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The practice of decision making in coastal climate change adaptation: Reflections from a Victorian case study

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Abstract

This paper outlines some of my reflections on decision-making in climate adaptation as a result of completing a project through the Australian Government's Climate Adaptation Pathways Projects program. I'll explain one key concept that applies across the five reflections, provide a brief outline of the project itself and then reflect on two conceptual issues and three coastal management issues from the project which I consider have significant implications for effective adaptation decision making¹.

Introduction

I wish to highlight a key concept which influenced this project. It appears to have a profound effect on people's ability to grasp and appreciate the potential of new information and ways of doing things. Through this project, possibly the greatest issue to overcome was the individual and collective comfort zone of participants and stakeholders and their resultant attitudes to non-market economic value.

In light of recent events, I provide an authoritative definition of what a comfort zone is:

The comfort zone is a behavioural state within which a person operates in an anxiety-neutral condition, using a limited set of behaviours to deliver a steady level of performance, usually without a sense of risk (White 2009).

While this definition can be argued in many directions, through our project it seemed that people's comfort zones were strongly influenced by their apparent knowledge, the systems they worked within and what they perceived others' comfort zones to be. I see these as very important for adaptation, as our comfort zones would seem to either constrain or enable the way we interpret and apply information, and thus the operation of decision making systems.

If good decisions are to be made for effective adaptation, it would appear that we need a far more effective approach to extending and developing the comfort zones of those involved in the various stages and with various levels of influence in the

¹ I undertook this work for the Western Coastal Board in 2011-13 when I was Executive Officer to the Board. These reflections are my own and I am not representing the views of Government.

decision making process. If good decision-making is our aim, then we may well need to seek to understand psychology in the same way we seek to understand the economic implications of climate change.

The case study in question

In 2011-12, the Western Coastal Board and partners conducted a world-first non-market economic valuation of caravan parks and beaches, and developed a decision support framework to guide decision makers through the generation, interpretation and application of that sort of information in existing decision making processes which currently consider climate adaptation. Five locations were chosen to conduct the research, including Port Fairy, Warrnambool, Apollo Bay, Barwon Heads and Portarlington. Importantly, information was generated through survey questionnaires with both campers and residents of the town in which the caravan park was located.

While the *Value and Equity Framework for Climate Adaptation: Coastal Caravan and Camping Parks Case Study Project* looked at coastal caravan parks because of the obvious implications of climate change to these locations and their infrastructure, a number of other issues added to the potential to apply caravan park findings more broadly. In addition to being flooded or washed into the sea, effective adaptation for caravan parks presents many challenges for land managers in providing equitable access to the coast, they generate significant revenues to support coastal management and thus adaptation, and the different levels of exclusivity from different levels of tenure available to campers have some parallels to private property tenures which present their own vexed issues for adaptation.

In addition to new non-market economic values, the project generated new and highly relevant social information on camper attributes, and on the equity preferences and adaptation preferences of both campers and town residents, all of which informed the decision support framework. The framework focussed on how to bring such new information into the adaptation options assessment process and then apply it to three existing decision making processes to try and stay within practitioners' comfort zones. These three processes include business planning, consent for use and development through the Coastal Management Act 1995, and the land-use planning system. All three have a current role in climate adaptation and are anticipated to have a far stronger role in future.

Importantly, we sought to involve a range of people in the project, including the survey respondents at five towns on Victoria's west coast and a range of practitioners. We generated the information using survey instruments with both campers in the parks and residents from the town adjacent to the park so that we had two distinct perspectives and sets of information. We also used practitioner groups and workshops to test the presentation of information and refine the decision support framework so that it would be targeted at practitioner understanding and need.

While the new non-market economic information was the primary factor challenging practitioners' comfort zones, people were also significantly challenged by the importance of using such information and the techniques used to generate it. The question of how to bring the economic and social information in to decision-making

processes was made even harder because, despite clear expectations that a balanced approach be taken to consider social, environmental and economic issues in decision making, the status quo appears to deem that this information is generally too difficult or unreliable. As a result, current approaches rarely, if ever, seek to acknowledge the importance or the need to include it.

Appreciating economic value

The project did attempt to confirm market economic values for caravan parks, but the main conceptual issue we needed to communicate was that of non-market economic value. It was clear through the initial stages of the project that most people's thinking was dominated by market value. After all, this is what people see in their everyday lives, as well as in most coastal decision-making processes. However, the degree of scepticism around, and in some cases hostility towards, non-market value surprised me. We saw a lot of people eager to understand it, but we also had people with precious little or no knowledge of how to generate the information or apply it expressing strong doubts about both the veracity of the information generated and the importance of balancing decision making with it.

Another interesting observation was the apparent bias of many coastal managers towards ecosystem services and away from anthropocentric benefits and values that exist often independent of the environment. Perhaps this reflects the comfort zones of many coastal managers who are trained in environmental sciences, but it does suggest that the expertise and experience brought to bear on coastal adaptation needs to extend well beyond physical and biological sciences if it is going to be successful.

Appreciating equity

The concept of equity presented possibly the most difficult challenge to the project, and elicited a wide range of reactions from people. In general, people understand that equity is about fairness, and participants appreciated the need for equity in climate adaptation decisions. Both campers and residents responded well to the equity components in the survey, with many anecdotally noting that this was the first time that they had been asked these kinds of questions.

However, some people appeared to feel very threatened by the inclusion of equity in the project. We experienced surprising opposition to it at the start of the project due to perceptions of political sensitivity, and this presented the very real possibility that the project would not go ahead. Thankfully, the ignorance driving this response was tempered and the project proceeded, but it highlighted the need to be very careful when dealing with new concepts and providing clear explanations, especially where people perceive threats to their comfort zones.

On a more positive note, the equity component of the project yielded some very interesting results about what people think is fair in the context of coastal adaptation. The distinct advantage of generating this information is that we now know what people think is fair, as opposed to what decision makers might be led to believe people think. Of course, this will challenge those with power in decision-making, but it is precisely the sort of information we need to invest in.

People make decisions

It may sound strange, but it seems that we often forget that it is people who make decisions using processes – we cannot rely on the integrity of processes alone for a good outcome. The concepts, processes and information we use to make decisions are all essentially driven by human constructs and values. Yet it seems to be only relatively recently that those seeking outcomes around sustainability, particularly those with their comfort zone centred on protection of the environment, have started to understand that without proposed change making sense to people within a paradigm dominated by those same constructs and values, the chance of success in delivering environmental protection measures are greatly diminished. If we're going to get people to make better decisions, we have to get them out of their comfort zones and show them why a new approach is both important and relevant to them.

It quickly became clear to us that to get people on board with new concepts and information, we needed to make the value of the information clear, and the application of the decision support framework highly relevant to both their day-to-day and strategic needs. It helped that the information generated through our project was more focussed on people and *their use* of the “environment” and “amenities”, rather than about an externality such as the environment *per se*. Working through the information and the decision process with practitioners greatly assisted people to become more comfortable with the project. We watched pennies drop, and received constructive feedback for both refining the products and for communicating them effectively. Had time allowed, we would have liked to pilot the use of the information and decision support framework in addressing issues at one of the five caravan parks surveyed.

Risk management

It seems that coastal climate change adaptation and risk management are becoming synonymous, which I would argue does not do justice to adaptation. A risk management approach is certainly worth progressing for coastal climate issues, but one has to wonder where the boundary between risk management and change management might be. In the main, risk management appears better suited to issues that remain relatively static, and is better at assessing risks to the status quo. But if climate “risks” are going to evolve over time, perhaps it is better to approach things differently.

As mentioned, risk management is worth progressing. However, this project highlights a critical question for effective adaptation via risk management approaches – is our coastal risk assessment process sufficiently informed and thus sufficiently accurate to deliver good decision-making?

I would argue strongly that risk management has significant potential to assist good coastal adaptation decision-making, but that the current state of information able to be applied to the assessment process is seriously inadequate. While we may be able to identify the likelihood of an event or scenario with a reasonable level of confidence, we do not have a sufficient understanding of value to inform determinations of consequence of risks. How can you quantify the consequences of

an event without a proper understanding of the value of environmental, social or economic attributes of the assets at risk from the event? If we rely on the very limited datasets and valuation information we currently have, we run the very real risk that, in our ignorance, we will protect the things we value least.

Good risk assessment would then ensure that the measures of consequence in risk management reflect their holistic value. Our project sought to generate non-market economic and preference information which could be included in risk assessments, and show how this can be done through the decision support framework. Importantly, it sought to illustrate that this kind of information is integral to good decisions and can be undertaken without the degree of difficulty often attributed to it.

The next question I have is whether we think the opportunities presented by risk assessment and management are being harnessed properly and applied to other coastal issues? There are a wide range of risks inherent in many coastal management and adaptation challenges, and yet I have not seen the process applied to many other pressures that pose threats to our enjoyment of the status quo, such as population or tourism growth, let alone to future scenarios exacerbated by climate change.

Integrated coastal zone management

The concept of integrated coastal zone management (ICZM) was developed over recent decades to promote a coordinated and integrated response to the many pressures affecting the coast. However, our performance in this area is fair at best. Part of our rationale for the project was the potential broader application of the information and processes we generated through the project to the myriad other issues for coastal management and adaptation beyond caravan parks. Caravan parks, as noted earlier exhibit a range of characteristics with parallels to many other coastal and adaptation issues.

Conclusion

If we are considering injecting our decision making with new information or approaches, we must ask whether our decision-making systems are sufficiently evolved to accommodate such things. If that potential exists, which I believe it does, is there then the opportunity to leverage the incredible effort being dedicated to climate change adaptation to help achieve a far more effective coastal planning and management system? Climate change, after all, is simply another pressure albeit a highly complex one.

The reports generated by the project include a literature review, a research report and a decision support framework. They are all available at www.wcb.vic.gov.au and I encourage interested people to read them.

References

White, A., 2009. From Comfort Zone to Performance Management. White & MacLean Publishing.