Regulatory tools: a literature review

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This review sets out to:

1. Unpack the generic nature, scope and purpose of regulatory tools;
2. Review the development of influential regulatory tools and methods that are used in everyday practice, signposting the individual tool reviews that have been carried out;
3. Identify where and how the ecosystems approach and attending ecosystem services framework have been used in the refinement and enhancement of regulatory tools.

"A regulation may be defined as any instrument by which governments, their subsidiary bodies, and supranational bodies (such as the EU or the WTO) ***set requirements on citizens and businesses that have legal force****. The term may thus encompass a wide range of instruments: from primary laws and secondary regulations to implement primary laws, subordinate rules, administrative formalities and decisions that give effect to higher-level regulations (for example, the allocation of permits), and standards. Regulations may emanate from non-governmental or self-regulatory bodies to which governments have delegated regulatory powers."*

(OECD 2010: 9)

The above quote captures both the complexity and importance of regulatory tools. As top-down functions and expressions of state power, they are used as explicit interventions in policy and decision-making processes in pursuit of specific societal benefits usually not achievable through normal market based mechanisms. The tools and instruments available are wide ranging, covering legislation, licenses, circulars, permits, regulations, registrations, administrative guidelines, directives and codes of practice, which collectively construct a regulatory architecture for public, practitioners and policy makers to abide by (Seik 1996; OECD 2010). In the context of this work on the ecosystem approach and ecosystem services, regulations enable parameters to be set by governing bodies to achieve certain environmental goals and benefits (Ballantine and Devonald 2006). However, as Ballantine and Deonald (2006) recognise, with contemporary changes in consumer demand, new technologies, inter-dependencies in global markets, economic restructuring and policy failures associated with market liberalisation and re-regulation, there is a risk of inadequate regulatory systems which fail to understand and capture the complex multi-scalar and political environment within which regulation occurs (Freiberg 2010).

Indeed, in seeking to unpack this complexity and diversity of tools and instruments, Black (2008) suggests that regulation is something far more expansive and encompassing than just laws and rules. It is more about *"… sustained and focused attempts to change the behaviour of others in order to address a collective problem or attain an identified end or ends, usually through a combination of rules and norms and some means for their implementation and enforcement, which can be legal or non-legal"* (p.139).

Here, regulation forms part of wider governance and institutional processes within which policy and decision-making occurs (Ostrom XXXX). We use these ideas as the starting point

for our consideration of regulatory tools and we focus on using existing literature to contextualise and characterise a selective number of tools that help improve the regulatory process and outcomes.

Freiberg (2010: 24) presents a powerful and clear taxonomy of regulatory tools of government within which we can start to understand the complex nature of regulatory environments. It is this framework we use to help unpack the regulatory tool environment.

1. Economic Regulation

This form of regulation is one requiring intervention in markets to safeguard and protect the public interest as a result of market failure (Stigler 1971; OECD 2001, 2010). This occurs when the price mechanism that regulates supply and demand will not be sufficient to deliver politically desired outcomes equitably and efficiently. Here, natural monopolies and external costs such as environmental externalities are the most prominent types of market failure. The most common interventions by government may be to introduce taxes or outcome-conditioned payments, create missing markets (such as markets in pollution), break-up or regulate monopolies (or punish collusion), improve information flows, or take over provision of public goods or essential services that otherwise would be under-provided. In the UK context we see regulatory agencies established to address these potential abuses, for example OFWAT, Environment Agency and Natural England. This can include taxes, grant payments or tradeable permit schemes – which are covered in more detail under our **incentives tools review**.

There are, however, inherent dangers of regulatory capture in the pursuit of economic regulation by the creation of regulatory agencies (Stigler 1971; Peltzman 1976). This arises from arguments that regulatory agencies of government do not always protect the public interest; rather they may also (or instead) work for private interests who can exploit regulation as a way of enhancing profits.

2. Transactional regulation

This is becoming increasingly significant in the extensive use of privatisation and contractualisation in the delivery of public policy. In the Localism Act (2011) for example, they are seen as key mechanisms of delivering the public interest. Freiberg (2010) defines this as *"regulation that occurs through the direct interaction between parties via a contract, grant agreement or other financial arrangement under which the parties have a right to enter into the arrangement or negotiate its terms"* (p.8).

Increasing support is being mustered to enable local communities to take over local services and assume greater powers such as the right to build (DCLG 2012). However, transactional regulation does not require direct legislative authority and rests primarily on the general concepts of contract law. Another useful example is within agri-environment payments under the Rural Development Regulation, operationalised by the government in England within rules from Brussels. Section 106 legal agreements are also a common form of planning mechanism used in this way.

3. Authorization as Regulation

This form of regulation is perhaps the oldest and is seen as a token of trust to enable citizens to get on with their daily lives (Freiberg 2010). This is designed to protect the public interest by the state authorising particular activities, premises or products through a range of tools associated with licensing, permission, registration, **certification, accreditation** and litigation.

For example, **supply chain stewardship schemes** comprise a diverse group of accreditation mechanisms intended to certify that products of services transparently meet published sets of standards. The most rigorous examples require independent auditing that standards are met. These include, for example, Forest Stewardship Council (FSC) requiring certification from sustainable and equitable forestry practices rights through to manufacture of finished forest-derived products. The Marine Stewardship Council (MSC) scheme emulates FSC but addresses capture fishery products, whilst the nascent Aquaculture Stewardship Council (ASC) is seeking the same for aquaculture products. In farming, the Organic standard is also well-known and independently verified. Other certification schemes are self-certifying, entailing lower transaction costs but arguably at the expense of rigour (Everard 2012).

4. Structural Regulation

Structural regulation refers to tools that are designed to produce regulatory outcomes by removing or limiting choice and structuring behaviour in such a way that people have no choice at all but to act in accordance with the desired regulatory pattern or face sanctions. Here, the focus is then on designing the regulatory environment in which people operate. This has close linkages with legal regulation.

As an example, the design of the built environment can influence the way that people behave. Physical design restricts or shapes movement through tangible objects or properties, environmental design seeks alter behaviour by altering attitudes. This has perhaps most notably been the output of work focusing on the reduction of crime and anti-social behaviour through urban design (see, for example, crime prevention through environmental design in a European context) and changing traffic behaviour by intelligent spatial planning in urban areas (e.g. Hamilton-Baillie & Jones 2005).

The design of buildings, streets and green infrastructure can affect whether people will travel a particular path and the amount of traffic on that path. For example, the use of **green belt zoning** has had a profound effect. Based on government circular 42/55, this seeks to regulate development that could lead to the coalescence of settlements; in effect, standardising cities as areas ringed by contiguous green space. Since its inception, the policy has had small scale incremental change but it is still in place today as the cornerstone of the British planning system (DCLG 2012). The focus of the green belt on limiting development to maintain separate cities has, however, had some unforeseen consequences in terms of undesirable social and environmental justice issues (Elson 1991). Furthermore, as with the general critique on regulations, it does not promote positive use of the space. This has led to some commentators such as Elson (1993) and Scott (2012) calling for a review into their negative anti-development stance. This again speaks to a weakness of standards as a tool that can lack subtlety.

5. Informational regulation

Information is an indirect tool of regulation in enabling people to make improved decisions. For example, disclosure (e.g. fat content in food) and performance indicators (e.g. number of planning applications approved) all both part of an increasing and popular regulatory trend as **regulatory support tools** which provide a mechanism to help people reach particular decisions or policy directions (e.g. a **Strategic Environmental Assessment** supports the analysis of options for a particular plan, policy or programme – ensuring that environmental factors can be properly weighed in the final considerations).

One tool that is employed within the legislation which lies at the very heart of regulation making is **Regulatory Impact Assessment** (RIA). This 'regulation of the regulatory process' seeks to provide the policy-maker with a framework within which the consequences (costs and benefits) of possible and actual Government interventions in the public, private and third sectors can be considered (Kirkpatrick and Parker 2007; Gibbons and Parker 2012). This tool typically assesses the direct and indirect effects and burdens of new regulatory processes against not intervening, or making alternatives (Harrington et al. 2012).

Strategic Environmental Assessment (SEA) and **Environmental Impact Assessment** (EIA) perform a similar function with regard to policies, plans and programmes, and significant planning applications respectively. The major difference between RIA and SEA/EIA is that the latter is subject to more formalized boundaries and processes; with the relevant 'topics' for consideration, consultation requirements and outputs set down via regulation.

RIA, SEA and EIA thus seek to inform and support the development and implementation phases of legislation, plans, policies, programmes or specific developments (Eftec 2010). In effect, these and other supportive regulatory tools hope to provide a solid foundation on which to build more robust decisions. Despite these aims, there is significant evidence which suggests that these support tools have had a limited effect in improving decision-making (IEMA 2011). There are numerous reasons given; these range from the practical (time and resources available) to the conceptual (decisions are made outside of formal decision making processes such as SEA and RIA) (Munton 2003; Sheate 2012). There are also concerns that these support tools are seen as hurdles to jump rather than as useful, supporting processes (Eales and Sheate 2011). These issues and others have often limited the utility of supporting regulatory tools.

6. Legal regulation

Legal regulation reflects the traditional view of regulation as legislation. However, it is evident that regulation is far more than law, but law is a major form of regulation because it is a system of rules backed by sanctions. These work with structural regulation as **Levers** of control which favour the use of standards (for example, emission, product controls, process and equipment standards), planning and building controls (referred to as **Building Regulations**). Standards seek to ensure that minimum requirements are complied with as a means of regulating performance across a particular sector for example or area. Whilst standards do provide 'adequate' solutions, they are often constrained to limiting 'negative' aspects of a particularly activity rather than promoting good practice. They can also direct behaviour in a restricted way based on their intended primary function. For example, building regulations, with their focus on safety, have been criticised for a lack of emphasis on quality.

The Passivhaus standard provides an interesting and positive reaction to this (Passivhaus 2013).

Another regulatory lever is market based economic instruments such as the **Single Farm Payment** (SFP), which seek to internalise environmental externalities by affecting costs and benefits through a system of cross compliance. This is done so as to influence decisions and behaviour towards situations that are determined as more beneficial for society and the environment. These largely take the form of taxes (for example, **Community Infrastructure Levy**) which convey relative directness and perceived certainty of outcomes. Here the psychological use of power relations and authority derived from regulations which are compatible with existing administrative and legislative frameworks of government. However, this directness has limitations and regulatory tools are often not able, or designed to, address issues which cross administrative classifications or boundaries. As a result, there are unintended consequences from regulatory tools due to lack of consideration about their 'wider' spatial impacts (Leap frogging : Green Belts; Elson 1991: Inequity in neighbourhood plans from the localism act 2011;) .

Moving beyond these motivations, and in a way that mirrors the policy landscape, regulations cover an expanding breadth of economic, social and environmental agendas in pursuit of sustainability. This balancing of agendas, the so called 'triple bottom line' presents a particular challenge that regulatory tools are increasingly required to consider (Frank 2004 in Sheate 2010). In particular, the need to elevate the environmental interest into decision-making processes given its tendency to be overlooked in favour of more tangible economic factors (Spash 2008)[1].

However, when regulation is well-conceived and integrated within public policy and other tools such as incentives, it provides a greater degree of legal certainty and clarity and can address important market failures which can support long term investment decisions and drive behaviour change where incentives alone are not sufficient (Ballatine and Devonald 2006). Adams (2004) sees the regulatory tools environment as an attempt by the state to enhance the efficiency, equity and sustainability of market products and in so doing accords well with the core principles of the ecosystem approach.

Conversely, there is also potential conflict between a set of regulatory tools trying to do one thing when a set of incentive tools do another. For example Ilberry's (1991) study of Birmingham's rural urban fringe captured how green belt policies on the one hand restricted development but incentives for agricultural diversification through grants led to disintegrated policy (Scott et al. in press). Adams et al. (in press) have also shown how regulatory policy at the local authority scale contradicts with national government policy in the case of a permaculture dwelling in open countryside at Brithdir Mawr.

Indeed, as Wakeford (2012) has observed, if one looks at land and all the instruments that bear on it, there are many different, potentially conflicting and duplicating regulatory and fiscal incentives that determine the choices of use open to the tenant/landowner.

[1] See also the valuation tools literature review

Consequently, we can identify key drivers for effective regulatory governance (OECD 2010). These include:

- The need for solid research and evidence base;
- The need for strong institutional leadership and oversight;
- The need for clear accountability and transparency between private and public responsibilities for regulation;
- The need for strong consultation, communication, co-operation and co-ordination across all levels of government and beyond, including the international and neighbourhood arenas.

These drivers are not assured within the regulatory environment. Regulation needs careful control and management, given the attendant risks of moving costs between sectors and groups and the dangers of regulatory capture. The over-hasty adoption of inappropriate regulation could add unnecessary burdens, inhibit innovation and harm competitiveness and the open market. As Gibbons and Parker (2012) recognise, one must:

- Not presume that regulation is the answer to a problem;
- Take time and effort to consider and provide robust analysis of all of the policy options, including 'do nothing';
- Make sure they had substantive evidence to support the preferred policy option and ensure that it is properly referenced and sourced;
- Produce reliable estimates of the costs and benefits and assess the risks, costs and benefits appropriately;
- Assess non-monetary impacts thoroughly;
- Explain and present results clearly.

7. Use of Ecosystem Approach and Ecosystem services

There is significant interest in the potential role of ecosystem services within regulatory tools. The incorporation of the ecosystem approach and ecosystem services into policy, for example the UK's Natural Environment White Paper, EU Biodiversity Strategy and the International Convention on Biological Diversity, represents a vanguard of efforts to increase consideration of these issues within governmental actions and ultimately within regulation. As a result, they are becoming integrated into regulatory tools (Baker et al. in press). The breakdown into supporting, regulating, provisioning and cultural ecosystem services means that the environment can be more effectively incorporated into decision-making and this taxonomy helps improve the value component which has suffered under market failure conditions in decision-making.

For example, the recent review of the EIA Directive proposes the inclusion of 'ecosystem services' in the topics EIA must consider (though only those derived from biodiversity (Annex IV (4))). This directness is one of the potential strengths of regulatory tools in this area, though as seen in the proposed amendment Directive (COM(2012) 628 final), in the inclusion of 'biodiversity and the ecosystem services it provides' a potential concern if the

definitions are inadequate or even simply wrong (ecosystem services are not only derived from biodiversity).

Baker et al. (in press) identify two factors that are leading to this interest in incorporating ecosystem services into regulatory tools:

- Using ecosystem services presents a more complete, holistic and integrated consideration of the socio-ecological system;
- The ecosystem services concept is an effective framing of the environment in terms of communicating with and influencing stakeholders and decision-makers.

Crucially, these two factors address some of the weaknesses of this typology area. For example, the previously mentioned issues around unintended consequences – i.e. focussing on the implications of one specific activity at the expense of others – can be addressed via the incorporation of the ecosystem approach into the debate. This is not necessarily a simple process as shown in Sheate et al. (2012) and others (Slootweg et al. 2010; WRI 2011) but the integrated nature of the ecosystems approach does allow for the more effective consideration of indirect effects and a broader interpretation of the system under consideration.

With regard to regulatory support tools, it was previously indicated that these were more often seen as a hindrance rather than as a help – the ecosystem approach and ecosystem services has the potential to reduce this issue by better expressing and demonstrating the value of the environment, and hence of the need for its inclusion within consideration of regulation and policy.

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