Chapter 9 – Public Regulation

In the past couple of decades the clear evidence of resource depletion has resulted in a myriad of regulations attempting to control the harmful nature of our resource use. In 2001, Arthur and Jeanette Conacher, published an ambitious examination of the planning and management responses and solutions to the range of problems and issues associated with resource allocation, land use and environmental degradation in Australia. They complained that:

> *…the rapid and uneven rate of changes in legislation, policies, agencies and nomenclature across all jurisdictions, often associated with changes of government and reform processes, has been a significant problem in researching and writing this book.*
>
> *(Conacher and Conacher 2001, pxxv)*

In 2000, we conducted a review of Australian regulations and identified over 300 State and Federal Statutes with an environmental protection purpose (Martin and Verbeek 2000) including:

- Environment Protection Acts at Federal and State levels, and anti-pollution laws, together with detailed regulations to implement them;
- Licensing of discharges and use activities;
- Tighter controls over activities with substantial environmental impact such as land clearing;
- Local government regulations such as zoning, house and site requirements, and various health or social amenity requirements;
- Rules dealing with issues such as fire control, or health rules designed to protect water quality which have a significant environment protection aspect.

As well as specific environmental laws and statutes, much other regulation contains natural resource use controls, such as those found in industry specific legislation governing land and water use, the management of national parks, the governing regulations of agencies, and other sources. There are also supportive codes, such as State planning codes and policies, which give effect to higher-level policies. Our review showed that there is certainly no lack of formal law to support sustainability management, but that this law is confusing and often difficult to understand.

Non-government groups often press for more regulation to address particular issues. However, their faith in regulation is hard to justify. Our review of the effectiveness of regulations leaves us less than sanguine about the value of more regulation *per se*. It is hard to say that the existing suite of regulations is effective, or to find too many gaps that need to be filled in the network of rules. Effective regulation is likely to be efficient (low transaction costs), and implemented within a framework of policies and strategies that support and strengthen it. It is not a good ‘solution’ to natural resource abuse in its own right. We are inclined to agree with N Nelissen in his 1998 review of environmental law in the Netherlands (1998). He concluded that:

- Environmental legislation alone is not capable of solving environmental problems, or significantly reducing them;

- But, without environmental legislation, the environmental problem would probably have been considerably worse than it is now.
- The role that environmental legislation plays in attaining environmental goals is difficult to isolate from other influencing factors (particularly political, economic and social factors)
- Taxes seem to be a particularly effective policy instrument; subsidies, on the other hand, seem to be of little consequence.
- Consensual instruments in the form of covenants are only effective in certain instances, especially when obligations to achieve specified outcomes have been included.

Sustainability laws are relatively new to our culture. They are counter to our more exploitative and individualistic values and behaviour. While many people understand the need for environmental laws, their creation and implementation is hampered by a lack of a community belief system that tighter regulation is needed, or that the priority given to protection of the environment is fully justified. The focus is too often upon the law being the problem that must be solved, instead of the law being merely a symptom of the failure to tackle underlying sustainability problems.

Creating regulation

Public regulations are legal rules based on laws created by government and administered by government agencies, which have the power to impose penalties or withhold access to resources. Agencies include policing agencies - such as the Police, the Environment Protection authority or local government inspection and compliance sections - and land or resource management agencies – such as Lands Department, Department of Mines, and fisheries Departments.

As we noted in the previous chapter, the distinction between private and public regulation is not absolute. All laws – civil or state - operate as part of a social system which regulates the behaviour of individuals and organisations to meet the needs and interests of the community. Over time, the beliefs that underpin successful regulations become embedded within the behaviour of society and become part of ethical frameworks. Examples of this evolution include beliefs about slavery or child labour, which were in part shaped by the laws outlawing once traditional labour practices. In addition to these longer-term interactions, there are many regulations where citizens have direct standing to take action, and there are regulations which impact on legal actions between citizens.

The creation of legislation is triggered when information enters the parliamentary decision process in the form provided by the advocacy group(s). This might be through formal means like submissions and petitions, through enquiries by Parliament, the media, or direct contact with politicians. Typically this information flow is substantially mediated through the bureaucracy. The information is then changed – distorted, or interpreted – in the parliamentary system in both the advocacy and the political process.

Between advocacy and implementation, there are many opportunities for distortion of intent and outcome. This is particularly when the issues are new and there is little experience about the difficulties that may be experienced in implementation, and little

agreement in society about the necessity for the legislation. Those who provide information include the media, power brokers, attitude research companies, government agencies and lobby groups. There is no guarantee that these groups will be operating from the same information base, or define issues in the same way. Information accepted by parliamentarians is dependent on believability, which in turn depends on the belief systems of Parliamentarians or the arguments advanced. This filtration process was discussed in Chapter 2.

As draft legislation goes through the political processes it is refined, distorted and manipulated, and overlaid with political data that includes perceptions of what voters will value, budgetary implications of various choices, information about impacts on allies and enemies, and rumour and horse-trading[1] associated with the parliamentary system.

Out of this morass, adjusted through the judgements of politicians, their advisors and technical experts, a 'problem in need of a solution' is defined. Any environmental problem can be defined in different ways, and this impacts on the solution that will be sought: The destruction of a sensitive wetland can be defined as a environmental problem in need of regulatory intervention, an engineering problem in need of capital works, or a problem of political alliances and voter perception requiring a negotiation across a range of issues - of which the wetland is only one – or perhaps some "spin-doctor" investment.

Specialists in regulatory drafting are involved once many important decisions have been made about the approach to be taken. Most of the drafting inputs of specialists are legal and managerial, rarely are they behavioural. It is also the exception rather than the rule that the design of regulatory instruments is tightly linked to the budgetary and human resource processes of the agencies charged with implementation. Remoteness from stakeholders and implementing agencies raises the risk that what is designed may be technically good law, but impractical.

Note what is absent from this process:

Whilst the underlying aim of regulation is to ensure that society can respond effectively to challenges to its well-being (including resource threats) by adjusting its behaviour, the regulation-making system has no reliable mechanisms to objectively identify what needs to be targeted in the community to cause the change. Nor is there a way to determine the goals (and measure the performance) of the proposed interventions, or develop sophisticated and integrated approaches to behaviour change management; or supervise the implementation and outcomes of the change-making process it initiatives.

[1] There is a market for political power. That market operates through complex transactions. The outcomes are determined through political bargaining, which involves politicians, agencies who may have a stake in the outcomes, and "insider" stakeholders. Apart from the obvious political considerations, institutional issues such as departmental boundaries, budget availability, and the personal power of participants in the process, all determine what regulatory direction will be taken.

Implementing regulation

The creation of environmental regulation is typically a behaviour management action without a strategy! Unfortunately, the current system embeds a political winners/losers framework, which may result in swings in policy and difficulties in creating an integrated approach to cultural change or the implementation of a strategy on a sustained basis. The current system also does not build in a capacity to detect, understand, and respond to the signals of environmental damage, particularly if these signals are not converted into politically relevant messages by the media or stakeholders. It perpetuates chronic jurisdictional problems. The regulation-making process almost guarantees underlaps and overlaps, jurisdictional confusion, and a myriad of legislation – the weight of which inhibits implementation.

Effective implementation is effected by the choice of which agency to allocate responsibility to. When agency managers are confronted by new regulations, they will look at whether they have the resources and knowledge to implement the regulatory requirements. Resources are always in short supply. Agency managers will naturally try to fit the implementation of new regulations into ongoing operations and to structure that implementation into existing modes of agency operations. When effective implementation requires the agency to restructure then, potentially, the preference is to defer implementation until the organisation is ready to change its structure and processes, and may languish. Changing priorities requires both an incentive to change and knowledge about how to make that change – which may mean restructuring coordinating and control mechanisms within the organisation, or introducing new technologies for implementation and monitoring.

Effective implementation is also effected by the transaction costs designed in during the legislative stage. For example, if a regulation requires policing and prosecution it will ensure that the responsible agency will have to incur significant costs for every successful prosecution. However, if the design establishes a *strict liability* offence, uses innovative technology, or in some way transfers the costs to others – such as by full cost recovery policing – then the cost structures for the agency will be markedly different.

For agencies, a large part of the transaction costs of regulations are for detection and prosecution. Many regulations require agencies to detect the unwanted behaviour, and trace it to the perpetrator beyond reasonable doubt. To avoid wasting funds on unsuccessful prosecutions, enforcement agencies add decision rules that are often even more demanding, so that only those potential prosecutions with an almost certain likelihood of a legal victory are pursued. The effect of these management decisions is to require intensive and expensive detection.

The net effect of complex evidence requirements is threefold:

1. It requires substantial expenditure to put enforcement officers where they can observe offenders and collect evidence that will stand up to scrutiny;
2. It imposes a time and cost burden for each offence identified; and
3. It creates disincentives to prosecute and increases the incentive for “soft” policing, such as advisory notices or informal counselling. This in turn creates further disincentives to enforcement.

The role of courts

When a social welfare idea is new, there are few accepted norms for translating that idea into information that can guide actions about resource allocations. New ideas challenge belief systems (culture), and the institutional frameworks that control how decisions are made and actions taken in society. They also challenge the coordinating and controlling mechanisms in organisations that are set up to deliver appropriate information and trigger actions and the allocation of resources.

We can observe the tension between the two institutional systems – parliament and courts – and how that plays out in transactions costs and turbulent information flows. Both courts and parliament are institutions that convey messages about expected community standards. They signal the basic level of behaviour that is expected. Parliament has a greater role as a standard maker. The courts have a greater role as a standard enforcer. Whatever their roles, regulation is likely to be most effective when the two institutions send the same message.

The court system has a particular method of interpretation of regulations which may not follow the original intent of the law-makers, and this adds to the implementation transaction costs. Judges and lawyers have a shared knowledge about the right way of deciding points of law, and a shared understanding of how issues are defined and understood. This shared understanding does not necessarily encompass the challenges of sustainability. The courts are judging individual cases, where the results of their decisions can impact on the livelihood of many. A concept that is useful in political debate or in policy formulation may be too imprecise for application by the courts at this case by case level. Only through refinement do such concepts secure sufficient specificity to be applicable in detailed judgment. In the previous chapter we provided a examples showing how court interpretation of the meaning of sustainability principles may filter out data and information that could be relevant in making the application of these principles effective. In particular we noted the tendency of the courts to redefine these issues into economic sustainability considerations alone. We concluded that precaution about environmental damage is a concept with which the courts are less comfortable, than they are with dealing with economic rights of property owners.

The responsibility of the judge is not social change or natural resource management reform. It is to judge the particular instance, taking into account the evidence and the nature and extent of the harm. The perception of harm is partly a reflection of the judge's understanding of the arguments provided in the court, and the issues within these arguments. If judges are not aware of the severity of the consequence of breaches of environmental regulations, they are likely to adjust penalties downward, reducing the signalling effects throughout the system.

If judges impose substantial penalties because they determine environmental harm is serious, they also legitimise the policing task of enforcement agencies. Simultaneously, the judge's decision will feed back into the regulated community as a signal of the severity of the risk of financial loss for failure to comply with the law, and this will make the regulation more important and credible to the people being regulated. The end effect of a strong penalty is to elevate the importance of the issue to those being regulated. It is for this reason that it is very important that the legal community (judges and advocates) have a sophisticated understanding of the natural

system issues that the law is dealing with, so that they can understand the impact and significance of the harms being done to the natural system. Without this understanding they are likely to down-play the breaches of the law, and thereby weaken the signals to the groups whose behaviour it is intended to regulate.

This problem of courts experiencing an early failure to reflect what seem to be clear policy directives – is not unique to environmental law. In the early days of the Trade Practices Act, the courts had difficulty in translating concepts of economic policy into concepts for application in judgements. It took over a decade of experience for the courts to come to grips with concepts of market and competition. A similar tardiness was seen in the adoption of anti-discrimination laws. It may take courts some time to come to grips with sustainability principles. It is for this reason important that those with a social change agenda should not limit their effort to promulgating regulations, but should also consider how to ensure that lawyers and judges have a well-developed understanding of the implications of breaches, and of the significance of the environmental harms the regulation is attempting to ameliorate. Education is important not only for those whose behaviour is being regulated, but also for those who are intended to do the regulating.

Resource access

Thus far we have highlighted three factors that can limit the effectiveness of regulations as a means to drive change:

1. The intent of the regulation may be distorted in its promulgation;
2. Further distortions may occur in the court system if there is disagreement about the intent or meaning of the regulation; and
3. The impact of regulation is linked to its resource-shifting power. Thus an agency or organisation will be more likely to treat a regulation accompanied by a change in resourcing more seriously than one without.

Regulatory effectiveness relies on the capacity of government to take away resources or privileges from those who do not comply. Compliance is more likely to follow if the resource that can be taken away is of substantial value, and if the threat of removal is credible. But this compliance equation is not simple.

If the only way that someone can access a resource they value, like the opportunity to hunt, or to mine for jewels, is to breach a rule, such as a National Park rule, or rules against mining in a delicate riverbank area, then they will evaluate the probability-weighted chance of what they expect to win against the probability-weighted chance of what they think they might lose. The person, in effect, gambles on whether the regulation will be effective. The more that the unlawful use of the resource is considered socially acceptable, the less likely will be compliance. Popular examples of how the equation plays itself are the ineffectiveness of soft- drug regulation, minor tax avoidance and – past – efforts of liquor prohibition. In these instances the law-breaker is supported in their choice by the lack of strong social sanctions against the behaviour, and by the perception of a low risk of prosecution.

The risk-weighted cost of prosecution must be higher than the value of the breach of the law to the organisation or individual, if a regulation is to work. Thus, the factors to be managed include not only the level of formal penalty, but also the likelihood of the

penalty being imposed. Policing and prosecution are at least as important as legal drafting.

Most compliance with the law is voluntary, based on acceptance of the responsibility of the citizen to comply with the law. It is through perception of the legitimacy of the power of the state, and of its capacity to enforce meaningful penalties, that regulation has its effect. If individual beliefs conflict with the values embodied in the regulation, there will be conflict. For example, if those being regulated have a belief that 'you can do whatever you want on your own land', then a rule that prohibits action on that land will have to overcome such resistance to be effective. If a regulation requires a significant behaviour change, the signals will have to be far stronger than in situations where no belief-conflict arises. Credibility of the regulations within the community is important to the effectiveness of regulations.

If decision-makers do not have the capability to interpret and give effect to the requirements of the regulation, compliance will be weaker. Thus, if a rule requires that the regulated make complex technical choices for which they are ill-equipped, then compliance will be difficult and resentment more likely. If a regulation requires overturning existing decisions or power structures in an organisation, it will be less likely to be rapidly adopted. In many cases new regulations can require reversing past decisions, and developing the decision-making capability of those affected by the regulation. This is often the case with new sustainability requirements.

When regulations introduce new concepts, there will be a lag between the creation of the regulation and its acceptance. In the interim, those targeted face uncertainty and resent the imposition of the regulations. These factors increase transaction costs for regulators and may cause them to – in practice – modify the regulation or cease to implement it. For example, regulations requiring recreational vessels not to discharge sewage into estuaries have been often down-played by regulators because many vessels are without holding tanks, and because of the belief by many vessel users that receiving waters are not significantly effected by discharge. The capital costs of retrofitting, some safety concerns associated with this, and natural resistance to doing so, all act to retard implementation. Coupled with the practical difficulty of detecting breaches in regulation, it is easier for regulators to simply to ignore implementation until there are at least sufficient new boats with holding tanks.

Making regulations more effective

Based on the observations in this chapter, we advance the following conclusions:

- Regulations are not optimal strategies for behavioural change when issues are poorly defined, and social structures and belief systems are not in place to support the behaviour required by the regulations.
- It is possible to increase the effectiveness of regulations by allocating significant resources and penalties to their implementation, provided that there is clarity about the issues being regulated. Without this clarity, other social institutions, predominantly the courts, may override the effects of resource and penalty allocations.
- It is possible to increase the effectiveness of regulations by ensuring that complementary programs enhance the capabilities of regulators and the regulated

to implement the regulations. These include education and decision-making support in the early stages.

- Complementary programs that change belief systems of the regulated will enhance the effectiveness of regulations. Again education and communications are important alongside regulation.
- The extent to which the complementary programs will enhance the effectiveness of regulations will depend on the delay between the regulation and the achievement by both the regulators and the regulated, of capabilities for implementation.

To put it briefly, to make regulations work better their design must align with the underlying incentive structure of both regulators and the regulated, and the practicalities of being able to implement change. This is difficult in new fields, such as sustainability, but several tactics may be possible.

Fundamental to the design of a behavioural strategy to make regulations effective is a realistic assessment of the decision systems of the agencies and those whose behaviour is regulated, and a commitment to changing these systems to ensure that the regulation can work. To simply drop a piece of regulation into a network of decision-making systems, and to expect it to work, is an abdication of responsibility.

Regulations require resourcing to work

It is important to regulatory effectiveness to provide the resources needed to increase regulator and regulated capability, and for detection and compliance. The extent of this requirement depends on community attitudes, the nature of the matter being regulated, and the transaction costs of the regulation.

One method for achieving a reduction in the costs of implementation is to use evidentiary rules designed for easy administration. For example: use of exclusion zones in landscapes –in effect saying 'if you do the activity in this area, the offence is proven'; (strict liability). The act is the offence with no need to prove intent. Another approach is the use of rights to "aver"[2] – the enforcing agency claims sets of facts based on initial evidence, and the defendant must then provide evidence to overturn this. These kinds of designs restrict flexibility but are justifiable when the injustice that may be created from application of strict rules is small compared to the benefits that may be achieved.

Typically such situations arise where the environmental value being protected is very important, and/or where the inconvenience to the regulated group complying is small. The tactic should also be considered if there is less environmental harm and costs to the agency than a more complex policing mode.

Information flows should be planned

Information is necessary for good decision-making and action about resource use, and it is important - in the form of feedback - for actors in the social system to assess their performance.

[2] Widely used in tax-avoidance legislation

For these reasons, regulatory instruments should embody measurable goals and transparent reporting against these goals, enabling agencies and individuals to know what they should aim for and whether they are achieving their targets. It would improve regulatory accountability (and eventually performance) if resource regulations were to have specific outcome measurements and if regulatory performance were openly accountable to Parliament.

There should be an attempt to create an incentive for the regulated to make the regulations work. As we noted in an earlier chapter, where both the transaction costs of enforcement and the risks of failure all fall on the regulator, then the odds are stacked against the regulator. A better system is one in which the good operators in the system also have an incentive to assist the regulator to control the bad operators. This requires some care in design of the regulatory approach. One method is to have credible penalties, that will more than compensate the regulator for the transaction costs of enforcement. Another is to have a default outcome so that all of those in the regulated group are aware that if the regulation (or other control on abuses) proves ineffective, all potential harm-doers will be denied access, or have access only on very restricted conditions. The *Green Dot* program we have already described is a useful illustration of this principle. The incentive of German industry players was to make the *Green Dot* program work because the default position was a more onerous industry regulation system.

Regulatory design should also acknowledge the possible contribution of technology. Technology can be used to reduce transaction costs –for example speed cameras and parking meters provide this in traffic management. It is possible to insert "traces" and dyes into chemicals or liquids, to have genetic or chemical or electrical signatures, and to use automatic metering and monitoring to reduce supervision costs and increase the certainty of identification. "Privatised" monitoring – where a private agency provides the technology and obtains a share of the penalties – would remove the investment risk of providing this capital from policing agencies. The EPA has successfully used this approach in managing electricity generation emissions in NSW.

Regulation and markets

Using regulations to encourage sustainability is expensive because of the cost of the judicial and the parliamentary systems, and costs to the agencies and those regulated. The high cost is the reason why some people argue that regulations are not effective means for achieving social change. This is part of the reasons for the call for de-regulation and for more emphasis on market-based instruments as the major drivers of change. However to look at the costs of regulation and on that basis determine that regulation is not a cost-effective strategy for promoting sustainable resource use, would be misleading.

Society uses regulations to ration scarce resource, or protect valuable resources from the impacts of exploitation, such as pollution. Regulations, such as the NSW Environmental Planning and Assessment Act (1979), which requires Environmental Impact Statements, control immediate exploitation, or require the exploiter to bear some, if not all, of the costs of harm to the environment. These regulations redirect effort towards resources that are less scarce, or to resources where the secondary costs (externalities) will be less, or to technologies that improve the cost-effectiveness of resources or reduce the side effects of resource use.

Regulations support transactions society wishes to encourage and in effect tax activities it wishes to discourage. Taking this view, the regulatory cost imposed on organisations is also a mechanism for exercising control – by making it more expensive to sail close to the wind where community values are sensitive. When we judge the cost-effectiveness of regulations without taking into account their systemic effects, we ignore their contribution towards encouraging sustainable behaviour. When we take a purely economic perspective on regulation, we assume that economic efficiency is the collective end of social activity. This is clearly not the case.

Similarly, if we listen to some advocates of law you could be misled into believing that the legal system is efficient, and that it is this system that is the source of much of the liberal reform in society. Within this framework calls for a more economic approach are often dismissed as ill-informed. Such a purely legal perspective is blind to the substantial costs and inefficiencies embedded within regulatory strategies. Narrow assumptions about the role and interaction of law and economics are both incomplete reflections of a more complex reality. Without regulatory underpinnings, market mechanisms and common law would be largely ineffective. Society stands behind these mechanisms through the medium of regulation. Indeed, they are a special case of regulation. However, the pressure to find more cost-effective ways to pursue social and environmental responsibility, and greater flexibility in the instruments we use to do so, is a well justified and positive force for innovation.

Society has embedded a tension between economic responsibility and other types of responsibility of resource managers. Society simultaneously expects managers of natural resources to deliver at a very high level on all value dimensions – social equity, resource governance or sustainability, and financial performance. Why should society expect less of those whom it entrusts with the use of its finite resources?

We have now looked at the range of options that are available to us in pursuing a system reform in our society, to begin to tackle the hard problem of reducing our pressure on the earth to such a degree that we can contemplate economic and population growth, but without threatening the interests of the future generations. It is now time to begin to assemble these components and concepts into strategies for sustainability.

References

Conacher, A. and J. Conacher (2001). Environmental Planning and Management in Australia. Melbourne, Oxford University Press.

Martin, P. and M. Verbeek (2000). Cartograpahy for Environmental Law. Sydney, The Profit Foundation Pty Limited.

Nelissen, N. J. M. (1998). "Environmental Policy Instrumentation in the Netherlands: Comments on Three Decades of Development." Greener Management International **Summer**(22): 30-45.