

Integrated Water Resources Management: Relevant concept or irrelevant buzzword? A capacity building and research agenda for Southern Africa

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Abstract

This article examines the concept ‘Integrated Water Resources Management’ (IWRM) and inquires as to its relevance for the Southern African region. The paper first acknowledges the contributions made to IWRM by three regional initiatives—WaterNet, the Water Research Fund for Southern Africa (WARFSA), and the Southern African chapter of the Global Water Partnership. Then, three important aspects of IWRM are highlighted: that IWRM requires institutional capacity to integrate, which often is a scarce resource; that IWRM is neither solution nor recipe, but rather a perspective or way of looking at problems with a view to solving them through transparent and inclusive decision-making processes; and that IWRM should explicitly deal with the fact that water tends to build asymmetrical relationships between people, communities and nations.

An IWRM agenda is subsequently set out, focussing on five critical issues: the dilemma between economic development and sustainability; the unresolved issue of water as an economic good; the place and role of rainfed farmers in IWRM; the importance of training and teaching; and the need for building reflexive capacity in the new and existing water institutions.

The paper concludes that IWRM is a relevant, yet elusive and fuzzy concept. Evidence from Southern Africa and around the world shows that IWRM inspires a new generation of water managers and researchers to act creatively; assists in addressing the Millennium Development Goals (MDGs); and instils mutual respect, understanding and co-operation among water professionals in Southern Africa. © 2005 Elsevier Ltd. All rights reserved.

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1. WaterNet and WARFSA: five eventful years

WaterNet and the Water Research Fund for Southern Africa (WARFSA) have achieved a lot in promoting Integrated Water Resources Management in Southern Africa over the period 2000–2004. It all started in Maseru, Lesotho, in May 1997. It was only a year after the SADC Water Sector Co-ordination Unit had been established, and at exactly the same time that in New York the Convention on the Law of the Non-Navigational Uses of International Watercourses was adopted by the United Nations General Assembly. Water ministers from SADC and EU met and

frankly discussed the challenges of sharing international rivers. Consensus was reached over the need for integrated water resources management. It was noted that there was a lack of sufficient human capacity to implement it (Savenije et al., 2000).

Then, in 1998, a regional planning workshop was held and the twin sisters were conceived: WARFSA and WaterNet. WARFSA saw the light already in 1999, whereas WaterNet was born in Victoria Falls in 2000, during the founding workshop in which HRH the Prince of Orange participated. Initially, WaterNet and WARFSA existed as mere ideas; ideals to support and implement ‘integrated water resources management’ (IWRM), as had been mandated by the SADC Ministers. And four and a half year later, meeting in Windhoek, we have come nearly full circle

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traversing Southern Africa. In so doing we have come to know each other better. We now better understand who we are, what we need, and why. We have become a water family with a shared, albeit still short, trajectory. (The start of WaterNet has been chronicled by [Wright et al., 2001](#).)

We briefly look back to where we came from and take stock of what we have achieved. A unique regional post-graduate programme in IWRM exists; the first Masters in IWRM have graduated in Dar Es Salaam and Harare; and currently it is producing 30 Masters per year. The programme is broadly based and owned, with courses offered at universities in Malawi, Namibia, South Africa, Tanzania and Zimbabwe; and with guest lecturers coming from other WaterNet member institutions. The WARFSA research facility is up and running. It is owned by the Research Board and efficiently managed by one of the WaterNet member institutions, namely the Institute of Water and Sanitation Development. WaterNet and WARFSA together have jointly initiated the annual Water Symposium, which is gradually becoming *the* place to discuss water issues in Southern Africa. The Southern African chapter of the Global Water Partnership is now also involved.

All this has been made possible by a large number of committed and dedicated individuals and their institutions. Sitting here together are engineers and social scientists, ecologists, historians, lawyers and economists from at least 12 different nations. They all contributed and shared. That is not self-evident. The UNESCO-IHE Institute for Water Education played the role of the external partner that assisted in guiding and brokering this multidisciplinary and multinational endeavour, helped in building an adequate governance structure, and where necessary provided additional knowledge resources.

The shared history that lies behind us keeps us strong. It allows us to look ahead. And we do that with expectation but also with some apprehension and concern. We see the unattended and urgent needs of our peoples for sufficient clean water for domestic use, proper sanitation facilities and more water to produce more food more securely. We also see the unattended needs of the environment, and we are unsure about the future of our children's children. We look ahead with some unease, as there are no guarantees that our institutions will be strong enough to face the challenges lying ahead. What is it that we will confront five years from now, and how should we prepare and equip ourselves? Will IWRM prove to be a concept usefully guiding our intellect and energy, or will it turn out to be an 'amorphously defined' ([Biswas, 2004](#)) buzzword reflecting a 'sanctioned discourse' ([Allan, 2003](#))? It is to these questions that this essay now turns.

2. Integrated Water Resources Management (IWRM): relevant concept or irrelevant buzzword?

The future is unknown to us. But is it? The future as a result of more business-as-usual is too well known to us all. In that future, the Millennium Development Goals will

not be achieved. In that scenario, climate change will manifest itself unmistakably in more droughts and more floods. In that scenario we will not achieve prosperity. That scenario is not sustainable. That scenario, therefore, is not a desirable option (see e.g. [Costanza, 2000](#)). So we should aim for a different future. It could involve risks to get there, since we may not know in advance all its pathways. Systematically pursuing IWRM, it seems to me, constitutes a path of short-term risk leading to long-term security. This future presupposes, amongst other things, that we manage our water resources in a holistic manner.

Integrated water resources management means reconciling basic human needs, ensuring access and equity, with economic development and the imperative of ecological integrity, while respecting transboundary commitments. Achieving this seems a very ambitious task, requiring most of all a transparent and inclusive decision-making process. Integrated water resources management therefore is an approach, a perspective, a way of looking at problems and how to solve them. It also is a commitment; as we as WaterNet members have pledged to commit ourselves to it.

IWRM, therefore, is not only an option; it is a must. We have to embrace it and align our practices to it. However, there are as many obstacles standing in the way of the realization of IWRM as there are opportunities in support of it. Here three areas of interest are discussed: first, the institutional dimension; second, decision-processes; and third, upstream–downstream linkages.

2.1. Institutional dimensions

Before anything else, IWRM is an institutional challenge. It requires institutional *capacity to integrate*. Such capacity is in short supply. There may be competition over it. Many countries developed integrative capacity, typically at the district level. This is where the various government departments such as health, education, agriculture, transport and water participate in implementing multi-sector rural development programmes. In contrast, the new water architecture that is emerging in Southern Africa appears to create a parallel structure, alongside but separate from the existing administrative structures, entirely defined by hydrological boundaries. This may lead to misunderstandings, to competition and even to un-coordinated development. This obviously is a waste of valuable institutional resources (see among others, [Dungumaro and Madulu, 2003](#); [Tapela, 2002](#); [Kujinga, 2002](#)).

The new water organisations should primarily serve as consultative bodies that ensure that developments throughout the catchment are consistent; but they should not necessarily have executive functions. In many countries it is the districts that will continue to play the executive role and implement water and other integrated rural development projects. It is also at this level that the agronomist and the water manager should work closely together in watershed management and soil and water conservation projects; important fields that many water managers have

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