their applicability

would need to be assessed to be fit for purpose. This would appear to be an area for further research.

4.6 Predictive Models

Arguably, a reason why participatory predictive modelling has been found to be useful for producing knowledge and building consensus around contentious social-ecological issues is their inherent capacity to not only simply but also reify (i.e. to make real or concrete) (Duncan 2008; Porter 1995; Shackley and Wynne 1995). A substantial proportion of the knowledge that underpins the achievement of the Hurunui-Waiiau CWMS targets and the ZIP recommendations has been derived from predictive computer modelling. The sociology of science literature is replete with warnings about how easy it is for policy-makers to see the numbers derived from predictive models as representing reality (e.g. Duncan 2008, 2006; Porter 1995; Pilkey and Pilkey-Jarvis 2007; Irwin 1989). Planners and policy makers have a tendency to attribute considerable credibility to numbers and assume that they are value-free and speak for themselves. Moreover, it is also the case that the assumptions that become embedded in knowledge claims are often later discovered to be profoundly optimistic, unworkable in practice or irrelevant to the issue at hand. What is difficult for policy-makers is that by the time scientific and economic conclusions get to them, the critical contingencies are obscured from view (or they exist in a very lengthy disclosure report that is difficult to decipher and to discern management implications). It is our view that it needs to be held 'front of mind' that predictions into the future are hypothetical and dependent upon the assumptions and data that drive the predictive models (Duncan, 2003; 2006; 2008). A question for us is what statutory capacity and scope does the CRC have if what is assumed will happen does not transpire? On this score, we caution that adaptive management is a useful concept in theory but has proven to be profoundly difficult to implement in practice (e.g. Ladson and Argent, 2002; Allan and Curtis, 2005; Allan et al. 2008).

4.7 Competing Knowledge Claims

A further issue in this respect is how should the zone committees handle conflicting expert advice? For example, in one instance, a Hurunui Water Project (HWP) expert and a representative from NIWA presented quite different views on the impact of the HWP storage proposal on the Hurunui River. Incidentally, we see the practice of having experts present at the same time, known in environmental law as concurrent evidence or 'hot tubbing', as very useful for zone committees. It allows interaction between the experts, the highlighting of agreement and differences in opinion, and opportunities for committee members to probe issues on which they are unclear. Of concern was that in the HWZIP, the evidence of the latter expert only was presented and this was queried by the HWP representative on the HWZC. This raised questions for us about how should the CRC and the zone committees deal with competing expert claims and, furthermore, make decisions about the credibility of the knowledge (usually scientific) with which they are presented. We observed that the need for peer review was raised and implemented to a point by the HWZC but we question whether a more formal process might be needed.

4.8 The Spirit of Collaboration

The tension between the command and control approach of the RMA and the collaborative approach of the CWMS played out in some important respects. It appeared to us that some groups entered into the spirit of collaboration e.g. the new farmer groups that formed with the aim of reducing nutrient discharge from their properties and recreation groups that compromised on their needs/preferences. However, there were other groups, industry groups in particular, where the significance of collaboration appears to be less well appreciated. For example, at the 10th September 2011 meeting, comments from the committee members showed that they believed that Meridian Energy has yet to act in a collaborative fashion in pursuing its proposed Isolated Hill scheme. At this same meeting, representatives of the HWP told the HWZC that they would be applying for resource consent for a storage scheme based on the Waitohi River. This application was lodged before a study to determine which of several Waitohi storage schemes would be supported by the HWZC when it applied for funding for feasibility studies. In the words of one community member, such a move shows little

respect for the collaborative process; but as both Meridian and HWP legitimately pointed out, “It’s a competitive situation out there” and “We have to apply because we need to be in a position where we have the option to look hard at the Waitohi”. The RMA makes holding off applying for consents a risky process since first lodged schemes have priority. There was clearly disappointment amongst both the HWZC and the public. Comments were made that the RMA is flawed in that the best solution can be trumped by the first solution of whatever quality and merit. An important question for us is how can the CRC compensate institutionally for the limitations of the RMA that ostensibly entrenches non-collaborative behaviour?

4.9 Pre-determined Paths and Underlying Assumptions

An issue that recurred in our research was the extent to which the ten targets of the CWMS directed the HWZC’s energy and deliberations along pre-determined paths. The targets being (a) environmental health/biodiversity, (b) natural character of braided rivers, (c) Kaitiakitanga, (d) drinking water, (e) recreation and amenity opportunities, (f) water use efficiency, (g) irrigated land area, (h) energy security and efficiency, (i) regional and national economies and (j) environmental limits. There are many arguments that support such an approach (e.g. time saving, process facilitation, previous widespread consultation). However, this framework also serves to close off discussion of some potential paths of inquiry and imposes artificial and possibly counter-productive boundaries around issues that cannot and should not be bounded, at least initially, in a collaborative and deliberative process. For example, social and community well-being and quality of life are not targets but their attainment is assumed to be derivable from the targets. In discussions we have had, there is anecdotal evidence that increased irrigation in other parts of New Zealand has led to increased casualisation of labour force (and reduced school rolls), an increased turnover in farm owners and a decrease in family farm ownership. Preliminary results from one study in the North Island show that increased intensification has led to high debt levels and increased stress on farming families. Irrigation, it appears, could inflate the value of some farmland to such an extent that unforeseen consequences may devalue the social capital of the community rather than increase it. Consequently, we are asking whether the social and economic implications of the targets and the assumptions

around irrigation have been sufficiently thought through during the course of the HWZIP process.

From an academic perspective, we see considerable promise for tailoring responses and identifying a broader range of options by questioning the way in which problems have been framed. It needs to be recognised during such a process that potential solutions often dictate the definition of a problem. For example, an area where we see that the targets have constrained debate is over the options for the farms that do not include irrigation. Many of the farmers in the area will not benefit from irrigation schemes because they are located in areas where the infrastructure will not reach. Other farmers may not benefit because the cost of the delivered water may be too high. There are few options for water storage in the area and it is unknown whether the government will assist with the cost of an environmentally benign but costly storage infrastructure. Some of the farmers in the area might, therefore, have been marginalised in the debate because it has concentrated on “irrigated land area” (as required by the CWMS). If the “irrigated land area” target had been reframed as “improved profitability for farms” or “enhanced rural profitability” then options such as dry land farming could have been considered and potentially a broader scope of options for managing water supply and demand could be considered.

Our concerns about underlying assumptions extend to audited self management (ASM) programmes. The ZIP supports the implementation of ASM programmes and steps are already being taken and planned to encourage the uptake of such programmes. The reality is that the effectiveness of such programmes is unproven, yet farmers are being asked to make financial commitments for currently unknowable benefits. This situation represents considerable challenges for the CRC and risk for the Strategy in the long term. Obviously, with insufficient resources and limited stakeholder support, the implementation phase could easily founder. However, given the extent of the uncertainties, the same outcome could arise from extensive resources and overwhelming support. Our question is, what if best practice does not deliver the currently assumed and needed gains.

5. CRITICAL ROLE OF ZONE COMMITTEES IN IMPLEMENTING THE CWMS

During the course of our investigations, it became increasingly evident that the zone committees are a critical link in the implementation chain between the CWMS and the RMA planning instruments. This is because, as discussed below, the CWMS is primarily a non-statutory planning document while RMA planning instruments carry the force of law. The CWMS and ZIP recommendations are not binding on district and regional councils. The challenging role for zone committees is to mediate the regional outcomes in the CWMS by grounding them on a zonal basis and oversee their subsequent embedding into statutory regional and district council planning instruments.

In undertaking this role, zone committees have to be cognisant that the special legislation for ECan gives strong powers to Commissioners to expedite preparation of statutory planning instruments in order to resolve long-standing water conflicts in Canterbury. The effectiveness of zone committees in achieving CWMS outcomes is therefore critically dependent on a commonly agreed understanding about their role as an interface between the Strategy and RMA planning instruments. Our key research finding in this respect is that ambiguity that prevailed then in the relationship between the CWMS, the HWZC and the Canterbury Regional Council proved to be problematic in giving statutory force to zonal recommendations.

5.1 Relationship between the CWMS and HWZC

The Strategy was crafted between 2008 and 2010. It sets out a way forward towards sustainable management and use of Canterbury's water resources. It does this by spelling out substantive region wide outcomes for water allocation and management (stated as priorities/principles and regional targets). It also sets out a collaborative institutional framework based on zone committees to translate regional outcomes into zone based outcomes.

Arguably, the Strategy lacks sharp teeth. The Strategy was developed as a partnership between Environment Canterbury, Canterbury's district councils and Ngāi Tahu and

selected environmental and industry stakeholders. It was crafted as a process of deliberation by a Steering Group under the guidance of the Canterbury Mayoral Forum⁴ and has been endorsed⁵ by the eleven individual Canterbury local authorities and the Canterbury Mayoral Forum. The Strategy is thus akin to a social contract and currently carries limited formal standing except to the extent that its visions and principles have been included in the *Environment Canterbury (Temporary Commissioners and Improved Water Management) Act* enacted in April 2010⁶. The Strategy is also acknowledged in the Regional Policy Statement (2011), the Proposed Hurunui and Waiau Regional Plan (draft 2012) and is expected to be included in the Proposed Land and Water Regional Plan (draft 2012). The status of ZIPs is also comparable to the CWMS in this respect. To be effectively implemented, ZIP recommendations need to be incorporated into statutory planning instruments such as the Proposed Hurunui and Waiau Regional Plan (draft 2012.)

5.2 Relationship between HWZC and ECan:

Lack of clarity about the status of this relationship became the Achilles heel of the collaborative process. Responsibility for RMA planning instruments in Canterbury comes under the purview of the regional and district councils. The ECan Act gives strong executive powers to the Cabinet appointed Commissioners to expedite the plan preparation process at the regional level. Territorial local authorities in Canterbury lack comparable powers.

A key question is to what extent was it appropriate for ECan Commissioners to mediate the incorporation of collaboratively agreed HZIP recommendations into statutory planning instruments? The CWMS is ambiguous in this respect partly because this is a politically fraught issue and lack of clarity then enabled ECan to successfully contest the

⁴ The Canterbury Mayoral Forum is a non statutory body made up of the mayors and chief executives of the regional territorial authorities and Environment Canterbury.

⁵ The Federated Farmers group is also expected to endorse the Strategy and Ngāi Tahu are supporting the process (without formal endorsement at this stage).

⁶ As explained below, the Act replaced the governing body of ECan with appointed commissioners. It gives Commissioners power to impose moratoria on new applications for water and discharge permits, sets up a new regime for water conservation orders in Canterbury, and alters certain aspects of the process for approving regional policy statements and plans.

stance of the HWZC. The current stance of ECan appears to be that it can intervene in order to protect the wider public interest. In this respect, ECan sees itself as a regional guardian to protect against the risk of ‘tyranny of zone committee collaborators’. Those who question this stance argue that ECan intervention runs the risk of undermining the legitimacy of the collaborative rhetoric that underpins the CWMS.

While some of the zone committee recommendations are implemented regionally, those pertaining to land use regulation come under the statutory purview of district councils. How expeditiously and effectively this is accomplished will depend on the degree of commitment of district councils to regulating farming activities.

6. REFLECTIONS

The current approach to water governance in Canterbury, based on a hybrid model of collaboration and statutory planning, is akin to a social experiment. While the collaborative process does not replace the RMA process, it is expected in important respects to ‘soften’ hitherto adversarial RMA practices via social learning.

Perhaps it is not surprising that many elements of the Canterbury model have been encapsulated in the recommendations to the Government for improved water governance in New Zealand by the Land and Water Forum (www.landandwater.org). It is important for this reason that the Canterbury experience is evaluated and the research findings shared with a wide range of stakeholders within New Zealand.

Viewed from this perspective, while the findings of our report are useful, they must be judged as preliminary. HWZC is one of the ten zone committees and was the first one to get off the ground. It is necessary to evaluate the remaining nine zone committee processes to verify the findings of our report.

The HWZC process cannot be deemed as typical of or representative of all zone committees. It differs from subsequent zone committee processes in two respects.

First, the Land Use and Water Quality Group did much of its scientific data gathering and analysis and modelling of options on the Hurunui and Waiau catchments prior to the commencement of the HWZC deliberations. As we have explained above, this time lag became an issue in forging a close science/policy interface. Second, the October 1 2011 moratorium expiry deadline put pressure on the HWZC to finalise and submit its report to the CRC. In our view, this is another possible reason why all members of the zone committee did not clearly grasp the full implications of the recommendations in their final report to the regional council related to the debate about creating head room for new irrigation. As has been explained above, the CRC was subsequently compelled to take certain actions to rectify this situation but whose intent was then questioned by some members of the zone committee.

This situation should not arise with the other nine zone committees. The CRC has gone to some length during the last few months to clarify the relationship between zone committees and the Council and none of the other stakeholders groups have attempted to contest this interpretation. Zone committees are joint committees of CRC and the TLAs and zone committee reports are recommendations to the Council and the TLAs. In this sense, as noted earlier, zone committee deliberations are not binding on local authorities. However, one would expect the regional and district councils to provide valid reasons for not accepting zone committee recommendations if this proved to be the case.

While the following may be seen as a point of academic interest only, it ought to be mentioned that the approach to collaboration that has been adopted by zone committees in Canterbury significantly differs from what the international academic literature recommends in two respects. First, as noted earlier, the HWZC members were handpicked. For example, DoC and power companies were not members. Second, as we have seen, the outcomes of zone committee deliberations are not binding on local authorities. Arguably, the Canterbury zone committee process is a lesser version of the deliberative collaboration practice model as commonly understood in the international literature.

To sum up, the substantive outcomes achieved by the HWZC as a collaborative process may be summarised as follows:

- All groups gave up something and received something. There were wins on all sides
- Understandably, each party says that they would have liked more.
- Primary producers gained head room for increased irrigation to permit intensification
- Environmentalists have secured protection for conservation values, including native species, braided rivers, native fish and improved water quality
- Lake Sumer does not appear as vulnerable now in terms of being harnessed for power production or irrigation as Waitohi may be an alternative.
- Recreationists have managed to secure protection of some of the best kayaking spots in the country
- Maori achieved protection of mahina kai values
- The above gains have been framed as an integrated approach to catchment management.

From a longer term perspective, one could argue that further to reaching consensus on setting flows and water quality limits, the more important significance of the zone committee process should be judged as an initiative to promote social learning and enhance social capital. The HWZC process is an important initiative in shifting away from a “plan, notify, defend” modus operandi psyche embedded in the minds of many RMA actors. On this score, one could provisionally conclude that there is a small group of people now committed to the RMA draft Proposed Hurunui and Waiau Regional Plan and will act as advocates for it amongst their constituencies. The extent to which the zone committee commitment to the draft plan is more widely shared by others will become evident with the tenor of their submissions to the draft plan.

To what extent the zone committee process experience will modify the adversarial “rules of the game” practices during the RMA hearings of the plan will also tell us how beneficial the zone committee process has been in this respect or whether it has served to add to the cost and length of the water planning process.

7. CONCLUSIONS

The question that was central to our research was how has the CWMS been implemented in practice in the Hurunui Waiau Zone? A further question that developed over time was how has the Canterbury Regional Council managed its dual role of facilitator of the process and regulator? The literature is clear that implementing collaborative governance is incredibly challenging and not at all straightforward. This was certainly borne out in the Hurunui Waiau case. These challenges notwithstanding, it was our observation that many of the necessary elements for collaboration were in place and many of its impediments were recognised along the way by the CRC and the HWZC and strategies were incorporated to accommodate them. This demonstrated flexibility and adaptability within the institutions charged with implementing the CWMS. In addition, commitments that align with the following collaborative governance principles were observed: scientific accuracy, seeking out and including the views/suggestions of stakeholders, clarity of boundaries, future monitoring of resource user behaviour, an understanding that costs and benefits to resource users must be aligned and the clear intention that participants include but do not represent the views of their constituents. There is no doubt that the collaborative governance model that is proceeding in Canterbury is changing attitudes, building relationships and developing a new model for water governance. There is also no doubt that the staff of the CRC have worked tirelessly to implement the CWMS.

To link our observations with theory and make recommendations for improved practice, we close with the following questions for discussion by the CRC, both internally amongst Commissioners and officials, and with zone committees and other stakeholders in Canterbury. This is followed by recommendations for research.

1. How should the Canterbury Regional Council manage its dual roles of facilitator of the zone committee process and as a regulatory planning authority?
2. How should district councils manage their dual roles of participants in the zonal committee process and as a regulatory planning authority?
3. How can the shifts in perspectives within the HWZC continue to be translated outside the committee?

4. How can relationships developed by HWZC be sustained in the long term?
5. How can two-way dialogue occur with stakeholders beyond those selected by the HWZC?
6. How can the CRC facilitate deliberation as well as collaboration within zone committees?
7. Is there a need for a broadened role for the Facilitator and the Chairperson?
8. How can the articulation of complex science issues, underlying assumptions and decision consequences be improved within zone committees?
9. Does the CRC need to rebuild trust after its intervention on the Hurunui nutrient load limit? How?
10. How can institutional functions of convening, translation, collaboration and mediation be instilled in knowledge production processes to facilitate the production of salient, credible and legitimate knowledge?
11. How can the CRC ensure that zone committees and their supporting networks of stakeholders and constituents have realistic expectations about what will happen to their decisions and recommendations?
12. How can the CRC compensate within the collaborative process for non-collaborative behaviour ostensibly entrenched by the RMA?
13. What process does the CRC have in place to question and challenge the assumptions and problem framings that underpin its strategies and what capacity does it have to adjust if there is a realisation that these have been unrealistic?
14. How can the potential of the zone committee process to enhance social learning and build social capital be enhanced?

8. RECOMMENDATIONS FOR FURTHER RESEARCH:

1. How well has the interface between the collaborative zone process and the statutory RMA regional process functioned and how can it be improved? E.g. what are the perspectives of different stakeholders about how zone committee recommendations are taken on board by the regional council and TLAs?
2. How well has the interface between the collaborative zone process and the statutory RMA district process functioned and how can it be improved? E.g. what are the

perspectives of different stakeholders about how zone committee recommendations are taken on board by the TLAs?

3. To what extent has the benefit of participating in the zone committee process provided incentives for actors in the RMA statutory process to 'soften' the RMA "rules of the game" at the regional and district council levels?
4. To what extent has the benefit of participating in the zone committee process served to reduce the cost and length of the water planning process (regional and district levels).
5. How effective has the role of Maori been in governance of the Hurunui-Waiau rivers within the HWZC framework.
6. What opportunities might there be for implementing CWMS targets with the use of participatory predictive modelling.

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