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New Zealand Agricultural and Resource Economics Society (Inc.)

The adoption of market-based instruments for resource management: Three case studies

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Paper presented at the 2005 NZARES Conference
Tahuna Conference Centre – Nelson, New Zealand. August 26-27, 2005.

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The adoption of market-based instruments for resource management: Three case studies

By Jim Sinner¹, Andrew Fenemor² and James Palmer³

Summary

Market-based instruments (MBIs) for resource management create financial incentives for people and businesses to use resources more efficiently, within a regulatory context designed to ensure that ecological, social and cultural objectives are also met. Three case studies were done to identify factors influencing the adoption or rejection of market-based instruments in New Zealand. Case studies included Individual Transferable Quota (ITQ) for New Zealand's inshore fisheries, Transferable Water Permits (TWPs) in Tasman District and Waikato Region, and charges for occupation of coastal space at both the national and regional levels in New Zealand. This paper provides a summary of findings from these case studies. These include: MBIs are difficult to implement if they threaten the position of existing users. It is important to have clear objectives. Norms and values can be an obstacle to MBIs, especially where they help to protect the interests of key stakeholders, but value-based opposition can be overcome if practical concerns are addressed.

Key Words: market-based instruments, ITQ, transferable water permits, coastal occupation charges

1. Introduction and Context

This paper reports some preliminary results from a research project, *Institutions for Sustainable Development*, which has as an objective "integrating the cost of natural resources into the market economy." Market-based instruments (MBIs) for resource management can help meet this objective, because they create financial incentives for people and businesses to use resources more efficiently, within a regulatory context designed to ensure that ecological, social and cultural objectives are also met. Examples include property rights that are tradeable or transferable in the marketplace and charges for the 'use' of environmental goods or services.

The research project aims to identify obstacles to the implementation of MBIs so that they can be more easily adopted where appropriate. To this end, three New Zealand case studies were done to explore the implementation of market-based instruments:

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- Individual Transferable Quota (ITQ) for New Zealand fisheries.
- Transferable water permits (TWPs) in Tasman District and Waikato Region (Fenemor and Sinner, 2005).
- Charges for occupation of coastal space (Palmer et al, 2005a).

This paper summarizes the findings from these case studies.

As originally envisaged, the focus of these case studies was to be on the information available to decision-makers when they decided whether to adopt or reject market-based instruments, the factors that led to the decision for or against and, where possible, subsequent information on the resulting outcomes from the instruments.

As part of the preparation for these case studies, we explored a number of theories that might help to explain the behaviour of decision-makers in agencies and government, in terms of how they could be expected to respond to any comparative assessment of options. Of particular relevance to the discussion in this paper are rational choice theory, collective action theory, principal-agent theory and cultural theory. These and other theories of possible relevance are summarised in Palmer et al (2005b).

As the case studies proceeded, it became clear that issues concerning political responses to stakeholder interests, and to a lesser extent instrument design, were more important than the robustness of the assessment of MBIs vs other options. Thus, our findings focus mostly on how the proposed instruments were perceived by key stakeholders, how they reacted, and how politicians responded in making a decision whether to proceed with the MBI under consideration. In most cases, there was little formal comparative assessment conducted by policy advisors on MBI proposals and policy alternatives.

2. ITQ for New Zealand fisheries⁴

2.1 Background to the case study

After a period of expansion, fuelled in part by subsidies, New Zealand's fisheries were in crisis by the late 1970s and early 1980s. There was pressure on the Government to approve the importation of more deepwater fishing vessels, although there was limited room for more fishing capacity. Meanwhile, inshore fish stocks had been depleted by a fleet that was over-capitalised.

The deepwater fishery consisted of a small number (less than ten) of relatively large New Zealand companies and their foreign joint venture partners. The Government resolved the competition to introduce more vessels in 1983 by granting transferable quotas to each company based on their existing investment in the fishery.

Consultation on the future of the inshore fisheries during 1983 was followed by a period of indecision by the Government. After a snap election in 1984, the Labour Government moved quickly to advance the option of ITQs, for which support in the

⁴ This section summarises findings of Sinner and Fenemor (2005).

fishing industry had been growing. Both Government and industry leaders saw ITQ as the best way to restructure the industry and protect fish stocks for the longer term. By November 1984, a policy package based on ITQ was put to the fishing industry, and by May 1985 Cabinet had confirmed the decision to proceed. Parliament enacted the authorising legislation in July 1986 and ITQ commenced for the main inshore fisheries on 1 October 1986.

2.2 Key factors in the adoption of ITQ

Based on interviews with key players involved in the ITQ decisions, and analysis of public discussion documents, Cabinet papers, and other material, the following were identified as key factors that led to the adoption of ITQ as the long-term management regime for New Zealand's inshore fisheries:

- ◆ The presence of a crisis that required a change in management and the absence of any other viable option to address the crisis
- ◆ Instrument design that protected the position of existing fishers, including the government's willingness to compensate for catch reductions
- ◆ Early collaboration between government and industry officials and early support from key leaders in the fishing industry
- ◆ Successful implementation of a precursor to ITQs in the deepwater fishery
- ◆ A consultation process that provided ample opportunity for fishers' questions and concerns to be heard
- ◆ The commitment of the Labour Government to reform and its consequent firmness that compensation would only be provided in conjunction with structural reform based on ITQ.

Fishing industry leaders supported ITQ, albeit with some reservations, because they could see it was the only real option that would both enable restructuring of the industry and protect the stocks on which they relied, while protecting the position of existing full-time fishers. The status quo was not an attractive option.

ITQ was the only option proposed by Government that provided funding to reduce the catch effort. The Government-funded restructuring scheme for the inshore fisheries was to be implemented via ITQ allocations, with effort reduction on a voluntary basis. *Thus, the new management regime did not deny any existing fishers access to the resource.*

Part-time fishers were excluded at the behest of the fishing industry and with the support of officials, as an interim measure, well before a consensus emerged about ITQ for the inshore fisheries. They could be excluded because they were not organised and had little political influence.

Much was made by some interviewees of the significance of the political and economic context of the mid-1980s. While the context of 1984 was obviously conducive to ITQs, it is not clear that it was either necessary or sufficient for ITQs to emerge. In our view, the support of the fishing industry was critical, and this was possible because ITQs did not threaten to displace from the fishery any politically significant groups. In addition, the early experience of transferable quota in the deep sea fishery had not raised any significant problems or concerns.

3. Transferable water permits⁵

3.1 Background to the case study

Administration of water management under the Resource Management Act is largely devolved to regional councils and unitary authorities which, subject to any national standards and policy statements from central government, decide how to allocate water and how to protect water quality. This case study explored decisions on the transferability of water permits by Environment Waikato (a regional council) and Tasman District Council (a unitary authority).

Regional councils and unitary authorities are directly elected from the regions, many of which, such as Tasman, are quite small. These governance arrangements confer a relatively high level of influence on user groups affected within each region.

Under the Resource Management Act, consents to take water from rivers or groundwater reservoirs can be transferred to another site upon application to the relevant regional council. This is generally equivalent to a new consent application for a discretionary activity, which typically takes a month or two to process and possibly considerably longer if there are objections.

However, regional councils can enhance the transferability of water permits by including rules in their regional plans that make transfers controlled or permitted activities, subject to conditions, with no or only limited opportunity for other parties to object. This enables transfers to be confirmed within a matter of weeks or even days. In this paper, we use the term transferable water permits (TWPs) to describe permits for which transferability has been enhanced in this way by regional plans.

Both Environment Waikato (EW) and Tasman District Council (TDC) have taken decisions in the last several years regarding the transferability of permits to take water. EW included provision for TWPs in the proposed Waikato Regional Plan, although this provision was appealed by NZ Fish & Game Council and has yet to be implemented. TDC, in contrast, after a more intensive process of investigation and consultation, decided against including TWPs in its regional plan. More recently, however, TDC has approved enhanced transferability of permits in a small catchment where water supplies are to be augmented via a storage scheme.

3.2 Environment Waikato

In late 1995 and early 1996, EW processed multiple consent applications to take water from the Waihou River. Transferability of these consents was discussed amongst officials, users and submitters, with various viewpoints discussed, although the issue was outside the scope of the consent hearings. According to interview responses, this experience shaped the thinking of key EW staff as the Waikato Regional Plan (WRP) was being developed.

⁵ This section summarises findings of Fenemor and Sinner (2005).

Early discussion documents on the WRP indicated a preference for a “modified status quo” option, with some enhanced transferability of water permits where “there were no adverse effects”. Water users were cautiously supportive, while some environmental groups expressed scepticism or concern. In meetings with staff, elected councillors initially asked questions about transferability, but as the actual text of the WRP took shape, councillors focussed on other issues.

The TWP provision in the proposed WRP drew a number of submissions. A local environmental group objected on philosophical grounds, while Fish & Game sought some technical changes. Water users were generally supportive and some users even sought to extend the scope of the transferability provision, e.g. to groundwater and to upstream as well as downstream transfers.

At hearings in 2000, we have identified only two submitters that commented on the TWP provision. One, an agribusiness consultancy, wanted some constraints on TWPs removed, and a councillor engaged in discussion with the submitter on the details of this point. An environmental group opposed the provision, but elicited no comment from councillors.

In deciding submissions, with the benefit of a recent drought to bring issues into sharper focus, EW confirmed the TWP provision with only minor changes. EW declined Fish & Game’s submission for some further restrictions on transfers, and Fish & Game appealed to the Environment Court. The appeal has yet to be resolved as EW has been focussing on resolving appeals on other issues and on rewriting its water allocation provisions more generally, and hence the transferability provision remains inoperative.

3.3 Tasman District Council

The Tasman District Council (TDC) has considered the adoption of TWPs on a number of occasions over the past decade as water bodies in its region became fully allocated. In response to the enabling provisions of the RMA, TWPs were considered as a policy option in 1993. After rather polarised response from submitters (mostly irrigators), the Council indicated in its regional policy statement only that it would further investigate the matter.

In 1997 the TDC released another discussion paper regarding TWPs. Several public meetings were held and there was a report back to the Environment and Planning Committee summarising stakeholders’ response. Again, however, in view of ambivalence of some stakeholders and opposition from others, the Council chose not to proceed even with a trial that had been suggested.

During the preparation of the Tasman Resource Management Plan (TRMP) the issue was revisited. In response to a staff paper in June 2000 that outlined pros and cons of TWPs (but was less than a full integrated assessment), the Environment and Planning Committee resolved not to investigate TWPs further. In March 2001, the draft water chapter of the TRMP retained the status quo under the default provisions of the RMA.

During this time (i.e. from 2000), the Wai-iti Water Augmentation Committee (WWAC) was discussing how best to fund and implement a project to store water

that would be used to augment flows to solve chronic over-allocation in the Wai-iti Valley. The committee, which included irrigators as well as council representatives, eventually agreed to incorporate TWPs as a controlled activity, and to drop the “use-it-or-lose-it” policy, in their proposals for the project area. In this case, TWPs were seen as an alternative to “use-it-or-lose-it” for re-allocating existing water usage rights, and as a mechanism that also provided economic incentives to increase efficiency of water use.

Corresponding changes to the TRMP were publicly notified by TDC on 24 April 2004; four submissions were received, with only one opposed. A hearing was held on 1 September 2004, with the staff recommending no changes to the proposal, and the changes have since taken effect.

The circumstances in the Wai-iti were different than the Council had previously considered. In its earlier decisions, TWPs were being considered in the context of fully allocated or over-allocated resources. But there was no major stakeholder group pressing for change. Water users were mostly satisfied with the status quo, and there were no identified potential users seeking new permits. Some users, at least, realised that TWP could lead to more frequent rationing if unused permits were transferred and then used more fully.

In the Wai-iti, users could see that the existing situation was not sustainable and that transferability would not threaten their security of supply because there would be plenty of water once the augmentation scheme was implemented. Thus, the merits of TWPs as perceived by irrigators were quite different from the earlier case. The support from irrigators, and lack of any real opposition, meant that some councillors did not focus on the details of the proposal. When one councillor was interviewed in November 2004, she said she did not support TWPs and was not aware that enhanced transferability was part of the Wai-iti proposals the Council had recently approved.

3.4 Key factors influencing adoption of TWPs

In both TDC decisions, it appears that the views of existing water users were of paramount importance to the political decision-makers. At EW water users did not take a strong position early on, although their support for the TWP provision post-notification clearly helped ensure its retention. While EW consulted widely, and managed to get most stakeholders on side with its proposals, it failed to consult sufficiently “deeply” with Fish & Game on this provision. This had its price when Fish & Game appealed, rendering the TWP provision inoperative.

Overall, given the devolved governance arrangements, we can say that TWPs are unlikely to be implemented without the support of water users, or at their least non-opposition. Given the lack of other strong reasons or political pressure for using TWPs, this policy instrument would probably not have been approved in either Tasman or Waikato if the major water users had been opposed. Indeed, TWPs were initially rejected in Tasman, until new circumstances emerged that led a group of water users to support implementation of increased transferability.

There were probably some distinct differences in the nature of the two councils as well, in terms of the degree of involvement of councillors and the amount of decision-making left to staff. Also, water allocation is much more significant in the

Tasman local economy than it is in Waikato, and hence the issue has more political prominence in Tasman. So it is not surprising that some TDC councillors (from wards where irrigation was particularly important) took a relatively closer interest in the matter than did EW councillors. Also in the TDC case, the in-depth evaluation of pros and cons of TWP may have created the impression that TWPs involved a major policy shift that, because of the uncertain outcome, heightened the risk aversion by councillors.

4. Coastal occupation charges⁶

4.1 Background to the case study

The Resource Management Act 1991 (RMA) attempted to reform what was previously a regime for coastal management governed by several different statutes. Among other things, the RMA provided for coastal occupation charges to be set by regulation, collected by regional councils and paid to the Crown. ‘Occupation’ means activities in the coastal marine area, such as marine farming, jetties, and moorings, which exclude other uses. It appears the practicalities of implementation were never considered and charging provisions were included in the Act as a matter of principle.

Attempts to set coastal occupation charges by regulation met with fierce opposition from boat owners in particular, but also from regional councils, who had to confront the public opposition to charges yet would have to pass the revenue that they collected on to the Crown. The Government responded by commissioning a former MP, Wayne Kimber, to review the issue in 1994. Kimber recommended that the RMA be amended to allow regional councils to set and collect charges themselves and retain the revenue. Against the advice of most officials, the Government agreed and amended the RMA accordingly, although the amendment was not enacted until December 1997. Councils were also given the option of not collecting coastal charges, but had to justify their decision one way or the other through their regional coastal plan.

Since then there has been little progress made by regional councils. Southland Regional Council had consistently been the only authority to collect the charges for the Crown during the initial phase under the RMA, on the same basis they had since the days of the Harbours Act, and so had little problem in continuing under the new legislation. Other councils, particularly in northern New Zealand with larger numbers of boat users, who had for so long either not collected rentals or done so in a haphazard manner, found the new legislative requirements politically difficult. Faced with the considerable time and cost of developing a mechanism, then notifying and consulting using the First Schedule process, and then defending it under appeal, councils have been hesitant. None have notified new provisions for charging (or not charging) under their regional coastal plans.

4.2 Key factors leading to implementation failure

Going into the interviews, our principle hypothesis was that coastal occupation charges have never been properly implemented in New Zealand because many users of New Zealand’s coastal space consider the area to be an inalienable ‘common’

⁶ This section summarises findings of Palmer et al (2005a).

available to all to enjoy. They consider private ownership or charging for occupation of coastal space (particularly for recreation) to be abhorrent. This culturally inherited view has made the imposition and collection of rentals for the exclusive occupation of public space, by the Crown owner, extremely controversial and difficult.

Interviews suggested this is indeed the case, but probably only for the minority of New Zealanders who actually occupy the coast, such as boat owners. All interviewees conceded, at least to some extent, that charging was controversial and politically difficult due to users' perceptions of the sanctity of free use arising from collective ownership. We can use cultural theory to explain some of this, but it can also be argued that simple rational self-interest drives people's desire to see the coast as something they can exploit for nothing. However, the significant finding of our research in this respect is that this is only part of the story.

Failed implementation of coastal charges was also the result of classic principal-agent problems. The agents, in this case local government, had differing objectives, as well as an unwillingness and insufficient technical capability to operate a collection regime. By driving a universal policy from the centre, central government did not have the flexibility to deal with differing circumstances in varying locations, further undermining the efficacy of, and support for, the regime.

The Kimber Review's public consultations encouraged typical collective action processes to derail policy and allowed particular interests to prevail over wider community interests. The Review served to illustrate, by their absence, the potential value of allied NGOs, who were insufficiently active in this debate.

Implementation difficulties throughout the last 15 years were exacerbated by ambiguous and poorly drafted legislation, which created the risk that public policy would be determined in the courts and therefore hampered implementers. Furthermore, the charging regime was not well located within the broader policy context and reinforced by the overall management regime. Rather, it was tacked on as something of an afterthought in the RMA 1991 and a series of attempts to fix it have failed to remedy the fundamental problems.

5. Main findings

From the three case studies, several conclusions can be drawn. Most, if not all, of these conclusions would apply to any type of new policy, not just market-based instruments.

- *Existing users of a resource tend to dominate political consideration of MBI proposals – to alter the status quo policy framework, there must be a clear need for change or risks to existing users need to be addressed.*

ITQ for fisheries and TWPs in the Wai-iti catchment of Tasman District are examples where the need for change provided the opportunity for market-based instruments to be considered and adopted. In the case of the failure to implement coastal charges, the lack of a pressing need for change enabled those with a vested interest in the status quo to block implementation of the MBI that was perceived as threatening their interests. Tasman District's earlier decision against TWPs also

reflects the lack of a clear need for change, as existing users resisted the uncertainty TWP's entailed and this was communicated to the political decision-makers. In all of these cases, the wider public took little or no active interest in the outcomes of these considerations, thereby enabling the interests of existing users to be the dominant force in the decisions taken, as predicted by the theory of collective action (see Palmer et al, 2005).

Environment Waikato included TWP's in its regional plan despite the absence of any clear need for change. In this case, EW staff considered that TWP's presented clear benefits (albeit potential benefits, given that there was not a significant unmet demand for water) and supported this change. The fact that no major stakeholders raised significant objections enabled the Council to approve it. However, although Fish & Game had not raised significant objections in the consultation and hearing process, it appealed the decision, presumably because it concluded its interests were not fully protected, rendering the TWP provision inoperative pending resolution of the appeal. The issue has not been a high priority for EW, and the appeal remains unresolved. In a sense, then, this supports the conclusion that MBIs are difficult to implement if they threaten the position of existing users, unless there is a clear need for change.

Complete protection of existing users is not always necessary. In 2003, the Minister of Fisheries decided to bring tuna and other associated species into the Quota Management System. Quota was allocated on the basis of catch history in a way that protected most fishers, but inevitably some got less quota than they considered necessary to maintain their current fishing practices. In addition, the Minister decided not to give tuna fishers preferential access to quota for swordfish, which is a common bycatch species in the longline tuna fishery, nominally a non-commercial species (not to be targeted) but in reality an important component of tuna fishers' incomes.

Possible explanations for the Minister's decision include perceptions that some fishers were targeting swordfish illegally, the financial loss to the government if the swordfish quota were given away and interest in swordfish from recreational fishers. Conversely, tuna fishers were concerned that the value of their tuna quota could be lost if they are forced to pay high prices for the right to catch swordfish. Nevertheless, these concerns did not prevent the Minister of Fisheries from bringing these species into the quota system without accommodating existing users' concerns on this point. This outcome may reflect the relatively greater political strength of the Minister as centralised decision-maker in this case, i.e. less vulnerability to criticism from a group of existing resource users, compared with the position of elected regional councillors in the water permit cases.

MBIs can also be implemented in a way that protects existing users in the short to medium term by allocating rights based on historical use, but claws back these rights over time. For example, in the Hunter River Salinity Trading Scheme in Australia salinity discharge rights were allocated to existing dischargers for an initial period, but these expire over time and new rights have to be purchased at auction (Sinner and Salmon, 2003).

The current debate about allocation of nitrogen discharge credits in the Lake Taupo catchments could be resolved in a similar way. There, farmers seek protection of

existing farm management practices while forest owners seek an allocation based on averaging across the catchment that will allow them some scope for development or at least recognise that they have not contributed to the nutrient accumulation in the lake. One possible resolution would be to grant farmers discharge rights for an initial period but for these to expire over time and go into a pool that would be available to forest owners.

➤ ***Clear objectives are essential.***

This conclusion arises primarily from the experience with coastal charging. The Government was not clear whether it was seeking to charge resource rentals for the use of public space, to ration coastal space amongst competing users, or to recover costs associated with coastal management. It blurred this distinction because of legal uncertainty over ownership of the seabed. The lack of a clear objective led to problems in instrument design and made it difficult to persuade existing users and the wider public that charging for coastal space was appropriate. The lack of a clear objective also makes it difficult to carry out a reasonable assessment of effects – hence the difficulty in persuading stakeholders of the appropriateness of the proposal.

The fisheries and water case studies also support this conclusion, which is in fact closely linked to the first conclusion. A clear need for change helps to provide focus for the objective of the policy, and this was evident in the cases where MBIs were successfully implemented.

➤ ***Instrument design does not need to be perfect, but it needs to be sufficiently advanced to achieve acceptance by stakeholders. Theoretical inspiration must be accompanied by practical feasibility.***

The coastal charging study demonstrates the dangers of trying to implement a new instrument without a sufficiently advanced proposal of how the instrument will operate in practice (which is of course difficult without clear objectives). Those potentially affected will oppose the instrument if they perceive that it threatens their position, so they need at least enough information to judge its likely effects. The experience with TWPs reinforces this point – the proposals were not sufficiently detailed or explained in sufficient detail for stakeholders to have confidence in them. In the Tasman case, irrigators felt threatened, whereas in the Waikato it was Fish & Game that felt threatened. In the latter case at least, better communication would probably have resolved the matter, but because the issue was of lesser importance than other issues in the Waikato Regional Plan, that did not happen.

The fisheries case provides an excellent example of instrument design being sufficiently advanced to satisfy stakeholders, even though the design was far from perfect and, indeed, is still being refined twenty years later. The Blue Book consultation document clearly described the main features of ITQ and the process for compensating fishers for reductions in quota to achieve sustainable harvest levels. This document then served as the basis for an intensive round of further consultation with fishers, who were persuaded by industry leaders and the proposal's own inherent logic to support ITQ.

New Zealand's experience with ITQ also demonstrates it is not necessary to have perfect instrument design from the outset. Indeed, attempting to achieve perfection could well be fatal to a proposal. The design needs to be sufficiently advanced to address the key concerns of major stakeholders who could block implementation. Beyond that, governments must be prepared to take a leap of faith, to make mistakes and to revise and improve the instrument over time.

It must also be acknowledged, however, that once an instrument has been implemented, changes often face resistance. The Ministry of Fisheries, for instance, has been unable to eliminate many obsolete regulations because of opposition from fishing companies that have made investment decisions based on various gear and area restrictions. The fact that local authorities in New Zealand have to implement market-based instruments through the Resource Management Act 1991, with its time-consuming consultation and appeal provisions, makes it more difficult to refine an instrument over time.

➤ ***Choice of instrument can also be critical to successful implementation.***

Economic theory provides guidance on when a given type of MBI is likely to be most efficient. To simplify somewhat, a quantity instrument (such as transferable quotas or water permits) is appropriate when a fixed resource needs to be rationed amongst competing users, whereas a price instrument (such as a charge for use of a resource) is appropriate for addressing externalities of resource use where the actual quantity of resource use is of less importance.

Political theory and evidence from the three case studies provide somewhat different guidance. Quantity instruments can be easier to introduce because they can be more readily designed to accommodate existing users. From a political perspective, charges are more feasible when there is a very large number of users and hence a quantity instrument is simply not practical for administrative reasons. Examples include the price differential imposed on leaded petrol during its phase-out in New Zealand, local charges for reticulated water supply and for solid waste disposal in several New Zealand cities, and the proposed carbon charge planned for 2007. Wide coverage also makes it harder for small groups to plead for protection of existing uses, though not impossible as the carbon charge proposal has also shown.

➤ ***To get the support of existing users and other key groups for implementation of MBIs, it is important to get sector leaders on board.***

The fisheries case again provided the best example of this. Staff of the Fishing Industry Board, along with a few government officials, were the early promoters of ITQ as a possible solution to the crisis facing New Zealand's inshore fisheries. Once the proposals were developed, industry leaders, especially among the large number of independent owner-operator fishers, were instrumental in obtaining support for ITQ from fishers.

The Tasman TWP study provides equally compelling evidence of the importance of key stakeholders. The current system of water user committees and close contact between those committees and Council staff/councillors means the present system is widely supported. Potential new users are not represented in those discussions. This

meant the status quo was well entrenched when the Council rejected TWP for the Waimea Basin. Yet in the Wai-iti, water users saw the benefits of being able to transfer water allocations within an augmented water supply that they were paying for, and at the same time get rid of the unpopular ‘use it or lose it’ policy on water allocations. In this case the Council, seeing the water user support, confirmed the Wai-iti TWP proposal with little additional scrutiny.

➤ ***Resource constraints are often closely linked to social and economic issues.***

Resource use creates social and economic outcomes, therefore changes to policy for resource management should account for those social and economic consequences. In cases where resources have become limited, such as fisheries and water, the prospect of government action such as clawback with or without compensation can be a powerful motivator for the acceptance of proposed policy changes. Even where resources have not yet become limited, as in the coastal occupation example, the effects of an MBI proposal on the social and economic landscape needs consideration, alongside the political landscape.

➤ ***It is best to emphasise practical implications of MBIs rather than their theoretical elegance.***

Growing scepticism in recent years about “market reforms” has led politicians and stakeholders to be suspicious of “market-based” policies. In Tasman District, we encountered both councillors and stakeholders who were critical of New Zealand’s electricity market reforms and of the corporatisation of ENZA, which had been a marketing board controlled by producers of apples and other pipfruit.

The ITQ for fisheries possibly provides a counter-example, in that respondents said that a presentation by an American academic of the theory of ITQs, rather than their practical implementation, was influential in persuading fishing industry personnel and government officials to give ITQ serious consideration. The mid-1980s was a period of much greater receptivity to market-based reforms than today, however. In any event, when the proposals were put to fishers, the discussion documents focused on practical details rather than economic theory.

➤ ***If implementation is devolved to another agency or agencies, it is important to ensure that objectives of the implementing agency are aligned with the authorising agency.***

This is a key lesson from principal-agent theory, and was borne out by the coastal charging case study. Central government decided that it wanted coastal charges (though was unclear whether these were to be rentals or charges for services provided) but, when implementation proved politically and administratively difficult, decided to devolve implementation to regional councils. But councils’ interests were not aligned with the Government’s, not least because the councils did not stand to benefit from any of the revenue collected. Government then tried to address this by allowing councils to keep the revenue, but councils still faced other costs that hindered the implementation of coastal charges.

- ***Norms and values can be an obstacle to MBIs, especially where they help to protect the interests of key stakeholders, but value-based opposition can be overcome if practical concerns are addressed.***

Norms and values are institutions for management of natural resources, just as formal rules and regulations are. They develop over time to support and control resource use in a way that meets, at least to a certain extent, society's multiple objectives with regard to the resource. Examples of such norms include:

- o Irrigators should not apply water by overhead spray on hot, windy days.
- o New Zealand's coastline and freshwater resources are for everyone to enjoy and share, free of charge.
- o All New Zealanders are entitled to go fishing to get a feed for their families.
- o New users of resources should not undermine existing uses.

Connor (2004) noted that, in the voluminous literature on common pool resources, there is little recognition that changes in the way resources are managed might require a change of values. Rather, "social defenders" often argue that property rights solutions, for example ITQ for fisheries, will lead to social change and should be resisted for that reason.

However, as technology changes, norms and values do not always adapt quickly enough, and resources can become stressed. Indeed, some values can come into conflict as resources become fully or over-allocated, and existing users seek to prevent new uses from being approved to protect their security of access.

Nonetheless, many people attempt to maintain their value-based positions, which have in the past served society reasonably well. New institutions, especially if these are based on seemingly contradictory values, will be resisted until such time as people are convinced that the new institutional arrangements will work satisfactorily. And as the new arrangements are seen to work, values and norms gradually adjust to the new set of institutions.

The Tasman case study provided evidence of this phenomenon. In the mid-1990s, when TWPs were under consideration for a substantial area of the Waimea Plains, some of the opposition was couched in "value" terms. Some stakeholders were opposed to using markets to allocate water because it was a public resource that should be available to all, and because markets tend to be dominated by people with money rather than those who would make "best use" of the resource. Yet when TWPs were proposed as part of the arrangements for funding water storage in the Wai-iti catchment, and stakeholders were no longer threatened by the change, these value-based concerns were nowhere in evidence.

One important caveat to this conclusion must be noted. The case studies did not provide evidence concerning the adaptability of deeply-held cultural values, such as those held by many Maori, that are part of a religious or spiritual world-view.

An example would be the Maori belief that there is a unique *mauri* (or life force) in each distinct water body and the corresponding Maori norm that waters from

different catchments should not be mixed, which probably had a practical function in traditional Maori life. Concerns arising from these norms could perhaps be ameliorated if a new institutional arrangement could be shown to achieve the same function, or if the purpose was no longer relevant to modern life. In such a case, the traditional norm might gradually give way to the modern institutional arrangements.

However, experience in New Zealand suggests that, at least in the case of mixing waters, the original practical purpose has become embedded within cultural and spiritual holistic explanations, and those explanations now have their own psychological functions, creating continued resistance to change. The pre-conditions for acceptance of change have not been met, or the change is happening very slowly, or the hypothesis simply does not hold for norms based on deeply-held spiritual and religious beliefs. Exploring the adaptability of these deeply-held norms and values was beyond the scope of this study, but would warrant investigation in the future. Solutions may lie within the psychology of change, trust, and community.

➤ *Well-designed consultation is an important element of assessment of alternatives and can assist in successful implementation.*

Consultative methods are essential to proper assessments of effects, i.e. there is a link between good assessment and the use of such insights in marshalling opinions and managing support or opposition. Assessment procedures are generally most useful when applied during the design stage of a policy proposal – they provide stakeholders an opportunity for input to instrument design, and thereby create the opportunity for informed buy-in and commitment to the proposal. Of the cases we studied, the MBIs that were successfully implemented, fisheries ITQ and TWPs in Wai-iti, involved close consultation with stakeholders, not just in the design stage but earlier as well. The proposal for TWPs in Waikato also involved considerable consultation with stakeholders, but the lack of consultation at the final stages contributed to non-implementation.

While consultation in these cases was not undertaken as part of a formal assessment of the MBI vs. alternatives, the consultation process did assist officials and decision-makers to identify concerns about the possible effects of the MBI and to address these concerns in the instrument design.

Because systematic integrated assessment has not been the norm for policy proposals, particularly at regional and local government levels, the choice of whether or not to adopt MBIs has been more open to influence by the presence/absence of a crisis and the interests of existing users rather than the wider interests of the public and potential users. That is not to say that the process of assessment will sideline political factors – far from it. However, the lack of wider public participation in debates on the MBIs studied could have been a reflection on the way in which consultation was done, rather than a true lack of interest by the public.

Assessment processes could make the decision-making process more accessible and understandable to more people, and enable them to see the links between resource constraints and social and economic issues. This could then provide the basis for a well-informed debate that recognises a broad range of viewpoints and interests and concludes that a change to some alternative set of arrangements is clearly beneficial

to most parties – both in terms of overall gains/losses as well as the distribution of these gains and losses.

6. Efficiency, equity and politics

The three case studies of proposals for MBIs identified a number of factors that influenced whether the proposals were adopted and implementation was successful. These range from the critical importance of existing users in the political process to the importance of clear objectives, including alignment between agencies where implementation is devolved.

The need to address the interests and concerns of existing users could be seen as allowing a small group to capture the political process, at the expense of the wider public interest, resulting in “inequitable” outcomes. Equity, however, tends to be viewed differently depending on one’s situation.

Existing users tend to argue that it would be unfair to exclude them from a resource, especially where they have made significant investments based on existing policy arrangements. Public interest groups, on the other hand, tend to argue that users have no legitimate basis to assume continued access to public resources, that society creates property rights and therefore can alter them if it deems that a change would serve society better, and that the public has a right to some return for the private exclusive use of public resources. These competing claims must be resolved through the political process.

Economic efficiency, strictly defined as pareto optimality, requires that no one can be made better off without someone else being made worse off. In a political context, this corresponds to a requirement for consensus (i.e. if someone would be worse off as a result of a policy change, they would not grant their consent). The attempt by political decision-makers to resolve competing interests in natural resources, e.g. when considering implementation of an MBI, can be seen in a similar light. For a political decision-maker, a proposal is clearly “good” if it leaves at least some people better off and no one worse off (see Sinner et al, 2004).

However, if a proposal would leave a large number of people better off by a small amount, and a small number of people worse off by a large amount, there is not an obvious “right” decision about whether the proposal would improve public welfare, even if the total gains substantially exceed the total losses, because distribution matters. Collective action theory suggests that politicians will usually reject such a proposal because the potential losers will be more active politically than the potential winners, and this was borne out by our case studies.

It is possible, but far from certain, that better assessment of alternatives, including better consultation with all affected parties, would make such trade-offs more transparent and thereby facilitate action by public interest groups on behalf of the wider public interest. The decision would still require political judgement, but arguably on a more transparent and informed basis. Nevertheless, collective action theory suggests that politicians will continue to be more concerned about those subject to potential losses than those who stand to gain, and there is some basis for this in the concepts of both efficiency and equity. An assessment process that

identifies explicitly the nature and extent of losses, and where the losses lie, also provides a basis on which to develop mitigation strategies (including compensation) that might ultimately achieve even broader support for a proposal.

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