

## Executive summary

Water resources management provides a broad suite of activities, of which water resources regulation is one, important set of activities. It is clear, from the current status of water resources and water resource use in South Africa, that regulation is failing, badly. In the Vaal catchment, it is estimated that the equivalent of the yield of Mohale dam is being stolen annually by certain farmers. Climate change threatens the reliability of water availability in already stressed catchments, and the reallocation of water to black South Africans is progressing with very slowly. There are serious challenges in terms of both raw and drinking water quality which are costing the country significantly in terms of foregone exports of crops, water-borne disease, death and lost productivity (especially in a context of HIV and AIDS). Water pollution in rivers has resulted in fish kills and deaths of crocodiles, and there are serious concerns about the impacts on human health of heavy metals, endocrine disruptors and toxins from cyanobacteria. Two of the most significant sources of pollution are municipal waste water treatment works (WWTW) and mines, both current and abandoned.

There are a number of regulatory processes in place to address these issues, but, for a number of reasons, with limited success. There is, amongst other things, a lack of clear analysis in the water resources sector regarding the definition, scope and limitations of regulation, and which instruments will be most effective in achieving the desired outcomes, particularly in a context of deep social inequity and limited government capacity. This report provides the first deliverable in a project aimed at assisting in understanding these issues, including a consideration of institutional arrangements, tools and approaches. The focus of this project is on technical regulation in the water resources sector, rather than economic or governance regulation, although the institutional relationships are a critical part of sound technical regulation.

A key subtext is that of water for sustainable growth and development in an increasingly stressed water resources management environment that is, and will continue to, experience significant future change (demographic, growth and climate). In this regard, improved regulation must provide certainty and stability for investment and development, be transformational in nature, ensure that the benefits of regulation outweigh the direct and indirect costs of regulation on the economy and fiscus, and ensure that costs are not indirectly carried by the poor, without the benefits accruing to them.

This report provides the results of a literature survey and a suite of interviews. The literature survey has looked widely at international theory and practice, and an attempt has been made to give particular consideration to regulatory approaches appropriate to developing countries and ones that have a pro-poor focus. What the consideration of literature and practice from around the world has shown is that the regulatory arena is no longer simply an arena of state action through the implementation of command and control regulations. The regulatory terrain has become far more complex and the suite of tools far more sophisticated in recent years.

A suite of players are involved in regulation, including government, the private sector, and citizens. This approach opens a number of opportunities for new approaches to regulation that draw on broader capacity within the society than simply the state resources. This is important in a context of limited state resources such as pertains in South Africa currently.

The state also has, now, a wide range of regulatory instruments from which to choose, of which four categories have been highlighted in this report: command and control, economic and market mechanisms, voluntary agreements, and information disclosure. What is very clear from the international literature is that the most effective approach will be based on a mix of these regulatory instruments, chosen according to the specific context within which they are to be applied.

It is, however, in the selection of the appropriate instruments and in the development of the appropriate regulatory policy, that significant challenges are to be found. The first of these challenges lies in recognizing that regulation is a site of contestation, and in balancing the competing interests that want regulation to serve their interests. Within this contestation for the regulatory space, it is important to recognize that bureaucrats are not neutral players interested only in serving the public interest, but often have their own links to specific interest groups and their own agendas to drive. Thus, the regulation of the bureaucracy by the legislature and by the courts is important to ensure that the regulatory policy is in the interests of the public and of national objectives. This process is hampered, however, by the informational asymmetry between bureaucrats and the legislature in particular.

The second issue is that of scale. A review of the literature has shown clearly that the issue of the scale or level at which regulation takes place can profoundly affect the outcomes. This is because different groups, and hence different viewpoints, have increased access to regulatory decision making at different spatial scales. Decisions regarding scale, therefore, are critical in the contestation for regulatory power. The issue of scale also raises the issue of how to balance regional or local flexibility with compliance to national objectives.

A third, and critical issue, is the issue of the distributional impacts of regulation. This is an area that has been given insufficient consideration, both locally and internationally. Worryingly, the little attention that has been paid to it suggests that environmental regulation is mildly regressive, resulting in higher costs being borne by the poorer sectors of society. This is an area that requires further research, particularly in the South African context of massive social inequity and pressures for redistribution. Further research is needed to understand what is required to achieve pro-poor regulation in the water resources sector.

A fourth and final issue is how to ensure that the regulatory framework is aligned to the capacity to implement. Developing countries, including South Africa, suffer from lack of regulatory capacity and a lack of good quality information to underpin regulation. Any regulatory framework must take these issues into account. This will require targeting regulation at areas in most need of regulation, rather than trying to address regulatory requirements across the board.

In the development of a regulatory framework, therefore, the following four questions should be considered:

**Why:** The first question unpacks the reasons for regulating, be it in the public interest, to avoid market failure, or for more murky reasons driven by vested interests and or regulatory capture. While the tendency of bureaucrats may be to expand and complicate the regulatory arena, in order to increase their own power, there is considerable evidence that such an approach may have negative impacts, particularly in a developing country context of limited resources to implement regulation. In constructing a regulatory framework, then, the issue of why must be taken very seriously, in terms of understanding whether a particular regulatory approach is necessary, and will be in the best interests of the society. Part of this examination requires an understanding of the distributional benefits (and disbenefits) of a particular regulatory approach.

**Who:** The second question raises a number of issues. It raises the issue of scale, and of decentralization, and at what level regulation is best designed and implemented, noting that interests, issues and impacts are different at different spatial scales. It also raises the issue of who influences the nature of the regulation, in whose interests. It raises also the issue of who is to be involved in the implementation, opening the door for community and private sector involvement in regulation, above the traditional view of regulation as a government activity.

**What:** The third question, building on the understanding of why regulation is necessary and in whose interests regulation is taking place, asks what is to be regulated.

**How:** The final question asks what tools are to be employed to regulate. This question can only be answered by layering the potential instruments over the answers to the first three questions. The issues of scale, capacity, and purpose, all influence what the most appropriate tools will be to achieve the regulatory objectives.