

Governing the use of water: the institutional context

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Abstract

The use of water presents an inherent problem for governing, and this paper brings a political science perspective to bear on institutional questions which arise in relation to recycling. Here, “institution” is not to be equated with “government organization”: the paper draws on institutional organizational analysis and social construction analysis to show that the governing of water use should be seen not as a technical response to an unambiguous need, but as the outcome of a continuing and complex process of institutionalization. It briefly outlines the “traditional” institutionalization of water use in Australia, and the way in which this has been challenged by rhetorics of managerial control, goal specificity, market forces, and public accessibility, all of which underlie the recent National Water Initiative. In this context, recycling has to be seen not simply as a technical alternative to present practice, but as a challenge to the existing institutionalization of water use, particularly in respect of the place of water users in governing of water use.

Keywords: Institution; Social construction; Governance

The technology is there, and there are certainly more efficient ways of using water, but the social challenge of getting people out of inappropriate places and inappropriate practices is huge. It is not a technical issue; it is a human issue and a political one [1].

1. Water use as a problem for governing

The use of water has always been a fundamental question in the governing of human

society. Where — and how — people lived has always depended on the way that they could work collectively to regulate access to the supply of water, the ways in which it is used, and the ways in which it is disposed of. These collective arrangements take a variety of forms and become embedded in social practice and community norms; they are not reducible to the ‘policy decisions’ of ‘the government’. In this sense, the governing of water use is always problematic, but

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the problem is managed in a variety of ways, which time and familiarity tend to make obscure. They are “institutionalised” and become part of normal expectations. The question is how these institutionalised ways of managing water use can be changed, and this takes us back to where they come from in the first place. This is the aspect of recycling to which this paper is addressed: the institutional context within which the discussion of alternatives takes place. It emerges from working with engineers engaged in urban water research, particularly on recycling, and (as a social scientist) raising questions about the institutional dimensions of water use and management. Although the primary focus has been urban water, this has impelled us to look at non-urban forms and to consider the nature and significance of the differences, which are reflected in this paper.

The concern with recycling is part of current questioning of the way in which water use is governed, and reflects a broader uncertainty about the institutional base for public authority. We can see it as having both a hydrological and an institutional dimension. The hydrological is perhaps the more prominent: it emerges in concern about the sustainability of present consumption patterns. The increasing population, particularly of the capital cities, generates a steadily rising demand for water, and at the same time a rising demand for the disposal of wastewater [2]. Recycling offers a way of taking the pressure off both the “supply” and “disposal” elements of the pattern of water use management.

The institutional dimension of this rethinking is perhaps less evident. It embraces the three constituent elements of institutionalization: the organizational base, the shared understandings, and the underlying values (discussed below). The traditionally dominant organizational structure for water management in Australia was the statutory authority, run by the technically qualified, with a monopoly function, extensive power to tax and regulate, and somewhat insulated from the

authority of Parliament and the Cabinet. Since the 1980s, this organizational mode has increasingly been under challenge in a variety of ways. The “ideas base” was changing also, as the former concentration on ensuring a reliable supply and removing the waste was supplemented with concerns about sustainability and the environmental impact of this pattern of water use. There was also a shift in the underlying values, with more awareness of the externalities of water use practices, and in a broader sense, less willingness to “trust the experts”, and a greater demand for accountability and community participation.

Thus, the problem was not simply how to manage recycling, but in a broader sense, how the possibility of recycling took its place in this pattern of institutional stability, contest and change. This work locates the issue of recycling within an understanding of the institutionalized ways of managing water use, and the ways in which these are established, sustained, and changed.

2. Government and governing

Talking about the “governing” of water use implies a “governor”, and the discussion is often complicated by the (often unspoken) assumption that the governing is the work of an actor called “the Government”; the task is to ensure that “the Government” makes the right choices. This reflects the dominant presentation of the process of government in terms of the making and execution of decisions by authorised leaders — a vertical picture of governing [3]. In this perspective, attention is focused on the choices made by government, the outcomes that may follow particular choices, and on the optimal choices that the government should make.

This is a common sense way of talking about government and policy, but it is not a good explanation of the practice of governing. For instance, discussion of higher education policy refers to the

aims of the federal government for the Australian university system. But it is clear that the various institutions of higher education were established by various governments (usually state rather than federal) or by non-government bodies, for a variety of reasons, and that subjecting them to a common regime (the Unified National System) is a continuing project, not an accomplished fact. It is clear, too, that the establishment of (for instance) a new medical school is an outcome of a long struggle involving different agencies of government, each with their own concerns, professional associations, local bodies, and political leaders with divergent agendas. The outcome may have to be approved by the Cabinet, and will be presented as a government decision, but this is a discursive convenience which legitimizes the outcome, rather than a good explanation of how it was achieved.

In the same way, to talk of a water system is an exercise in construction. Humans interact with the water cycle through a range of practices, often largely unnoticed and part of the taken for granted which underlies ordinary life. How water is trapped and distributed, what happens to rainwater, and what is done with wastewater, all of these are patterns of practice which become stable over time and become institutionalised in ways which vary among places and over time. It is this pattern of institutionalized practice that is referred to as the “water system”.

To talk about the water system is a way of constituting the reality which is to be dealt with: drawing hydrological forces and complex and diverse patterns of human activity into a whole which can then be discussed and made the subject of policy. It is, of course, necessary to do this so that we can talk about the management of the human interaction with the water cycle, and the place of policy in this. But it is equally necessary to be aware *that* we are doing this, and *how* we are doing it. What things are included in the map we draw? What assumptions does it rest on? And what are the ways in which practice is insti-

tutionalized, and how can institutionalized practices be changed?

3. Governing water use as an institutionalised practice

Thinking about the origins of the institutionalized practices which govern water use takes us back to one of the basic questions of the social sciences: why do people cooperate? One widely accepted response is that they work together to achieve common goals: in order to achieve pure water supplies, people cooperate to set up town water systems; in order to hygienically dispose of waste, they cooperate to set up sewerage systems; etc. This focuses attention on the shared objective — what do people want to achieve, and is this the best way to achieve it? — and underlies a presentation of policy as authorized choice: what governments decide to do [4]. This is a very plausible account because it rests on our perception of ourselves as rational, utility-maximizing individuals. The logic is clear, though the evidence that people do have common goals, and cooperate in order to achieve them, is less clear.

March and Olsen [5], making the case for an institutionalist approach to political and organizational life, argue that while this goal-seeking account (which they term the “logic of consequence”) is clearly important, it can be contrasted with a “logic of appropriateness” where the question is not how do I achieve my objectives?, but what is the appropriate thing for me to do?, addressed in this way:

- What sort of situation is this?
- What sort of person am I?
- What does a person like me do in a situation like this?

In this context, the answer to the question, why do particular institutions for governing water use exist and survive?, is not so much because they deliver the desired outcome to the people whose cooperation makes them possible, but

rather because people find it appropriate to act in ways which sustain them.

This, of course, simply shifts the question down one level: what makes behaviour which supports institutions appropriate? Institutional analysis sees three basic elements of institutions: what people know, what they value, and how they are organized. Scott labels these dimensions the *cognitive*, *normative* and *regulative* pillars of institutions [6,7], and the dimensions interact with one another: what people know is related to their organizational position, their organizational position affects the way they value things, and their values have an impact on the knowledge they acquire. From this perspective, institutional organizational analysis addresses not only what happens in particular organizations, but also how different sorts of organizations in the same field have an impact on one another — the “organization of societal sectors”, as Meyer and Scott [8] put it.

This is a helpful approach for the analysis of the organization of water use, which is the result of a complex interaction between a number of participants, some of them recognizable stakeholders, others more dispersed and less organized. We can see a traditional pattern of urban water management in which the dominant perspective — Scott’s cognitive pillar — is industrial: the task is the supply of usable water and the disposal of wastewater, and the relevant knowledge base is engineering. This meshes with an organizational framework (Scott’s regulative pillar) in which technical experts have a dominant place — the classical Australian statutory authority, usually a monopoly supplier with strong regulatory powers that enjoys a high degree of autonomy of elected officials (ministers and parliaments). These two dimensions of the institutional framework are supported by the dominant value-set (normative pillar) which stresses the expansion of human settlement, the exploitation of natural resources, and respect for the judgment of technical experts. This, it can be argued, was

the dominant institutional framework for urban water management for most of the 20th century.

In the closing years of the century, though, all dimensions of this institutional framework came under challenge. The organizational dominance of the technical experts has been contested by political leaders, central agencies of bureaucracy, and resource management agencies, as well as by the non-experts who are often appointed to manage the water utilities, and by organized outsiders such as environmental activists. These changes in the regulative pillar are matched by cognitive changes. Knowledge about demand management, marketing, outsourcing and consumer behaviour, as well as discourse about externalities and environmental impact, contends with engineering-based knowledge about supply and treatment; and the normative dimension has been transformed by the rise of managerial approaches to government, the growing concern about the environment, and the demand for greater public participation in government.

In an institutional perspective, these changes are seen to be linked to one another: the increasing attention given to environmental issues in relation to water management reflected the growing value placed on the environment and became significant as the organizational framework opened up and gave more scope for different interpretive frameworks to challenge the dominant paradigm of supply and disposal. This was not the result of a decision by some authoritative figure, but a change over time in the way in which activity was understood and normalized, that is, a shift in the institutionalization of practice.

This shift in the way that the governing of a public function like water use is organized — the “changing architecture of the state”, to use Cerny’s [9] apt words — has been paralleled by a re-thinking of what we understand by policy. There have been several strands in this. One is that the policy process is one of collective interaction, throwing doubt on the appropriateness of

models derived from individual choice. “It is unlikely, if not impossible, that public policy of any significance could result from the choice process of any single unified actor. Policy formulation and policy implementation are inevitably the result of interactions among a plurality of separate actors with separate interests, goals and strategies” [10].

Similarly, it was clear that policy was not the starting point of the governmental process, but in many ways the product of it: officials do not start with a policy and go out to implement it; rather, policy emerges from the way that they frame and address problems. For this reason, attention shifted from authorized statements (decisions, announcements, statutes, etc.) to the way that official activity is shaped — not only by official statements, but also by such things as organization charts, budget allocations, forms of accountability and patterns of consultation. Policy, said Schaffer, is “a structured commitment of important resources” [11]. This does not mean that policy statements are irrelevant, but that they are relevant because of the impact they have on the structured commitment of resources.

The implication of this analysis is that the governing of water use cannot be equated with bureaucratic structures or with official statements of policy, although both are likely to be significant; but governing is a continuing process, on a site that is always under construction. It has to be understood as the operation of a complex pattern of activity involving interaction as well as research, calculation and authorized direction. So we are driven to inquire into all the ways in which the use of water is ordered, that is, into the institutionalization of practice in relation to water use.

4. Established institutionalization of water use in Australia

While people may talk of the water system, the human impact on the water cycle has been

regulated through a variety of arrangements, not necessarily connected to one another. Many have no explicit connection with water, but are primarily concerned with (for instance) road-making or agriculture or housing. There are different regimes for different places, and these have varied over time. In particular, urban water use has always been more thickly institutionalized than rural. Australian agriculture was always more decentralized than English: the holdings were larger, agricultural workers lived on the farms rather than in villages, and farmers’ use of water was less likely to make an impact on their neighbours. The invention of corrugated galvanized iron made it easier for farmers to trap and retain their own drinking water, and they made their own arrangements about the disposal of wastewater. This decentralized form of self-management carried over into small rural settlements, with central water supply systems arriving as a part of urbanization, and centralized sewerage often coming even later.

In the towns, the supply of water for consumption was one of the earliest concerns of government. The existence of a good water supply was one of the main factors determining the site for settlement. In Sydney, successive governors struggled to keep the Tank Stream free from fouling by wandering pigs, tanneries, and human waste, but eventually had to bring in a civilian engineer to bring in a piped supply from the marshes where Centennial Park is now. As the settlement grew and municipal councils were established, these became the vehicle for water supply. In the late 19th century, however, epidemics of water-borne diseases led to the establishment of the Sydney Water, Sewerage and Drainage Board which took over these functions from the councils. In a similar fashion, the Melbourne and Metropolitan Board of Works was established in Melbourne, but in Brisbane, the City Council grew to keep pace with the expansion of the city, and responsibility for the water supply remained with local government. In each

case, though, the water authority was largely autonomous of direct political control, and tended to be dominated by professional engineers. In terms of the cognitive dimension, the question was seen as being primarily about the supply of “pure” (= drinking quality) water. It was seen in industrial terms: supplying the product and disposing of the waste. It was seen as a field where expert judgment was predominant. (Whether the relevant experts were health professionals or water engineers remained an open question and potential source of conflict.) This was also reflected in the normative dimension where the prime focus was on health and respect for expertise. There was also an element of entitlement in the normative framework: if demand was out-running supply, then the government (“They”) should find a way to increase supply. These two dimensions were reflected in the regulative dimension: the management of water was a state function, carried out through organizations run by experts and armed with monopoly powers (which extended, for instance, to determining which plumbers could work for householders and which fittings they could use).

In the context, the management of used water (“wastewater”) and storm water was essentially a by-product of other forms of management. Households used water; it then became wastewater, to be removed and disposed of. When the towns expanded, water supply tended to spread faster than sewerage networks, so household systems for the management of used water, like septic tanks, were common in outer areas, but this was seen as an indicator of their relative deprivation, and bringing all metropolitan areas into a centralized sewerage system became a significant political issue in the 1970s. In the cognitive dimension, then, it was seen as waste; normatively, it had to be removed and disposed of, and this was the responsibility of state agencies. There was no sense that any of the management regimes generating the waste — households or industries — were in any way part of the

management of the water cycle. So it is not surprising that in the regulative dimension, managerial responsibility for wastewater is also a by-product, added to the supply function: the state monopolies which supplied the water were made responsible for taking it away. (In Victorian country towns, the Water Board and the Sewerage Board were often constituted as legally distinct bodies, but tended to have the same membership and staff.)

Storm water was also seen as a by-product: cognitively, it was a by-product of development, principally road-making; normatively, it was seen as a by-product of human settlement, another form of waste which had to be removed. Responsibility for storm water (the regulative dimension) generally rested with local councils who were responsible for local roads and also for ensuring that new developments had adequate arrangements for drainage, but their concern was primarily conveying the unwanted water beyond the municipal boundaries. Land users, particularly the landowners and road-making agencies who covered the ground with impermeable surfaces, thus generating much of the storm water, were not part of the regime of water cycle management.

The use of water for agriculture was institutionalized in a different way. Cognitively, it was seen as a resource for agriculture, and normatively, it was seen as a free resource, available for use by any farmers that needed it. Farmers were able to trap water that fell on their land or divert water from streams that flowed through or past it. As irrigated agriculture developed, regulative structures were developed. Diversion came to be regulated by state agencies responsible for water resources, which issued licences specifying the volume of water that each farmer could take. These licences were regarded as permanent, and capitalized as part of the value of the land. In addition, there were state-organized irrigation schemes, where the state built a dam and a board of irrigation farmers

supervised its management and the allocation of licences under the scheme. Licences were not conditional on any other form of water management such as controls on run-off, and downstream users were not part of the regime.

5. Challenges to established institutionalization

In the last 20 years, the established institutionalization of water use has come under challenge from a number of different directions. Most of these have been felt by most public sector organizations.

There has been a managerial challenge in which the technical expertise of the technically qualified managers has been contested by the rhetoric of central control such as policy coordination, budget discipline and the whole of government perspective. These arguments are not only directed at the governing of water use, but also are part of a broader pattern (among most government in Australia) involving the expansion of central agency control over operational agencies [12]. The arguments were paralleled by changes in the regulative dimension, which brought water authorities under closer central control, and weakened the professional dominance which had been characteristic of them. The force of the arguments reflected changes in the normative base of public organization, with the traditional reverence for the expert being supplanted by the assertion of detailed policy objectives, and the claims of non-experts to be capable of the critical scrutiny of expert-designed programs.

This is closely linked to a push for increased specificity in the focus of public sector organizations. There was a (cognitive) argument that there was a danger of these organizations becoming too large and diverse to keep a clear focus on their objectives, and that they should identify their main concerns (core business), specify their objectives and avoid entanglement in any other

concerns. This was backed by a normative separation between the organization and the government, which was seen as the principal and the organization as its agent. The organization, therefore, should not be concerned about the public interest, but should seek to achieve functional efficiency in its own field: the public interest was the concern of the government, and if it wanted a public organization to meet some public interest goal, it should specify this as a Community Service Obligation for the organization (and pay for it in some way). The organizational (regulative) implication was that small organizations with clearly specified objectives were to be preferred to large organizations with comprehensive agendas.

This desire for specificity is also linked to a market-oriented challenge, which was focused on the position of water authorities as state monopolies. Again, this was part of a wider cognitive realignment in public policy generally, which sought to bring ideas from business management into the public arena. It was argued that having state monopolies encouraged rent-seeking, and that market competition would promote greater efficiency and heightened customer satisfaction. Applying this perspective to the organization of water management (the regulative dimension) was not straightforward, since the physical infrastructure was already in place and monopolistic in nature: a householder could not choose between competing suppliers. But water agencies could be transformed into corporations, or several corporations, and parts of their operations could be contracted out. Perhaps the normative implications of this challenge were its greatest impact: the application of commercial criteria in the evaluation of water agencies, and the defining of water users as customers.

These reform themes overlapped, sometimes reinforcing one another, sometimes conflicting. The demand for specificity and the desire for market relations came together to validate the breaking-up of agencies and the introduction of

contractual and quasi-contractual relationships between the centre and the functional segments. On the other hand, the desire for managerial control might not be congruent with breaking the public sector into discrete agencies with specified missions: the issues over which the centre turned out to want control might not be covered in the defined performance criteria. But all of them operated against the traditional autonomy of the technical expert.

Finally, the established institutionalization was challenged by a demand for what might be called permeability — the call for organizations to make clear statements of the basis for their operations, and to make space for outsiders to participate in discussions of policy and management. The established institutionalization assumed expert autonomy coupled with limited accountability to elected representatives. By the latter part of the 20th century, there was a demand both for the public codification of practice and for a greater degree of participation. The two demands were linked: the codification (e.g., publication of standards, specification of objectives, performance indicators, etc.) reflected the recognition of the legitimate concerns of other stakeholders, and set out the basis for dialogue. The shifting institutionalization could be seen in each of the three dimensions. Ways were devised for codifying practice and of consulting with stakeholders and the public, and these became part of the knowledge base of public officials and the stakeholders. They were also reflected in the procedures and organizational charts of public bodies — the regulative dimension. Arguments for transparency and public participation became part of the “taken for granted”, seldom challenged, because they are seen as expressing a normative consensus.

These pressures for change were sustained by a steady expansion of activity on the part of the Federal government through the establishment of agencies like the Department of the Environment (now Environment and Heritage), through grants,

and through expansion of the network of inter-governmental coordinating bodies and ministerial councils, culminating in the establishment of the Council of Australian Governments (COAG), a peak body for federal–state negotiation. In 1994 COAG endorsed an intergovernmental agreement on water management, which was followed in 2004 by the National Water Initiative. The 1994 statement was almost exclusively concerned, and the 2004 agreement largely concerned, with rural water use, and with turning customary usage into units of saleable entitlements, though the 2004 documents made some reference to urban use. There had also been a federal parliamentary inquiry into urban water use by the Senate Environment, Communications, Information Technology and the Arts References Committee in 2002 [13], reflecting the expanding policy gaze of the federal government. This cognitive activity also reflected the extent to which the normative base had moved, with deference to the expert being supplanted by respect for independent research and public discussion, as well as the higher value placed on environmental values relative to developmental ones.

6. Recycling as an institutional challenge

Seen in this context, the concept of recycling itself is a challenge to the existing institutionalization of water use. In cognitive terms, it frames the process as water cycle management rather than of water supply, generating a rather different set of tasks and calling on different skills. It also shifts the water quality focus from pure water to fitness for use, and gives rise to a range of new categories such as greywater and blackwater. This calls for a different way of thinking about health and risk in relation to water.

In organizational (regulative) terms, many questions are raised as to how recycling can find a place in an organizational world built around an industrial paradigm of supply and disposal. Is the

existing organization to change its character, or is recycling to be added on? Is recycling to be accomplished centrally (as in the existing system) or does it need to be done at the household or neighbourhood level, in which case, what organizational base is needed? What place would other stakeholders, such as health authorities or local government, have in these arrangements? How would the users be integrated into the structure?

The discussion of recycling is beginning to recognize these questions. The Senate committee report already mentioned gave a lot of attention to what it termed “fragmentation” (i.e., that there are a number of bodies concerned with the governing of water use), and also what it called “social fragmentation” (meaning that water users were not very committed to the course of action that the experts had worked out for them). The responses, though, tended to be couched in terms of a vertical model of government: there should be more direction, more organizational consolidation, and a National Policy — and, of course, more information for water users and consultation with them. The National Water Initiative of 2004, which combines a faith in the efficacy of market trading of water usage rights with an elaborate structure of government reporting and controls, simply states what governments have agreed to do. There is a small section at the end headed Community Partnerships and Adjustment, but it makes no mention of anything that could be called a partnership with the community [14].

It is not surprising that an essentially bureaucratic body like the COAG should see institutional change as meaning more bureaucratic bodies and processes, but to a social scientist, an institutional approach to this question does not see the task as defining clear objectives and identifying the appropriate body to achieve them. Rather, it sees the work of governing as complex and ambiguous, an assembling of a pattern of order from a range of bodies of knowledge, problematizations, and technologies of rule [15]. It recognizes that there are many values and

objectives in government, and that they are expressed in a variety of organizational forms; conflict between these forms, then, is not a failure to be rectified, but a part of normal practice, to be managed.

Here, the institutional approach stresses that the different elements of institutionalization are connected to one another. It is not simply that there are different organizations involved in the management of water use — supply authorities and road buildings and local environmental groups, for instance — but that these organizations know different things, and they value different things, so they may come up with quite different accounts of the same situation. When householders are not swayed by a new scheme which the experts have worked out and presented to them, it is not simply that they need more information (cognitive); it very likely reflects the fact that they were marginalized in the process of problem-definition and solution-search that led to the scheme (institutional) and consequently feel suspicious of the scheme and its advocates (normative). Seeking to change this situation, then, is not something that can be done simply by pouring in more information.

In this context, attention to organizational structures is important, not because we need to find the correct organizational form which will eliminate this conflict, but because there is a need for better ways of linking organizations, and for effective ways to incorporate users into the picture. Reformers tend to start with the preferred solution, and work back to an organizational format which will (it is believed) produce it — usually the imposition of hierarchy. As one stakeholder told the Senate inquiry, “It needs somebody to bring all the parties together, knock their heads together and say ‘Okay, what are we going to do?’” [16]. The assumption is that “we” are all primarily concerned with recycling, but it is more likely that “we” all have quite distinct concerns, and recycling is the point at which these concerns intersect. As public administration scholars have

long recognized, here are competing and equally legitimate bases for public organization. Organizations or their component parts may be built around purpose (e.g., health), process (e.g., water supply), place or people (e.g., Aboriginal affairs). Whichever way you draw the organizational chart, there is still plenty of scope for cross-cutting claims. The question is how much scope there is for the various participants to come together and negotiate an outcome that each can support, and this is where policy themes like information sharing are important because they help to establish a shared cognitive ground. In the same way, the quest for a National Water Policy (another policy theme of the Senate inquiry) could be very valuable, not because the document that emerges will tell us what we are going to do, but because the process of developing it will generate a body of shared language and understanding, and to an extent, a degree of trust among the diversity of stakeholders who have to be part of the collective outcome.

The great institutional absentee at the moment is the water user. In the established institutionalization, the role of the water user is to turn the tap on and off and to pay the bill. Many water reform schemes envisage some role for the user in bringing about change, but there has not been a great deal of thought about what sort of institutional change this might mean. One approach is to appeal to the hip pocket: the belief that tactics like usage pricing and special offers on efficient shower roses will turn domestic users into more efficient consumers. The National Water Initiative called for “development of national guidelines for customers’ water accounts that provide information on their water use relative to equivalent households in the community” [17]—the only recognition that the decisions of non-agricultural water users might have some impact on water use. Recycling calls for a more active role for the user (or perhaps groups of users). Even the modest step (adopted by my local council in Sydney) of requiring new houses to

install rainwater tanks and use them to flush the toilets raises questions of maintenance. But users have not been required (or permitted) to play an active role in the past [18], and there is a strong view among some experts that users cannot play an operational role in the management of water use. As one told the Senate inquiry, “... I do not think that you can put day-to-day operational management responsibilities on unincorporated community groups who can only do it in the weekend. It simply will not work” [19].

To experts, users lack the knowledge and the organizational capacity to manage a recycling scheme, but such evidence as there is suggests that smaller-scale recycling is more likely it is to be accepted than large centralized schemes [20], the question is how recycling at the household and neighbourhood is to be managed, and whether the traditional distinction between the knowledgeable, paid official and the ignorant member of the public is still viable. After all, householders do take responsibility for the maintenance of water quality in situations where there are significant health ramifications (i.e., with swimming pools); so do the bodies corporate of apartment blocks. LandCare operates on the basis that different stakeholders bring different sorts of knowledge to the task, and the paid participants are not the only knowledgeable ones. Taking recycling seriously calls for more attention to the institutionalization of users: what they know, how their values are taken on board (including the critical question of risk assessment) and how they fit into the organizational framework.

There is no quick fix in institutional change. It calls for an awareness of the interacting dimensions of institutions, and a realization that making changes on one dimension (more information, or trying to build up consciousness, or creating a new organization) may have little impact unless it is linked to changes in the others. And the task is not to get it right so that further change is not required, but to do it better: institutional change is always a work in progress.

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