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# Procedural Justice and the Australian Environment: The case of the Wonthaggi Water Desalination Plant

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Drier conditions in Australia have compelled governments to implement various projects to address current or impending water shortages. Such projects have not always been popular with the local community who are directly affected by this infrastructure, with 'procedural justice' emerging as a critical issue. This paper analyses issues of public perceptions of 'procedural justice' in implementing environmental projects in regional areas, in the context of the recently approved desalination plant in the regional Victorian town of Wonthaggi. Drawing on both qualitative and quantitative data from a survey of 316 Wonthaggi residents, we show that one of the major predictors of residents' resistance toward accepting the building of the desalination plant was explained by perceptions of procedural injustice. We further argue that inadequate attention to the particular political history of the region has compounded the sense that the plant implementation has been unfair. Attention to such political histories is vital to avoiding conflict with local stakeholders and to the successful and ethical implementation of development projects in regional areas.

Climate change and drier conditions in parts of Australia over the past 20 years have compelled governments to implement projects which seek to buffer citizens against these effects. Perhaps the most prevalent consequence of climate change in Australia has been the reduction in the reliability of rainfall. Severe water restrictions have been imposed across the country, in both rural and urban areas, significant infrastructural developments and modifications have been initiated, and education campaigns have resulted in a shift in attitudes towards a more conservative approach to water use. Melbourne for example, has reduced its water consumption by nearly 30 percent since the 1990s (Victorian Government 2008).

While the need to conserve water is now widely accepted, the processes via which such modifications to water use are imposed by government have received mixed responses, particularly in rural and regional areas. Complaints against environmentally-driven developments such as water desalination plants, wind farms and waste disposal facilities regularly draw the charge that objectors are guilty of exhibiting the 'Not In My Backyard' ('NIMBY') syndrome, which refers to the tendency of people to generally support such projects as long as they do not occur in their local communities. However, as Wolsink (2000 52) explains:

The literature on physical infrastructure facility siting and decision-making processes, increasingly views simple NIMBY explanations of local resistance to facilities as outdated.

Rather, Wolsink argues that project proponents, including government, need to step back from the 'decide-announce-defend' approach to development and invest in a communicative and engaged process with local stakeholders, from the proposal and planning stages through to implementation.

Indeed, as the literature on procedural justice predicts, concerns about consultation and perceived fairness regularly emerge as a central element of opposition to projects. In this paper, we draw on this literature to analyse the findings from a survey of residents in the small rural Victorian town of Wonthaggi, the future site of a water desalination plant. The key concern of this paper is not to identify where matters of procedure have been adequate or otherwise, but to discuss the effects of perceptions of procedural justice and injustice on community favourability towards the Wonthaggi plant.

### **The Importance of Procedural Justice in Shaping Cooperation with Decisions**

Why people choose to cooperate with or defy decisions made by institutions has been the topic of psychological and management research since the late 1950s (see Easton 1958; French and Raven 1959; Tyler 1990; 1994 and 1997; and Tyler and Lind 1992). The motivation behind this research is the importance of perceptions of justice or injustice in affecting people's behaviour (Tyler and Smith 1997: 595). Procedural justice concerns the perceived fairness of the procedures involved in decision-making and the perceived treatment one receives from the decision maker. The procedural justice literature demonstrates that people's reactions to their personal experiences with authorities are rooted in their evaluations of the fairness of procedures those agencies use to exercise their authority (Lind and Tyler 1988; Tyler 2000, 2001; Tyler and Blader 2000).

Empirical evidence collected across a broad range of contexts, and with a broad range of people, has shown that when people feel they have been treated fairly by an authority or organisation they will be more likely to trust that organisation and be inclined to accept its decisions and follow its directions (Lind and Tyler 1988; Murphy 2004; Tyler and Degoey 1996). It has also been found that people are most likely to challenge a situation collectively when they believe that the procedures are unfair. For example, in an experimental lab study with student participants asked to imagine themselves in a workplace context, it was found that study participants complained more to a third-party authority figure when they were treated unfairly and received an unfavourable outcome from the experimenter (Greenberg 1987). The same study also showed that students were most likely to take collective action when the procedural injustice they experienced reflected institutional policy than when it reflected the actions of a single person. Research in applied settings has also consistently shown that individuals take collective action to seek justice in a number of ways when they feel that the groups to which they belong have been treated unfairly (for an in-depth discussion of this topic, see Tyler and Smith 1997). These ways can include pursuing collective change in ways that are socially acceptable (e.g. political lobbying), or turning to third parties to intervene on their behalf (e.g. taking a class action, referring the decisions to the courts; see Murphy 2003).

So what exactly does procedural justice entail? The procedural justice literature highlights the importance of an authority's trustworthiness, interpersonal respect, and neutrality in its dealings with others (Tyler 1989, 1994, and 1997; Tyler and Smith 1997). A person's judgment about whether or not an authority is motivated to treat them in a fair way, to be concerned about their needs, and to consider their arguments (i.e., their trustworthiness) has been shown to be an important factor that people consider when evaluating authorities (Tyler and Degoey 1996; Tyler and Lind 1992). If people believe that an authority is 'trying' to be fair and to deal fairly with them, they trust the motives of that authority and develop a long-term commitment to accepting its decisions (Murphy 2004). Being treated politely, with dignity and respect, and having genuine respect shown for one's rights and social status, all enhance feelings of justice and fairness (Murphy 2004).

Tyler (1997) has specifically shown that people value respectful treatment by authorities and view those authorities who treat them with respect as more entitled to be obeyed. They are also more likely to cooperate with their decisions. As part of this process, people are also influenced by judgments of the neutrality of decision-making procedures. Neutrality includes assessments of honesty, impartiality, and the use of fact, not personal opinions, in decision-making. People seek a level playing field in which no one is unfairly advantaged. As people are seldom in the position to know an outcome until it is actually made, they focus on the evidence that the procedures are even-handed (Tyler 1997).

Further insight can also be gained by reference to the concept of 'voice', which has also been a focus of procedural justice research (Folger 1977; Platow, Brewer and Egghins 2008). Voice refers to the opportunity for groups to comment on, or inform, an authority's decision, and allowing them to have some level of input into processes that affect them (Folger 1977). Voice provides for some level of local control and is premised on notions of accountability and participation. In short, the concept of voice pertains to the construction of trust, both within, and across social groups (e.g. between policy makers and communities subjected to new initiatives), and is an important predictor of whether people perceive a process to be just (Folger 1977).

However, voice is more than just providing citizens with an opportunity to have their say. In order to be perceived as procedurally fair, policy makers need to ensure that citizens' views are listened to and considered in the decision-making process. It needs to be recognised by policy-makers charged with introducing and implementing such projects that consultation and collaboration with community groups has to be a two-way process. That is, decision-makers cannot simply aim to engage community groups as a way of improving responses to what they themselves define as the key issues for that community and the region more broadly. This denies community members voice: the right to influence a process that affects them. Policy-makers must be open and receptive to input about how community groups want their communities to be affected by new projects (hence ensuring policy makers are locally accountable) and there must be a demonstrable effect of that consultation. If decision makers are not amenable to suggestions made by community members then voice is denied and engagement is a fairly superficial undertaking. The outcome will be that acceptance and cooperation is non-existent and any level of collaboration fleeting, because the process is not regarded as legitimate.

It follows that procedural justice is viewed as an antecedent of legitimacy. Researchers have shown that people who feel they have been fairly treated by an authority and whom have been given voice in decision-making, regard their authority status as more legitimate; this is regardless of the decision outcome (e.g. Howieson 2002; Magner, Sobery and Welker 1998; Tyler 1997; Tyler and Lind 1992). Tyler (1997) argues that if an organisation is perceived to be legitimate then people are generally more likely to follow and accept their decisions. If a decision maker or authority lacks legitimacy they will be ineffective in shaping the behaviour of others.

While critics of the procedural justice view have suggested that people would care more about the favourability of their outcomes (e.g. whether they personally stand to gain from the introduction of a new environmental sustainability project) and less about fairness when the stakes are high, research has not supported that argument. Instead, it has been shown that concerns about fairness remain high even when outcomes are important (Casper, Tyler and Fisher 1988; Lind, Kulik, Ambrose and de Vera Park 1993).

## Procedural Justice in the Environmental Context

The findings of research into procedural justice are particularly important for the legitimacy of new environmental sustainability initiatives. Exploring environmental disputes within a procedural justice framework is particularly interesting because a fundamental question that often arises is why there can be strong local opposition to specific environmental sustainability projects, when there is a high level of general public support for such initiatives (Devine-Wright 2005; Gross 2007).

As discussed in detail by Gross (2007: 2728), environmental disputes are complex because they involve:

such core issues as property and individual rights, environmental rights, animal rights future generation rights and community rights. Divisions in local communities frequently happen where there are conflicting perspectives of values and rights and conflicting interests for land use and natural resource management.

The contexts — environmental, economic, historical, political — in which particular environmental development projects emerge will impact upon how any project is received in a particular community.

These issues all impact on perceptions of the suitability of projects, but do they make discussion of procedural justice secondary to other considerations? While there has been growing interest in the field of environmental justice more generally (see Gross 2007), there has been comparatively little *empirical* research conducted on the specific effects of procedural justice in environmental contexts, in particular, as to whether procedural fairness plays an important role in shaping people's views and behaviours towards new environmental sustainability initiatives.

However, of the studies that have been conducted to date, it has been shown that people are generally more likely to accept new initiatives when they think they have been treated fairly and respectfully by an authority — that is, where there is a perception of procedural justice. In the United States, Tyler and Degoey (1995) examined people's willingness to restrain themselves from using excess water during the 1991 California water shortage. In a study of a random sample of 401 residents of San Francisco, the authors concluded that people were more willing to support authorities who made water conservation decisions when these authorities used fair decision-making procedures. Perceptions of procedural justice were found to *not* be influenced by the perceived severity of the resource scarcity or the favourability or lack thereof, of the authorities' decisions. Rather, they were based primarily on issues of engagement and perceptions that there existed positive, relational bonds to authorities (i.e., whether they felt valued and respected by the authority). These relational effects were found to be stronger for those respondents who were more likely to identify with their local community.

Examining the importance of voice and consultation in decision-making processes, Maguire and Lind (2003) evaluated the stakeholder involvement process undertaken by the North Carolina Division of Water Quality to propose regulations to decrease nutrient pollution of the Tar-Pamlico watershed. Combining both qualitative and quantitative methods the researchers found that procedural justice issues were important to stakeholders; for example, it was revealed that numerous complaints had been lodged with the Water Quality Department regarding their lack of consultation. Similarly, Smith and McDonough (2001) undertook 53 focus groups with 520 Michigan residents to ascertain whether they felt involved in natural resource decision-making in their state. Although a small number of

comments were made indicating that there were adequate opportunities for public input, the most common answer was that they did not feel involved. Both these studies suggest that principles of representation and voice are not being met by some agencies.

More recently in Australia, Gross (2007) has undertaken an exploratory study in New South Wales which examines community perceptions of a community consultation process to situate a wind farm in their local area. She conducted in-depth interviews with 12 members of the community to better understand why the community had become divided over the proposal. The field work was undertaken while the development application was being assessed by the State Government, so the final decision on the wind farm was unknown to residents at the time the interviews were conducted. While the sample size was small, findings from her study indicate that perceptions of procedural fairness did influence perceptions of the legitimacy of the wind farm proposal, and that fairer processes increased community acceptance.

These studies of procedural fairness in the context of environmental decisions suggest that, in general, individuals do not react to authorities exclusively in terms of what they may, or may not, receive from a particular initiative. Instead, they also react to how they are treated. Where individuals trust the motives of authorities, feel that they behave neutrally, feel as though they are treated with respect and dignity and have been provided adequate opportunity to voice their opinions, it is generally the case that they will be more willing to accept the decisions of authorities.

### **The Wonthaggi Water Desalination Plant: Community Perceptions of the Process**

The community consultation process surrounding the proposal and eventual approval of the desalination plant in Wonthaggi provides a good case study of how perceptions of procedural justice might shape opinions on policy acceptance in an environmental context. This section of the paper provides an historical overview of the Wonthaggi desalination plant process, interspersed with written comments proffered by those who responded to a survey of Wonthaggi residents on their attitudes to water-saving behaviours in light of the announcement that a desalination plant was being built. A number of themes, both anticipated and unexpected, emerged from the qualitative survey data, including the negative environmental impact of the plant, the placement of the plant in an aesthetically valuable area, the beneficiaries of the plant water, the perceived lack of consideration of alternative avenues for ensuring water security, and the perceived lack of procedural justice in the planning stages of the plant. While those with strong feelings in opposition to the plant are more likely to express their views, the quantitative data presented below shows that there was an overall negative attitude towards the plant. However, not all who expressed concerns about the Wonthaggi plant process were against the idea of desalination *in principle*. Before presenting this data and the historical context for the study, however, the methods used to collect community views about the plant are presented.

#### **Methodology: Participants and Procedure**

The data for this study was collected in October 2008, via the release of 1,000 surveys, posted to a sample of residents living in the Wonthaggi region of rural Victoria (King 2008). Participants were chosen randomly from the local phone book, and were sent a letter inviting them to participate in a Deakin University research project interested in environmental sustainability issues. The four page survey contained 73 questions that were designed to assess residents' thoughts on water availability, their use of water saving techniques,

attitudes toward water sustainability, and their knowledge of the Victorian government's initiative to build a water desalination plant in the Wonthaggi region.

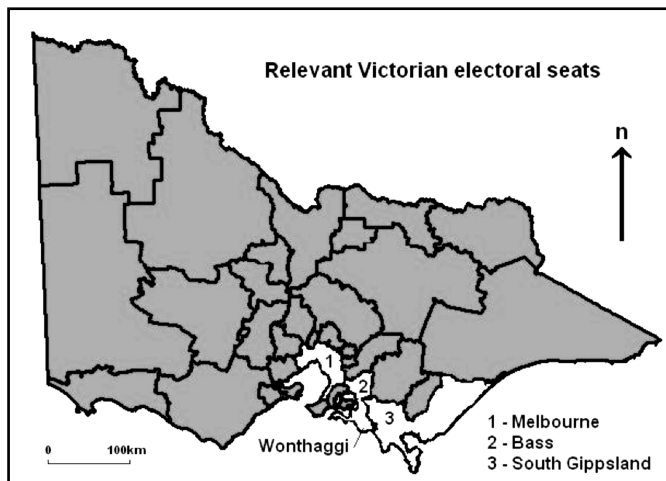
At the back of the survey was a space inviting respondents to provide comments about the treatment plant. Sixty six percent of respondents provided additional information on their thoughts and concerns, and these written responses formed the basis of the qualitative data presented in the next section.

After four weeks, a total of 316 completed surveys were returned, representing a response rate of 32 percent. Respondents in the final sample were between 18 and 93 years of age ( $M = 62.04$ ,  $SD = 14.76$ ), 52 percent were male, 75 percent owned their own property as opposed to renting or paying off a mortgage, and 90 percent indicated they had grown up in Australia, with 33 percent of the sample having grown up in Wonthaggi itself.

### Historical Context and Analysis of the Qualitative Survey data

The seat of Bass, in which Wonthaggi is located, changed from Coalition (Liberal and National parties) control in the late 1990s to Independent (but pro-Australian Labor Party) governance, then back to Coalition rule in 2002 and is currently a marginal seat (see figure 1). As recent political history in Australia has shown, marginal seats such as Bass may change hands due to politically volatile events, such as the effect of the *Tampa* 'children overboard' scandal on the 2001 Federal election (Sharpe and Boucher 2008: 65). The following year, coupled with growing dissatisfaction with the newly re-elected Commonwealth Coalition government (evidenced by strong swings away from the Coalition in by-elections), the Coalition looked to be facing serious losses in the 2002 State election. However, drawing on tactics employed in the previous year, the State Coalition party maximised the political potential of a number of contentious issues, including the introduction of Marine Protected Areas (MPAs) into the Victorian coastline (King 2005: 355) and the introduction of wind farms into parts of South Gippsland, including Wonthaggi. While the Coalition suffered a crushing defeat in the 2002 election (though not in Bass), the potential for environmental issues to play a key role in political events was strongly evident. Wonthaggi residents are all too aware of this potential, as their comments in response to the desalination plant implementation will attest.

Figure 1: Relevant Victorian electoral seats



On June 19 2007, the Victorian Government announced the plan to build a reverse osmosis desalination plant in Wonthaggi in order to produce drinking water from seawater, as part of a broader Victorian Desalination Project (VDP) (Victorian Government 2009). As was revealed in a qualitative comment provided at the back of our survey of Wonthaggi residents, some residents were shocked to hear of the plan via the media:

'There was no community consultation before it was announced ... I found out when it was announced to the media';

'To be informed via a television commercial that a pristine and eco-sensitive piece of coastline was to be home to one of the largest desalination plants in the world, even before an Environmental Effects Study had been undertaken: I, for one, felt cheated and undervalued by the Victorian Government';

and

'The government simply announced that the desalination plant was going to be built, where it was going to be built and when'.

The negative perception of the announcement of the project reflects feelings of inadequate consultation in later stages, but we will return to these in a moment.

The beneficiaries of the plant were named as the cities of Melbourne and Geelong, and the regional areas of Westernport and South Gippsland (Victorian Government 2007). There has been considerable anger expressed regarding the beneficiaries of the plant. In particular, many Wonthaggi residents have been incensed that although the pipeline 'will traverse three different water corporations: Westernport Water, South Gippsland Water, and South-East Water' (Tolstrup 2009), these regions will not automatically benefit from the plant. The Government has consulted with these water corporations to establish possible off-take points from the desalination plant pipeline, allowing regional communities to benefit from additional water supplies from the desalination plant. However, there is a sense that the region is being bypassed and that this reflects a bias by the State government towards city-dwellers:

'Decisions on water usage seem to be made with a preference to city-dwellers at the cost to country people. You can't keep using and taking from country areas!';

and

'I find it grossly offensive that the Victorian Government has brought about a division of its people, as in restrictions for some, while others maintain an ignorance and wasteful attitude towards our God-given water.'

On 31 December 2007, the Victorian Department of Sustainability and Environment referred the Project to the Commonwealth Minister for the Environment, Heritage and the Arts under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, seeking approval to make the environmental changes associated with the desalination plant. The 'preliminary works' was excluded from this process of Ministerial approval. A local opposition group took the Victorian Government to the Federal court to challenge this omission, but lost the case<sup>1</sup>. On 4 February 2008, the Minister's Office decreed that the

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<sup>1</sup> Your Water Your Say Inc. v. Minister for the Environment, Heritage and the Arts (2008) Federal Court of Australia 900.



project could go ahead, subject to a number of environmental clauses and the completion of an Environmental Effects Statement (EES). The Minister had the discretion under the *EPBC Act* to invite public comment on the proposal at this point, and sought public submissions by posting a notice on the Commonwealth Government web site. Under this process, 67 submissions were received.

By the time the 12 month progress report was released on 18 June 2008, the desalination plant was being called the 'Keystone of Victoria's Water Plan' (Victorian Government 2008) and an integral component of Victorian Premier's effort to 'drought proof' Melbourne's water supply. Land had been acquired for the siting of the plant, works had begun on a pipeline from Wonthaggi to Melbourne, the EES was being developed, expressions of interest had been sought from private operators who might run the plant and water testing had been undertaken. The time line indicated that by early 2009 a private partner would be appointed and construction would begin in mid-2009.

Between 20 August and 30 September 2008, the EES was made publicly available, and Wonthaggi residents and the local council were invited to comment. 409 written submissions were lodged in response to the EES (*Desalination Plant* nd). On 3 September 2008, the Victorian Minister for Planning, Justin Madden, announced an Inquiry Panel to consider the EES, (Victorian Government 2009b). On 8 October 2008, a hearing was held for stakeholders to ask questions about the Inquiry process, as opposed to questions about project details. According to one local resident:

'There have been no real attempts at community engagement. The only time any form of consultation was attempted with the general community was a session on how the plant was to be built, which really only served to underline that this was a foregone conclusion as part of a flawed process ... The longer term ramifications are yet to be determined however I would suggest that DSE's [the Victorian Government Department of Sustainability and Environment's] credibility is on the line'.

Following this meeting a series of public hearings were held. Stakeholders were invited to contribute submissions to the hearings via the Victorian Government's website. The hearings themselves were held between 14 October and 7 November 2008 and 183 submission items from stakeholders ranging from the local council to private citizens have been published on the site (Victorian Government 2009c). On 4 December 2008, the EES was handed down and several days later, on 10 December, the Inquiry held a public briefing session in Melbourne at which the details of the EES were outlined to the Inquiry and to the public (Victorian Government 2009). No more consultation meetings have been held since then.

While one could argue that opportunities for consultation have been provided, the overwhelming feeling of those who responded to our survey was that consultation had been inadequate:

'The Brumby government mistakes dictatorship for leadership. The process has been flawed from the start and from a Labor government that should embrace community consultation and community development principles'.

Indeed, many respondents attributed the perceived lack of consultation to an absence of genuine opportunity to alter the course of the project in any meaningful way:

'Government says there has been adequate community consultation in the process of decision making regarding the desalination plant. However, this community does not

agree, and believed it has always been a done deal’;

‘This community believes that the whole process has been and is a farce’;

‘There has been almost no consultation with people here regarding the desalination plant and we have been told it will go ahead regardless!’;

and

‘Mr Brumby, after some pressure, declared that the consultation process was to start but that the result was set in concrete (literally). The definition of consultation need not be provided here, suffice to say that there can be no consultation when one party has no voice’.

In January 2009, Justin Madden, released his assessment under the *Environment Effects Act 1978* (Madden 2009). In a public media release Madden explained that:

the EES process considered a range of potential environmental effects of the project—including on flora, fauna, water quality, landscape values and social impacts.

He announced that the project was ‘broadly environmentally acceptable’ despite some ‘unavoidable environmental impacts’ and that the:

inevitable social effects of hosting a large scale construction workforce within the region, [should be managed by] including social infrastructure and services, provision for housing, and community engagement.

While environmental concerns have been key to the opposition to the desalination plant, given the political history of the region much concern has been expressed in relation to the motivations behind the situation of the plant, and the manner in which the community has been dealt with by the Government and its’ agents. Wonthaggi residents are very aware of their own place in the political landscape, as these comments attest:

‘the lack of concern for the citizens of this area by the [Premier] Bracks/Brumby governments would appear to be due to the recent voting history of this area. They would be well advised to remember that this was a mining town with deep union and Labor Party ties, if they continue to alienate themselves with the general populace in this region they may never regain this seat’;

‘We don’t count — but we do vote’;

‘Voted Labor all my life, never again, nor will my family and friends. Brumby is an “unelected” disgrace’;

‘The State Government has used the desalination plant as a political tool to try and win votes from city people’;

and

‘The appalling lack of consultation with local government and the ongoing stuff ups ... to say nothing of the lack of any [comprehensive] impact study combine to suggest this desalination plant is a total political knee jerk reaction. Hopefully it will lose many votes at the next election. Even better, the desalination plant will collapse into a heap!!!’

The following comments hint at a very high level of distrust toward the desalination plant development procedure:

'I am extremely affronted by the questions used in this survey and greatly suspect your real intent with the results you get';

and

'This questionnaire was obviously put together by the State Government as there is an obvious prejudice towards opponents of the desalination plant. More public money spent on still more Government propaganda to try and convince the public that desalination is the only choice we have ...'

While some may dismiss these comments as paranoid, such expectations of Government deceit by local stakeholders hint at a perceived pattern of injustice which must be carefully managed by those hoping to implement new projects in regions with such complex political histories. It is important to remember that the procedural justice literature tells us that it is the *perception* of fairness that influences the support or otherwise of government initiatives.

At the end of July, 2009, the State government announced the results of a tender process to secure a private partner for a public-private relationship focussed on the running of the desalination plant. The international consortium AquaSure is to commence towards the end of 2009, with completion expected by 2011. Media allegations that AquaSure's success was partially due to political favouritism and negotiations which occurred behind closed doors (Fyfe 2009), has done little to reassure Wonthaggi residents that the process involved in the plant development was fair and transparent. As the procedural justice literature suggests, such media revelations, whether true or not, contribute to the arguments of desalination plant dissenters.

### **Analysis of the Quantitative Survey data**

While procedural justice issues were of tangential concern to the original aim of the survey of Wonthaggi residents, it became apparent from the qualitative responses presented above that procedural justice issues were of paramount concern to respondents. Fortunately, a couple of questions in the survey allowed us to measure perceptions of procedural fairness as well as the perceived outcome favourability of the project. We therefore undertook a statistical analysis of the quantitative survey data to ascertain why Wonthaggi residents seemed to be resisting the desalination plant implementation process and to see whether the findings would support those of the qualitative data.

### **Methodology: Survey Measures**

The analysis of the quantitative survey data was undertaken to test two key research questions:

Did possible feelings of procedural injustice lead Wonthaggi residents to actively resist the Victorian Government's attempts to build a reverse osmosis desalination plant in the region?

and

Was the perception of a lack of 'procedural fairness' just as important in contributing to community resistance as the perception of outcome favourability (i.e., the perception that the resources created from the new plant would benefit or not benefit residents).

Four categories of variables were used to answer these two research questions: (1) procedural justice; (2) outcome favourability; (3) acceptance of the Wonthaggi water desalination plant; and (4) background control variables (e.g. demographic variables and attitudes and concerns about environmental sustainability).

### **(i) Procedural justice**

The measure of procedural justice used in this paper corresponds to the concept of ‘voice’ discussed earlier. Specifically, respondents were asked whether they felt there had been community consultation in regards to the desalination plant: ‘I feel that community consultation in regard to the desalination plant has been adequate and effective’. As noted above, an important aspect of procedural justice is whether people feel they have been given a voice in decision making processes. The item was measured on a scale of 1 ‘strongly disagree’ to 5 ‘strongly agree’. A higher score on the scale reflects greater perceptions of procedural justice.

Before proceeding any further, we should first point out a limitation of our analysis. Voice is not the only factor people consider when making procedural justice evaluations. The procedural justice literature highlights the importance of a range of factors, including concepts such as neutrality in decision-making, respect of stakeholders, and trust in the benevolent intentions of decision makers. However, as noted earlier, issues of procedural justice were of tangential concern to the main aim of our project. We were therefore limited by the number of procedural justice questions we had available. This limitation should therefore be considered by the reader when interpreting our findings.

### **(ii) Outcome Favourability**

The perception of ‘outcome favourability’ of an unpopular decision or policy is particularly important for determining how satisfied people will feel about a new initiative. If the outcome is perceived to be positive from their point of view, they will be more satisfied or feel more positively toward the initiative. However, according to the procedural justice literature, individuals do not react to authorities primarily or exclusively in terms of what they do or do not receive from an initiative (i.e., outcome favourability). They also react to how they are treated. To test this claim in the present study, outcome favourability was assessed by ascertaining whether survey respondents felt the water desalination plant would have a benefit to the local community. Two questions were asked: ‘The desalination plant is going to create new water’ and ‘Once the desalination plant is operational we will all benefit from access to more water’. These items were measured on a 1 ‘strongly disagree’ to 5 ‘strongly agree’ scale; with a higher score indicating greater perceptions of outcome favourability (Cronbach alpha reliability coefficient of 0.59). Again, we were limited by the survey measures we had available to us. While the two questions used do represent a valid measure of outcome favourability, additional questions assessing the possible adverse effects that the desalination plant would have on residents and the community would have strengthened the robustness of our measure. This again needs to be taken into account when interpreting the findings.

### **(iii) Acceptance of the Wonthaggi water desalination plant**

Respondents were asked to describe on a -10 ‘extremely negative’ to +10 ‘extremely positive’ scale their general attitude toward the building of the Wonthaggi desalination plant (‘How would you describe your attitude to the building of the desalination plant?’). Respondents scoring higher on this item were positively disposed to the building of the plant. This measure was therefore used as a proxy for measuring acceptance of the new plant.

### **(iv) Control variables**

Two demographic control variables were also included in the analysis to control for demographic differences between survey respondents (‘gender’ and ‘age’ of respondent).

Also controlled for were (a) respondents' levels of 'conscientiousness' about the environment (respondents were asked, 'how environmentally conscientious would you describe yourself as being'; measured on a 1 'not conscientious at all' to 10 'someone who considers the environmental consequences of their every decision'; hence, a higher score indicates they are more likely to consider the environment), and (b) their 'concern' about the availability of water in the future (measured on a 1 'strongly disagree' to 5 'strongly agree' scale; a higher score indicates more worry about access to water). The latter item was measured via two items: 'I worry about my future access to water' and 'I worry about future generations' access to water' (Cronbach alpha reliability coefficient of 0.81).

## Results

Table 1 presents the means, standard deviations, and bi-variate correlations among the measures described above. The mean score for the procedural justice measure fell below the mid-point of the 5-point scale, indicating in general, that respondents believed they had not been provided adequate voice in decisions regarding the desalination plant. It can also be seen that residents were not convinced that the outcomes they would receive from the plant would be favourable. While some clearly acknowledged the fact that the plant would produce more water for the community, on average, sentiment was divided. Both the 'conscientiousness' and 'concern' measures indicated that on average, respondents do consider the environment in their everyday decisions, and that they are somewhat concerned about the availability of water resources in the future. However, as indicated by the negative score on the 'acceptance of water plant' measure, on average, they did not support the plant being built.

Table 1: Means, standard deviations, and bi-variate correlations between all measures used in the current study.

Scale/Variable	Mean	SD	1	2	3	4	5	6
1. Procedural justice	2.14	1.30	-	.51***	.60***	.19***	.03	.08
2. Outcome favourability	3.01	1.04		-	.63***	.15*	.08	.22***
3. Acceptance of water plant	1.58	8.29			-	.25***	.02	.15**
4. Age	62.04	14.76				-	.11*	-.04
5. Conscientiousness	7.34	1.69					-	.10
6. Concern	3.65	0.98						-

Significant at: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table 1 also shows that there are strong correlations between key variables of interest. The positive relationships between the 'procedural justice' measure and the 'outcome favourability' and 'acceptance of water plant' measures, respectively, demonstrate that those who were more likely to perceive the consultation process as fair were more likely to accept the building of the plant, and were more positively disposed to the view that the plant would provide a positive outcome for the community.

### Regression Analysis: Predicting Acceptance of the Wonthaggi Water Plant

In order to test the hypothesis that procedural justice influenced community acceptance of the desalination plant just as much as outcome favourability factors, a regression analysis was performed. Two demographic control variables ('gender' and 'age'), as well as the self-reported 'environmental conscientiousness' of the respondent, and 'concern about water availability' variables, were entered into the first step of the regression analysis to serve as control variables between different groups of people. To identify the additional contribution offered by the other two predictor variables of interest, the 'procedural justice' variable was entered separately into the regression model at the second step, followed by the instrumental measure of perceived 'outcome favourability' at the third step. Table 2 presents the findings of this analysis.

With all the variables included in the model (Step 3), it was found that the 'gender', 'outcome favourability', and 'procedural justice' variables were significant predictors of 'acceptance of the plant.' More specifically, those who were older ( $\beta = 0.12$ ,  $p < 0.01$ ), those who viewed the resources to be provided by the plant as more favourable ( $\beta = 0.41$ ,  $p < 0.001$ ), and those who were more likely to feel they received procedural justice by policy makers ( $\beta = 0.36$ ,  $p < 0.001$ ), were more likely to accept the building of the plant. By contrast, 'environmental conscientiousness', 'concern for the availability of water' and 'gender' played no role in predicting acceptance of the plant.

Before drawing any conclusions about these results, it should first be noted that perceived procedural justice was found to have almost the same degree of an effect on 'acceptance of the plant' as the 'outcome favourability' variable. The squared semi-partial correlations at step3 of the analysis indicate that the 'procedural justice' variable as a predictor contributed almost the same amount of unique variation to the respondents' acceptance of the plant as what the 'outcome favourability' variable did. In other words, nine percent of all the variation in residents' acceptance of the building of the desalination plant can be explained by feelings of procedural justice alone. This compared to 11 percent for the outcome favourability variable.

Table 2: Regression analysis showing antecedents of acceptance of the desalination plant.

Predictor	STEP			
	1	2	3	Semipartial $r^2$
Age	0.22***	0.14**	0.12**	0.12
Gender (0=female, 1=male)	0.20***	0.12*	0.05	0.05
Conscientiousness	0.01	0.00	-0.03	-0.03
Concern	0.19***	0.14**	0.07	0.07
Procedural justice		0.55***	0.36***	0.31
Outcome favourability			0.41***	0.34
R <sup>2</sup>	0.13	0.41	0.52	
Adjusted R <sup>2</sup>	0.12	0.40	0.51	
R <sup>2</sup> change	0.13	0.28	0.11	
F change	10.56***	137.56***	67.68***	
df	4, 291	1, 290	1, 289	

Note. Predictor entries are standardised regression coefficients ( $\beta$ ).

Significant at \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ . semi-partial  $r^2$  presented for Step 3 only.

So while the findings indicate that demographics and outcome favourability factors contribute to willingness to accept policy maker's decisions, they also suggest that the resistance toward of the building of the plant was also likely to be a result of perceived procedural injustice. In fact, procedural justice played a very strong role in predicting acceptance or resistance toward the plant.

If policy-makers are seen to be providing residents with voice then the results suggest that people will be more likely to accept their decisions. This suggests that the two proposed research questions should be answered in the affirmative — at least in this instance. Procedural justice issues were of major importance to the Wonthaggi community in their support and acceptance for the desalination plant; in fact, procedural justice was just as important to residents as their perceptions of 'outcome favourability' flowing from the project. As noted earlier, however, given the limited number of survey questions used to assess procedural fairness issues of concern to Wonthaggi residents, it is important to keep in mind the qualitative comments that have been provided by the survey respondents.

## Conclusion

Efforts to implement environmental development projects in rural regions are sometimes met by staunch resistance by local stakeholders. Often, this resistance is attributed to the NIMBY syndrome. However, we would suggest that this is an outdated way of examining these issues. The literature on procedural justice, where it pertains specifically to environmental development projects, notes the importance of acknowledging a range of historical and political factors which may sway stakeholders to support or reject a particular project, regardless of the personal benefits they anticipate for themselves.

In this paper we have provided a case study of the Wonthaggi desalination plant, slated to be constructed between 2009 and 2011. Our survey of the residents of Wonthaggi showed that many are concerned about changing climate patterns and access to water. Yet, many of these people have also expressed anger over the perceived procedural injustice of the desalination plant development process. Based upon these qualitative findings, further statistical analysis of survey data was conducted to consider why local stakeholders resisted the development project, given that the general attitude towards environmental issues was conscientious and engaged. We find that much of the variation in residents' acceptance of the building of the desalination plant can be explained by their perceptions of procedural injustice.

We argue that the consultation process over the Wonthaggi plant could have involved less conflict had the Victorian Government and developers provided residents with voice in the development of the desalination plant process from the outset. Further, the government should have paid more attention to the views of people in the region, and hence, the established expectations of the residents.

More generally, further investigation into the role of historical and political factors in analyses of procedural justice is necessary in order for a comprehensive understanding of why rural and regional people support some projects and reject others, rather than discussing stakeholder dissent as primarily a product of the NIMBY syndrome.

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