

Focus on CSIR Research in Water Resources

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Ecosystem Governance

The last two decades have been marked by a dramatic increase in global attention to the concept of governance, specifically in relation to the effective and sustainable management of natural resources. Issues of water governance have received particular attention, for example in relation to the provision of reliable water supplies as a catalyst for poverty eradication. Within the context of the Millennium Development Goals, and against a backdrop of an increasing frequency of water crises, ranging from widespread flooding to severe water scarcity, it is essential that each country (particularly those countries that face development challenges) should be in a position to ensure that access to water is available to those who need it most. This issue has been highlighted by the Global Water Partnership, which stated that the water crisis facing the world is in reality a crisis of governance.

The South African political environment has changed dramatically in recent years, and the central concepts of social equity and the right to a healthy environment are entrenched in the country's Constitution. These concepts are supported by several new laws that are based on the principles of sustainable development, for example the National Environmental

Management Act and the National Water Act. However, despite the highly desirable attributes of these landmark pieces of legislation, almost a decade after their promulgation South African authorities are still struggling to implement the requirements of these Acts.

Investigations by the South African CSIR into possible reasons for non-implementation of legislation and government tools reveal the pivotal role of governance issues. Importantly, the investigations indicate that an incomplete understanding of the importance of governance is a central reason for the lack of successful implementation. This research confirms the findings reported in the international literature that the concept of "governance" had not really been properly defined and fully explored. Countries and regions differ in their understanding and interpretation of "governance", whilst equally wide differences are recorded in countries that have different levels of socio-economic and political development.

During an *International Symposium on Ecosystem Governance* held in South Africa from 10-14 October 2005 an international group of specialists were invited to interrogate a 'Triologue' hypothesis for ecosystem



governance. Additionally, effort to unpack the so-called "black box" of governance, the specialists reviewed governance issues related to their areas of technical specialization and covering different levels of democracy.

Solicited manuscripts based on papers delivered were chosen for publication in a book entitled "Governance as a Triad: Government-Society-Science in Transition", published by the Springer-Verlag Water Policy Series (Turton et al., 2007). Furthermore, a special edition of the journal "Water Policy" will be published entitled "Case studies of Government-Society-Science as a Triad" (Hattingh et al. 2007).



Schematic representation of the Triad Model, showing its three elements and their interfaces

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The Triad hypothesis was based on research conducted by the CSIR and concluded that successful governance depends on six essential elements.

First, governance requires the existence of an effective:

- Science process
- Government process, and
- Society process

Secondly, governance requires effective interfaces between the three processes, namely:

- An interface between society and science,
- An interface between government and society, and
- An interface between society and science.

These interfaces have to be appropriately balanced and available in the right format, at the right time, in order to ensure 'good' governance. In essence, governance gives effect to democracy. Moreover, it is suggested that governance within fledgling democracies (i.e. typically in developing countries) differs from the situation in those countries with more deeply-entrenched or mature democracies (i.e. developed countries). An important difference is that in fledgling democracies the "rules of the game" still need to be defined and accepted, whilst in mature democracies the relationship between the six essential elements and good governance is more clearly evident. Although the CSIR's research fo-

cusses on integrated water resource management (IWRM), this can not, and should not, be considered in isolation. Several other important factors influence IWRM and help to shape ecosystem health. Consequently, the symposium took a holistic view of ecosystem governance, with the main objectives of the symposium being to:

- unpack the term "governance", through the exchange of ideas and experience between specialists from different disciplines and countries; and
- develop a research agenda on ecosystem governance.

The final product of the initiative is a research agenda based on the contributions and expertise at the Ecosystem Governance Symposium (the proceedings are available from www.waternet.co.za/ecogov/proceedings).

This symposium was undertaken in partnership with key southern African stakeholders - the Department of Water Affairs and Forestry (South Africa), Global Water Partnership southern Africa, UNESCO and the Water Research Commission (South Africa) - who partnered the CSIR in arranging and supporting the International Symposium on Ecosystem Governance.