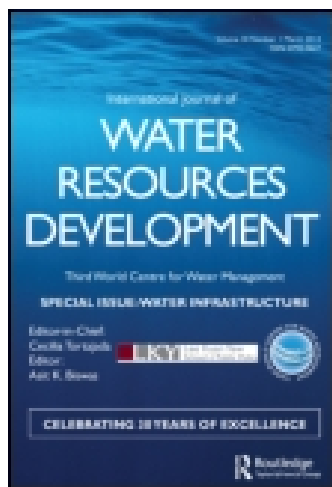


This article was downloaded by: [Oregon State University]

On: 23 July 2014, At: 11:58

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



International Journal of Water Resources Development

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/cijw20>

The politics of IWRM in Southern Africa

Lyla Mehta^{ab}, Rossella Alba^c, Alex Bolding^c, Kristi Denby^a, Bill Derman^a, Takunda Hove^d, Emmanuel Manzungu^e, Synne Movik^f, Preetha Prabhakaran^b & Barbara van Koppen^g

^a Department of International Environment and Development Studies, Norwegian University of Life Sciences, Aas, Norway

^b Institute of Development Studies, Brighton, UK

^c Water Resources Management Group, Wageningen University, the Netherlands

^d Ateg Consultants, Harare, Zimbabwe

^e Department of Soil Science and Agricultural Engineering, University of Zimbabwe, Harare, Zimbabwe

^f Norwegian Institute for Water Research, Oslo, Norway

^g International Water Management Institute, Pretoria, South Africa

Published online: 04 Jun 2014.

To cite this article: Lyla Mehta, Rossella Alba, Alex Bolding, Kristi Denby, Bill Derman, Takunda Hove, Emmanuel Manzungu, Synne Movik, Preetha Prabhakaran & Barbara van Koppen (2014) The politics of IWRM in Southern Africa, International Journal of Water Resources Development, 30:3, 528-542, DOI: [10.1080/07900627.2014.916200](https://doi.org/10.1080/07900627.2014.916200)

To link to this article: <http://dx.doi.org/10.1080/07900627.2014.916200>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever

or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

The politics of IWRM in Southern Africa

Lyla Mehta^{a,b,*}, Rossella Alba^c, Alex Bolding^c, Kristi Denby^a, Bill Derman^a, Takunda Hove^d, Emmanuel Manzungu^e, Synne Movik^f, Preetha Prabhakaran^b and Barbara van Koppen^g

^aDepartment of International Environment and Development Studies, Norwegian University of Life Sciences, Aas, Norway; ^bInstitute of Development Studies, Brighton, UK; ^cWater Resources Management Group, Wageningen University, the Netherlands; ^dAteq Consultants, Harare, Zimbabwe; ^eDepartment of Soil Science and Agricultural Engineering, University of Zimbabwe, Harare, Zimbabwe; ^fNorwegian Institute for Water Research, Oslo, Norway; ^gInternational Water Management Institute, Pretoria, South Africa

(Received 13 January 2014; accepted 15 April 2014)

This article offers an approach to the study of the evolution, spread and uptake of integrated water resources management (IWRM). Specifically, it looks at the *flow* of IWRM as an idea in international and national fora, its *translation and adoption* into national contexts, and the on-the-ground *practices* of IWRM. Research carried out in South Africa, Zimbabwe and Mozambique provides empirical insights into the politics of IWRM implementation in southern Africa, the interface between international and national interests in shaping water policies in specific country contexts, and the on-the-ground challenges of addressing equity, redress and the reallocation of water.

Keywords: IWRM; politics and political economy; southern Africa; gender; water reforms; re-allocation and equity

Introduction

For the past two decades, integrated water resources management (IWRM) has been considered the dominant paradigm in water resources management. It is the flagship project of supranational global bodies such as the Global Water Partnership (GWP) and has also been actively promoted by a range of multilateral and bilateral donors and financiers, which make it out to be a panacea for addressing the water management crisis in the global South. This has led to major water reform programmes and the rewriting of national policies drawing on IWRM principles in several countries in southern Africa. This article draws on ongoing research from a Norwegian Research Council-funded project, *Flows and Practices: The Politics of IWRM in Africa*, to ask: Why has IWRM been so influential in southern Africa? How has it evolved and spread? What are the concrete experiences with IWRM in policy and practice? How do the idealized notions of IWRM, which evolved in the global North, cope with the plural, overlapping and competing formal and informal water management communities in southern Africa? Has IWRM succeeded in addressing issues concerning equity and the reallocation of water? How does it intersect with historical legacies arising from class, race and gender hierarchies?

These issues are addressed by looking at the complexities of IWRM implementation and interpretation in Zimbabwe and South Africa, the two countries which can be

*Corresponding author. Email: l.mehta@ids.ac.uk

considered the early implementers of IWRM in Africa, and in Mozambique, where elements of IWRM already existed *avant la lettre*. In all three contexts, we see distinct yet complementary experiences of IWRM uptake and spread. We thus reconstruct the domestic and international drivers behind the key policy articulations that shaped the travel of IWRM to southern Africa, before turning to specific country experiences around implementation. This article aims at advancing knowledge and providing practical insights on the politics of IWRM implementation, particularly on (1) the interplay between donor and national influences in shaping water policies in three African case-study countries and (2) the on-the-ground challenges of addressing equity, gender, redress and reallocation.

What is IWRM?

While the IWRM concept has been around for a long time, its current form gained momentum at the International Conference on Water and the Environment in Dublin in January 1992. The *Dublin Principles*, which are considered integral to IWRM, recognize: (1) the finite nature of water and its key role in sustaining life, development and the environment; (2) the importance of participatory approaches in water development and management; (3) the central role played by women in the provision, management and safeguarding of water; and (4) the economic and competing values of water and the need to recognize water as an economic good (International Conference on Water and the Environment, 1992). To put the Dublin Principles into practice, IWRM emphasizes the following concepts: integration; subsidiarity; participation; water management according to hydrological boundaries; and economic, environmental and financial sustainability (GWP, 2000). These concepts are reflected in the various definitions of IWRM, the most commonly used one being that of the GWP (2000, p. 22), which defines it as a “process which promotes the coordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”. An important aspect of IWRM is its emphasis on ‘holistic’ management, and the associated trend of making the State a trustee (which in some cases is interpreted as outright ownership) of a country’s water resources and instituting administrative, time-bound user rights. Another salient feature is the focus on decentralization. ‘Holism’ and ‘decentralization’ are often linked to the idea of managing water according to hydrological rather than political boundaries, and establishing river basin organization for management institutions. Nobody would doubt the value of these concepts and processes. However, they remain abstract even at the theoretical and conceptual level, let alone when unfolded on the ground (see Biswas, 2008).

Since Dublin, the promotion of IWRM by prominent global players such as the GWP, the World Bank, the African Development Bank, etc., has led to its rapid movement from the global North and temperate regions to mostly tropical developing countries in Africa, Asia and Latin America. Conca argues that IWRM has “become *the* discursive framework of international water policy – the reference point to which all other arguments end up appealing. IWRM combines intuitive reasonableness, an appeal to technical authority, and an all-encompassing character of such great flexibility that it approaches vagueness” (2006, pp. 126–127, emphasis in the original). However, a growing body of research highlights that the experiences of IWRM in many developing country contexts have been mixed. In the African context, there is emerging evidence that it has not produced the anticipated socio-economic, political or ecological outcomes due to the uncertainty and complexity of river basins and the plural, overlapping and competing formal and informal

legal and customary systems (Swatuk, 2005). In this vein, Merrey, Drechsel, de Vries, and Sally (2005) have criticized IWRM for being too narrow, for not prioritizing the livelihoods of poor people and for ignoring wider natural resources management and the linkages with land – a valid criticism considering the growing trends of land and water ‘grabbing’ in Sub-Saharan Africa (Mehta, Veldwisch, & Franco, 2012).

However, despite contestations, IWRM has become a ubiquitous buzzword. The very vagueness for which IWRM is severely criticized also explains its continuing popularity and influence – everybody finds something in it that meets their particular concerns. Molle calls IWRM a “nirvana concept” – one that embodies “an ideal image of what the world should tend to” (2008, p. 132) – making the point that the likelihood of achieving nirvana is negligible. Still, the possibility of achieving it makes it attractive, making it a focal point for donors in addition to national governments during summits and international conferences. It is thus useful to conceptualize IWRM as a “boundary term” (Gieryn, 1999) that various actors in scientific and policy worlds can interpret and deploy in different ways in accordance with prevailing political interests. While these ‘boundary’ and ‘nirvana’ terms help galvanize resources and action, they also obscure the political nature of water resources management, which is the focus of this article.

Approach and methodology

The research conducted focused on: (1) the rise and spread of IWRM as an idea, and how it has become institutionalized within global institutions and networks; (2) the translations, adoptions and transformations of IWRM within national contexts in southern Africa; and (3) how IWRM is implemented on the ground in different local contexts. It adds to and builds on the work by Mukhtarov (2009) and Cherlet (2012), who have also studied the policy transfer of IWRM across scales and regions.

In studying the rise and spread of IWRM, this article conceptualizes policy as a process rather than as an instrumental prescription (Shore & Wright, 1997; Wester, 2008; Keeley & Scoones, 2003), emphasizing the recursive nature of these processes, as they take place in a variety of arenas, involving different policy actors and varying degrees of stakeholder involvement at different scales across global, regional, national and local levels. With regard to understanding how IWRM as an idea has been taken up, translated, adopted, resisted or contested at national and local levels, the study draws on insights from Whitfield (2009) on donor–recipient relations and on actor-oriented approaches in development studies (Long & Long, 1992). This helps understand how negotiations between donors and recipient governments play out against the backdrop of specific historical trajectories and the extent to which national governments and other water management communities can exert influence and ‘ownership’ over these policy ideas and the processes of implementation.

Whilst IWRM emphasizes decentralization, new accountability standards and planning processes, the capacity of national governments to ensure that these are followed often remains problematic. Moreover, IWRM-influenced policies tend towards (re)centralizing power (Movik, 2010) and maintaining expert authority over locally situated management practices (see cases to follow; see also Biswas, 2008). Many new IWRM-related institutions (such as water user groups) that are specifically created in reform processes are also beset with conflict, factional divisions and power politics and can reinforce heterogeneous patterns of resource use based on dominance and dependence. It is also wrong to presuppose a non-interactive divide between formal and informal institutions that fails to capture empirical realities in which interrelationships and overlaps

link various institutional domains. Here the study of legal pluralism, especially in the water domain (Meinzen-Dick & Nkonya, 2005), is used to explore how IWRM will necessarily coexist with a range of pre-existing (but often invisible) customary arrangements and how diverse institutions and property regimes create different sets of cultural practices and discourses. The different approaches that have thus far been sketched provide useful points of departure for tracing the unfolding of policy ideas and flow of concepts across scales that have their own particular strengths and weaknesses.

Based on this framework, the methods deployed during the research were as follows: literature review and policy analysis; and multi-sited in-country ethnographic approach to study policy flows, translations and practices, consisting of semi-structured interviews, focus-group discussions and participant and ethnographic research in villages. This was combined with a comparative study across the sites, focusing on four key variables: contextual in-country characteristics, such as hydrological water availability, water hotspots and conflicts; historical legacies and political transformations; water reform and policy processes; processes of introducing IWRM; and IWRM practices at the basin and local levels and their social and gendered impacts.

Experiences of IWRM uptake and spread: individual country contexts

This section reviews case studies from three southern African countries (South Africa, Zimbabwe and Mozambique) to highlight the complex nature of IWRM adoption and implementation.

South Africa

In South Africa, water reform was part of the watershed reforms in all policies and laws by the newly elected democratic government (Schreiner & Hassan, 2011). South Africa's White Paper on Water Policy (Department of Water Affairs and Forestry, Republic of South Africa, 1997), followed by the promulgation of the National Water Act in 1998 (Republic of South Africa, 1998), signalled a key shift in the country's water resources management. South Africa brought in experts from Australia, Spain, Mexico, France and the United States to advise on what is usually considered a 'home-grown' affair of a new government, which emerged following the demise of apartheid and the pressing need to address the resulting inequities of that period, with respect to both water supply and access to water resources. While the influence of donors was therefore not as prominent here as in the other country cases, the new government emphasized the need for integration as its policy paradigm, and used the international debates on IWRM as a welcome vehicle to re-enter the international spheres and also to tap international knowledge as needed. IWRM tangibly inspired innovations such as catchment management agencies (CMAs), the Ecological Reserve and the shift from the pre-1994 plural laws under the apartheid government to administrative water law by the democratically elected government. Nevertheless, several donors have been involved in various ways. For example, the UK's Department for International Development played a key role in supporting the reform processes, including the drafting of the Water Allocation Reform (DWAF, 2005). Other donors have been involved in piloting IWRM in selected areas, such as Danida and the GIZ (Gesellschaft für Internationale Zusammenarbeit). Even though South Africa's National Water Act and the key principles on which it was based are lauded as among the most progressive water legislation in the world, implementation challenges have been rife, particularly with respect to reallocation of water (Funke, Oelofse, Hattingh, Ashton, & Turton, 2007; Jonker, 2007).¹

But 15 years down the line in South Africa, only 2 CMAs are fully functional, out of the 19 originally envisaged (and 6 more that have been gazetted). Muller (2014) states that though basin organizations were a key idea, the political emphasis on improving water supply had as one of its effects the insulation of water resources management from “political federalism” – and hence water resources continued to be managed in a centralized fashion. Further, the intended conversion of the former irrigation boards into multi-sectoral water user associations has been fraught with problems, with commercial white farmers still dominating many areas (Faysse & Gumbo, 2004). Recognizing the problems in terms of capacity and time delays, an institutional realignment process is now underway, which advocates the establishment of 9 CMAs rather than 19.

As research in the Inkomati Water Management Area shows (Denby, 2013), the feasibility of integration and therefore the implementation of IWRM is an open question in South Africa. The Ministry of Water, in charge of implementing IWRM, has little control over other important processes and departments linked to water, such as those of agriculture and land reform (Woodhouse, 2012). There are overlapping mandates between agriculture and water institutions and an inability or lack of political will to collaborate and integrate their activities to improve water access for small-scale and emerging farmers at the local level.

One of the case studies explored the installation of meters along a river (the Middle Komati) in the Inkomati. It revealed that at the institutional level, small-scale or emerging farmers lack knowledge of the National Water Act and the formal channels for accessing water. Participatory processes were found to be flawed: several key institutions with overlapping mandates did not actively participate in meetings and were unable to answer pertinent questions, further reflecting the lack of institutional legitimacy and accountability to local water users. This lack of institutional cooperation, legitimacy and accountability has resulted in widespread mistrust and opposition amongst large- and small-scale water users in the Middle Komati. Power imbalances, the inability to effectively participate, cultural differences in relation to water, lack of knowledge of the formal water policy, the prevalence of ‘silo thinking’, and failed accountability and integration at the institutional level have all affected the most marginalized (historically disadvantaged) farmers’ ability to access water at the local level. The case study reflects that ‘integration’ – in this particular context, understood as ‘coordination’ – is an important prerequisite to get institutions with overlapping mandates to work effectively with one another to facilitate water access for historically disadvantaged users. However, water allocation is a highly political issue, and regional coordination will require not only the setting of clear priorities at the national level but also the presence of political will to follow through on those priorities at the regional and local levels to ensure that access becomes more equitable.

Zimbabwe

Unlike South Africa, Zimbabwe’s water reform process, undertaken from 1993 to 2000, was highly dependent upon donor funding. The reforms that precipitated IWRM were however very much shaped by a local national agenda: they were meant to redress the colonially inherited inequalities in agricultural water, increase water security to protect against drought, increase revenues (hence considering water as an economic good), and more generally to improve the management of scarce water resources and to include the environment as a water user (Manzungu, 2002). A new institutional structure was created for water, independent of other administrative and political divisions. Thus, the country

was divided into seven catchment areas, managed by seven catchment councils (CCs) and, under them, subcatchment councils (SCCs). Each was to be responsible for all waters in its catchment, and to be assisted by a catchment manager who was an employee of the newly created Zimbabwe National Water Authority (ZINWA). ZINWA was to be a self-financing parastatal which was tasked with the technical management of water.²

The water reform process was funded by the governments of the Netherlands, Germany, Sweden and the United Kingdom, which supported the Water Resources Management Secretariat, which spearheaded a consultative process to discuss the drafts of a new water bill and what water policies should be. In this process, the German donor agency, then known as GTZ (Gesellschaft für Technische Zusammenarbeit), funded a pilot catchment in the Mazowe, while the Royal Dutch Embassy funded the Mupfure Subcatchment to become part of the larger Sanyati Catchment. While donors funded the process, Zimbabweans wrote the two new acts, the Water Act (Zimbabwe Water Act, 1998a) and the Zimbabwe National Water Authority Act of 1998 (Zimbabwe National Water Authority Act, 1998b), that underlay the process, including greater equality in access to water. The Zimbabwean water legislation refers to “integrated catchment management”, because it was written prior to the GWP conceptualization. Indeed, the final product of the secretariat was the report, *Towards Integrated Catchment Management* (Government of Zimbabwe, 2000), which was published the same year as the GWP’s formulation of IWRM.

During the 1990s, while water reform was initiated and implemented, land reform was proceeding far more slowly. Despite the Land Acquisition Act of 1992 (Government of Zimbabwe, 1992), there was little movement until 1997, when the government announced it would acquire 1700 large-scale commercial farms. This was followed by a major donor conference in 1998, which sought to provide a framework for land reform, but the conference failed in its objectives. What followed has been called ‘fast-track land reform’ (Matondi, 2012; Moyo, 2011), which began in 2000. The net result was that land reform, which had progressed methodically and at a slow pace since 1980, came to an end with land invasions and occupations. The 2000–2010 decade saw the removal of most white farmers from the land. The implementation of the fast track and the ensuing political and economic crisis led to the suspension of donor support for the water sector. For the next decade, there was no funding mechanism which worked to support CCs or SCCs, the key decentralized institutions. Some continued to operate, though they were not provided much support by ZINWA or the Ministry of Water. ZINWA itself focused on collecting monies for water use to support itself rather than for water resources management. The major use of water for irrigation dropped during this period, except in the large-scale sugar estates in south-eastern Zimbabwe.

The donors returned to Zimbabwe’s water sector because of the severe cholera outbreak in 2008–09. As the World Bank, UNICEF, the Australian government and the African Development Bank explored the roots of the cholera and diarrhoea outbreaks, they began to consider the larger issues of urban water supply and sanitation. In turn, this led to the drafting of a new water policy for the nation (Government of Zimbabwe, 2012)³, which includes an emphasis on IWRM. The Southern African Development Community (SADC), the African Development Bank and the broader international actors all continue to support IWRM. The water policy adopted by the cabinet in October 2012 includes both the human right to water and IWRM; it will need to be supported by a new Water Act, or more likely amendments to the Water Act (Zimbabwe Water Act, 1998a) and ZINWA Act (Zimbabwe National Water Authority Act, 1998b).

The research undertaken in Zimbabwe focused on the intersection of land and water reform in the Middle Manyame Subcatchment, which had large-scale commercial

farmers using substantial amounts of irrigation. In the Upper Manyame Subcatchment we examined how one SCC has used its position to levy all water users in Harare. How and in what ways this SCC will utilize IWRM remains problematic since that depends upon how they interface with the whole Manyame Catchment and ZINWA. Sitting at the source of the Manyame's waters, they are in a privileged position with respect to revenues, which they have not shared to date. They are increasing their capacity to analyze ground and surface waters for pollution, but that authority now rests with the Environmental Management Agency, not the CCs.⁴ Spatial analysis undertaken between 1980 and 2013 demonstrates that urban expansion has been taking place on ecologically fragile areas such as wetlands. Many of the settlements established since 2000 have rudimentary water and sanitation facilities, worsening an already serious environmental issue. The drivers for these changes originated outside the water sector through a constellation of significant powerful players in an urban environment. We also found a lack of coordination and information sharing among institutions managing water and the environment. Thus, increasing urbanization, which was highly politically charged, rendered IWRM irrelevant. The continued expansion of greater Harare, combined with deteriorating water and sanitation infrastructure, has produced an enduring crisis. Whether or not donor investment will make use of IWRM is highly problematic since their emphasis has been upon urban water supply and sanitation. In sum, the Zimbabwe case highlights how IWRM adoption and spread (or non-spread) is highly influenced by wider socio-historical forces that go beyond the water sector.

Mozambique

Using experiences from the Mozambican part of the Limpopo River basin, an in-depth comparative case study of the national water reform process that unfolded in Mozambique in the 1990s was conducted. This was done by reconstructing the formulation and recursive interaction of policy ideas in different policy-making fora at regional (SADC), national (Mozambique) and river basin (Limpopo) policy arenas.

The research reveals that the formulation of the *Lei de Aguas* (GoM, 1991) represented the culmination of Mozambican efforts to deal with its antagonistic upstream neighbour, South Africa, galvanizing new forms of international cooperation on the Inkomati River, informed by international experiences (e.g. the Tennessee Valley Authority). The introduction of volumetric water pricing in the 1991 Water Law also responded to national concerns in relation to the financial sustainability of the newly established regional water authorities, rather than being associated with the principle of water as an economic good. Dublin-coined IWRM principles (i.e. river basin management and water as an economic good) were only later inserted into the 1995 National Water Policy (GoM, 1995) and reinforced in the 2007 Policy and Strategy (GoM, 2007a), to the extent that they often seem grossly at odds with the 1991 Water Law (GoM, 1991). For instance, whilst it is stated in the Water Law that the State will play a key role in water supply and management, in the National Water Policy the same State will withdraw from any involvement in the provision of water. Thus, under the policy, the role of the State and its organs is reduced to that of a policy regulator and monitor, determining minimum levels of service and promoting private-sector involvement.

The articulation of IWRM ideas in Mozambique and current water management practices was analyzed by focusing on four key 'moments' or policy episodes (cf. Wester, 2008). The first episode coincides with the formulation and approval of the Water Act in 1991. The *Lei de Aguas* is the result of the influence of Dutch and international experts,

with the support of FAO and UNESCO and the commitment of a small group of Mozambican engineers. Three main issues steered the formulation of the law: the lack of a legal framework for water allocation; the national and international impulse for decentralization of water resource management (e.g. the Tennessee Valley Authority experience); and the need to deal with transboundary issues to secure water allocation to Mozambique. The second policy episode centred on the endorsement of IWRM ideas in the Mozambican National Water Policy approved by the Council of Ministers in 1995. The main driver behind the deviation of the Water Policy from the 1991 law, with its emphasis on water as an economic good and public-private partnerships in water provision, came from a combination of neoliberal, market-inspired IMF/World Bank concerns and Mozambican domestic post-war concerns with water supply and sanitation, over and above water resources management concerns.

In 2007 another key moment occurred when the Council of Ministers approved the new National Water Policy (GoM, 2007a), the National Water Resources Management Strategy (GoM, 2007b), the Regulations on Water Licenses and Concessions (GoM, 2007c) and the Water Tariff for the southern region (Manjate, 2010). The Policy and the Strategy were the results of a participatory consultation process started between 2001 and 2002 and financed by the World Bank. Within the consultation, a failed attempt to revise and amend the Water Act took place. The Regulations on Water Licenses and Concessions set the basis for achieving a form of financial sustainability on the part of the regional water administrations (*Administração Regional de Águas*). Over time, more and more staff and energy at the river basin level are devoted to the passing of licences and the collection of tariffs.

While at the national level institutional and legislative frameworks for water resource management inspired by IWRM were emerging, at the regional level attention was concentrated on the SADC's Protocol on Shared Watercourses (SADC, 2000), claimed by Mozambican policy actors as the 'Mozambican SADC Protocol' (the fourth episode). Downstream Mozambican concerns regarding sharing water of the Inkomati River with Swaziland and South Africa played a key role in the definition of 'shared watercourses' (Carmo Vaz & van der Zaag, 2003). Among others, the 1991 Pigg's Peak agreement and subsequent joint studies in the Inkomati paved the way for the SADC protocol of 1995 and the revised, expanded one of 2005.

A rather small network of Mozambican policy actors were involved in the mentioned policy episodes. They were partly trained in Delft and Wageningen, the Netherlands, and were exposed to some extent to prevalent international policy ideas emanating from the 1992 Dublin and Rio conferences. The Dutch played a large role in the training and support of this closely knit Mozambican policy elite through university programmes, *cooperantes* networks and international aid. For instance, in 2006, the Netherlands contributed 13% of the total Overseas Development Aid funds disbursed to the Mozambican water sector – less than the African Development Bank (with 40%) and the World Bank (with 35%), but more than all the rest of the bilateral donors together (Woersem, Zijlstra, & Juizo, 2007). This emerging water elite spread its wings over time, rotating offices of important State institutions in the water sector and at Eduardo Mondlane University, whilst diversifying into consultancy companies making use of the burgeoning bilateral aid networks. This reveals a rather exclusive nature of policy process where the "power to define" (Shore & Wright, 1997) the content and the terms of reference of the water reforms is accessible only to a few well-positioned actors.

The study also points to historical patterns, influences and manifestations in the shaping of the water reforms. Firstly, the massive investment in hydraulic infrastructure by

the Portuguese in the late colonial period (1960s and early 1970s) was accompanied by the crafting of heavily centralized, yet autonomous, regulating and managing institutions. Among others, the template for UDAH (the agency managing the dam supplying water to Maputo) became the institutional template for ARA-Sul and other regional water administrations. Secondly, water resources management was a key political terrain for the post-colonial hydraulic mission (e.g. the Limpopo Valley was defined as the ‘breadbasket of the nation’) and the affirmation of Mozambique political influence within the SADC. Ultimately, the Portuguese tendency to establish top-down, hierarchically structured and highly centralized state-affiliated managing agencies has partly continued to the present day. This is revealed by the weak forms of stakeholder participation and the discriminatory treatment of users in relation to distribution of water licenses and water pricing in the Limpopo River basin. This authoritarian streak has left Mozambicans with little experience of how to set up a responsive, accountable, democratic and representative management agency (see also Warner, 2006, for further critiques of participation). The study also looked at the side-effects of water pricing and licensing on water allocation. It was found that the recent emphasis on the registration of water permits and payment for water by means of focal points and the strict implementation of a water registry (cadastre) ironically results in those who rely on legally recognized, informal primary water use (*uso comum*) losing their ‘invisible’ access to the resource to large-scale (foreign) investors who formally register their water permits and pay for them through special arrangements (Alba, 2013; Van der Zaag, Juizo, Vilanculos, Bolding, & Post Uiterweer, 2010).

IWRM from a gender perspective

One of the key guiding principles of IWRM recognizes a central role for women in the planning and management of water resources. But does this focus on women address gender issues that shape differential access to water? Will the involvement of women as envisioned in the IWRM discourse ensure gender-equitable outcomes for women and men with respect to water allocation and use on the ground? To address these questions, we analyzed global policy documents such as those promoted by the GWP (2000, 2006) to explore how gender has been framed in the IWRM discourse at the global level and also used existing case studies from southern Africa to further analyze how global framings on gender interact within the local context to shape issues of rights and access to water.

The analysis shows that the knowledge of gender within the global IWRM discourse is limited to a focus on women’s essentialized roles as domestic users of water and as subsistence producers (e.g. GWP, 2000). However, empirical studies (e.g. Moriarty & Butterworth, 2004) reveal that women in rural areas use water for multiple purposes, both for their basic domestic needs and to generate livelihoods through small-scale farming and small-scale household production such as livestock rearing, brick-making, etc. However, the global discourses on ‘integration’ are narrowly focused on formal sector uses of water and reflect little understanding of rural women’s multiple water needs and demands within the context of their gendered livelihoods (Castresana, 2004).

In the global discourse, formal water rights and water pricing are promoted as tools to increase women’s access to water. However, in a study on legal pluralism in water management in Africa, Derman, Hellum, and Sithole (2005) illustrate that under the customary marriage laws in southern Africa, ownership is not acquired through legal titles but through actual usage of land and water. Therefore, although women do not have formal ownership or inheritance rights to land (or water) under customary law, their use rights are protected within it (Lastarria-Cornhiel, 1997). The failure of market models to operate

within existing gendered use and access to resources in southern Africa thus hides women's ownership and rights status under kinship networks. This consequently also hides the productive needs and uses of water by most women, and the important productive roles they play within the system.

Similarly, the emphasis on increasing women's participation in IWRM processes reveals an over-simplistic notion of the power relations underlying structures of gender, race, class, etc. In a study of water user associations in the Limpopo and KwaZulu-Natal provinces in South Africa, Mjoli, Nenzhelele, and Njiro (2009) note that when women participate in formal processes they are unable to influence decisions within unequal power relations of ownership and control of resources. Van Koppen, Khumbane, de Lange, and Mohapi (2006) and Cleaver's (1998) research, in the Pedi community in South Africa and the Nkayi community in Zimbabwe, respectively, reveal that women participate more effectively within informal networks. But the role of informal institutions in water management is not recognized in global IWRM discourses. The gender analysis thus reveals a failure to recognize the complexity of women's social lives in water discourses and policies.

Conclusions

The studies carried out in Zimbabwe, South Africa and Mozambique highlight the complex nature of IWRM adoption and implementation in the aftermath of their interconnected independence struggles. This section scrutinizes the impact of IWRM-inspired reforms on access to water and how this is gendered, and the interplay between national and international drivers in articulating IWRM policies. Finally, a brief reflection is provided on the policy alternatives that were squashed through undue attention being paid to IWRM.

Zimbabwe and South Africa adopted IWRM in the mid-1990s as a way to achieve equitable and sustainable use of water resources and address racial imbalances. In Zimbabwe, IWRM was introduced through donors in the 1990s, but the experiments, especially with catchment councils, dwindled under the fast-track land reform programme. The neoliberal concept underpinning the IWRM-inspired reform package was based on predominantly white commercial farmers paying for the construction of badly needed infrastructure for those (water) user groups that had been historically denied access and were now asked to participate in its management. The fast-track land reform programme (Derman and Manzungu, *in press*; Derman & Gonese, 2003) and the associated political-economic crisis wiped out the financial basis of the reform, resulting in a collapse of the irrigation sector. While land reform has broadened access by creating more water users, the usage of water remains low, particularly amongst the newly emerging black farmers, who use water only for domestic purposes, with little or no use for commercial purposes like irrigation.

South Africa has been in the vanguard of water policy through the passing of its 1998 National Water Act, in which IWRM principles were firmly enshrined. However, more than 15 years down the line, implementation of IWRM has proved a tough challenge, and a process of 'institutional realignment' is now underway, with several challenges for integration. One of the key challenges in South Africa is the erosion of the knowledge and skills base of the responsible department, namely the Department of Water Affairs, which is 'held captive' by a plethora of consultancy agencies that have monopolized the critical skills necessary to execute routine water management tasks. Even though 2 functional newly crafted user-based management institutions (CMAs) are in place, and major lessons

have been derived from their existence, 17 other CMAs have failed to materialize. As in Zimbabwe, institutions often operate in an uncoordinated fashion, creating problems for emerging farmers trying to access water rights because of the confusion about which routes to follow and whom to approach. The future will learn whether 'developmental water management', which adheres to centralized national goals, will support the integration needed for actual water allocation reform.

In Mozambique, too, we observe contradictory outcomes of IWRM-inspired reforms. Centralized state management seems to have become further entrenched, with stakeholders having virtually no say in water matters; they are unaware of their hydraulic interdependence (seen as a precondition for collective action in water governance). The introduction of water pricing and registration has led to a situation where the most powerful and wealthy water users (e.g. private sugar estates) take advantage of water payments to secure water rights at the expense of unregistered smallholder users who depend on primary water for their livelihoods.

A gender analysis of IWRM policy documents reveals that the global discourse frames market-oriented economic principles and formal institutional processes within the language of 'rights' to enhance gender equity and women's access to resources. However, the failure to understand the realities of gendered land ownership and complex livelihoods in southern Africa hides the productive roles of women as small-scale farmers. At the same time, it hides the informal mechanisms that secure women's customary rights, use and ownership of water resources. We therefore conclude that IWRM's focus on gender amounts in this case to mere rhetoric rather than substantive change because it overlooks the dynamic social relations that shape the unique ways in which people access and use water. When IWRM concepts are applied universally, without a nuanced understanding of the gendered complexities in specific local contexts, such as that in southern Africa, it will at best lead to ineffective solutions, and at worst adversely affect women's existing access to water and allied resources.

Thus, all three cases highlight the importance of interrogating the relevance of IWRM against the backdrop of the prevailing socio-historical dynamics in any given society. In all three cases, there has been a diverse interplay between domestic and international interests in the rolling out of IWRM, leading to different outcomes. The comparative approach pursued in this article also sheds light on the role of donors and global players in water reform and ways in which IWRM interacts (or not) with local water practices and gendered social relations. It has become clear that donors exert influence on policy articulation processes in various ways, *viz.* through actively promoting *policy discourses* in international conferences (Rio, Dublin) and at recurrent water events (e.g. World Water Fora and Water Week in Stockholm); through *funding conditionalities* for project implementation and through the *funding of national policy strategy formulation* processes, that usually involve the active participation of national policy elites that have been beneficiaries of donor-funded *capacity building and training efforts*. On the other hand, the exact articulation of policy ideas at the national level depends on domestic policy concerns, for, e.g., the 1992 drought-induced policy reform impetus in both Mozambique and Zimbabwe; regime transitions such as the post-civil-war policy agenda in Mozambique; and the post-apartheid policy drive of South Africa. This displays a certain degree of path dependency and reflects historically shaped governance practices, most clearly expressed in the contrasting ways of shaping stakeholder participation, as shown in Mozambique (with limited say for actual water users); in Zimbabwe (with sectoral basis of stakeholder participation); and in South Africa (with progressive stakeholder participation in racially segregated institutions).

Finally, the case studies demonstrate both inconsistencies in implementation, and what the depoliticized policy narrative of IWRM ends up obscuring (namely, reasserting the power of the state and its ability to facilitate the allocation of water to powerful users and render some users more visible than more marginal ones). Africa has clearly been a laboratory for IWRM in the past two decades, and in this context perhaps several alternatives and different pathways were squashed in the process (see also Giordano & Shah, 2014). While a new cadre of water professionals, students, bureaucrats and consultants have made IWRM their mission, have poor women and men actually benefitted from this? IWRM may have resulted in an unwarranted policy focus on managing and integrating the use of limited water resources instead of investing in the development of water infrastructure and enlarging access to the resource. In this sense, has IWRM offered a distraction from more critical issues such as water and land grabs, privatization and the negative impacts of water permits? The three case studies also highlight a range of institutional ambiguities that prevent water allocations to small and poor water users. They show that integration still remains highly abstract (see also Varis, Rahaman, & Stucki, 2008). In sum, this article has provided critical perspectives that were essential but largely missing, on the importance of politics, political economy, gender, history and culture in shaping water management practices and reform in Africa.

Acknowledgements

The article draws on ongoing research from a Norwegian Research Council–funded project, Flows and Practices: The Politics of IWRM in Africa. We are grateful to the Norwegian Research Council and all members of the project consortium for making this work possible. We also thank Cecilia Tortajada and the anonymous reviewers for their useful comments. The usual disclaimers apply.

Notes

1. Indeed, the Second National Water Resource Strategy of 2013 addresses these weaknesses by adopting ‘developmental water management’ as the policy paradigm (see Van Koppen and Schreiner, this volume).
2. ZINWA’s mandate was to oversee the planning, development and management of water resources, selling raw water from government dams and providing potable water supplies to small local authorities and government institutions. In addition, it was to perform statutory functions, including research on surface and groundwater, as well as advising the minister on matters of policy and standards (Zimbabwe National Water Authority Act, 1998b).
3. The ministry’s name and location have been changed from the Ministry of Water Development and Management to the Ministry of Environment, Climate and Water. It is unclear what consequences this might have for IWRM.
4. In the restructuring of government following President Mugabe’s electoral victory in August 2013, the Ministry of Water Resources and Rural Development has been placed in the Ministry of Environment, Water and Climate.

References

- Alba, R. (2013). *Travelling with IWRM: The articulation of water permits and payments for water in policies and practices in Limpopo river basin, Mozambique* (MSc thesis). Water Resources Management Group and Earth System Science Group, Wageningen University.
- Biswas, A. K. (2008). Integrated water resources management: Is it working? *International Journal of Water Resources Development*, 24, 5–22.
- Carmo Vaz, A., & van der Zaag, P. (2003). Sharing the Incomati waters: Cooperation and competition in the balance. *UNESCO’s International Hydrological Programme to the World Water Assessment Programme*.

- Castresana, J. C. (2004). Productive uses of water at the household level: Evidence from Bushbuckridge, South Africa. In P. Moriarty, J. Butterworth, & B. van Koppen (Eds.), *Beyond domestic: Case studies on poverty and productive uses of water at the household level*. Delft, The Netherlands: IRC (Technical Paper, (41)).
- Cherlet, J. (2012). *Tracing the emergence and deployment of the "integrated water resources management" paradigm*. Paper presented during the Proceedings of the 12th EASA Biennial Conference Belgium, Ghent University.
- Cleaver, F. (1998). Choice, complexity, and change: Gendered livelihoods and the management of water. *Agriculture and Human Values*, 15, 293–299.
- Conca, K. (2006). *Governing water: Contentious transnational politics and global institution building*. Cambridge, MA: MIT Press.
- Denby, K. (2013). *Institutional integration and local level water access in the Inkomati water management area, South Africa* (MSc thesis). Norwegian University of Life Sciences, Norway. Department of Water Affairs and Forestry, Republic of South Africa. (2005). *A draft position paper for water allocation reform in South Africa. Towards a framework for water allocation planning*. Discussion Document. Retrieved from <http://www.dwaf.gov.za/Documents/Policies/WARdraftJan05.doc>
- Department of Water Affairs and Forestry, Republic of South Africa. (1997). *White paper on a national water policy for South Africa*. Pretoria: Department of Water Affairs and Forestry.
- Derman, W., & Gonese, F. (2003). Water reform: Its multiple interfaces with land reform and resettlement. In M. Roth & F. Gonese (Eds.), *Delivering land and securing livelihood: Post-independence land reform and resettlement in Zimbabwe* (pp. 287–307). Harare and Madison, WI: Centre for Applied Social Sciences, University of Zimbabwe and Land Tenure Center, University of Wisconsin.
- Derman, W., Hellum, A., & Sithole, P. (2005). *Intersections of human rights and customs: A livelihood perspective on water laws*. Paper presented at the International Workshop "African water laws: Plural legislative frameworks for rural water management in Africa", 26–28 January 2005, Johannesburg, South Africa.
- Derman, W., & Manzungu, E. (in press). Political ecology and the right to water: The case of Zimbabwe co-authored by Emmanuel Manzungu. In M. Langford & A. Russell (Eds.), *The right to water: Theory, practice and prospect*. Cambridge: Cambridge University Press.
- Faysse, N., & Gumbo, J. (2004). *The transformation of irrigation boards into water user associations in South Africa: Case studies of the Umlaas, Komati, Lomati and Hereford irrigation boards* (Working Paper No. 73, part 2). Colombo, Sri Lanka: International Water Management Institute.
- Funke, N., Oelofse, S. H. H., Hattingh, J., Ashton, P. J., & Turton, A. R. (2007). IWRM in developing countries: Lessons from the Mhlatuze Catchment in South Africa. *Physics Chemistry of the Earth, Parts A/B/C*, 32, 1237–1245.
- Gieryn, T. F. (1999). *Cultural boundaries of science: Credibility on the line*. Chicago: University of Chicago Press.
- Giordano, M., & Shah, T. (2014). From IWRM back to integrated water resources management. *International Journal of Water Resources Development*. doi: 10.1080/07900627.2013.851521.
- GoM. (1991). Lei de Águas (Water Law). Government of Mozambique, Law no 16/91 of August 3.
- GoM. (1995). Política Nacional de Águas (National Water Policy). Government of Mozambique, Resolution no 7/95, of August 8.
- GoM. (2007a). Política de Águas (Water Policy). Government of Mozambique, Decree no 46/2007, of October 3.
- GoM. (2007b). Estratégia nacional de gestão de recursos hídricos (National Water Resources Management Strategy). Government of Mozambique.
- GoM. (2007c). Regulamento de Licenças e Concessões (Regulations on Water Licenses and Concessions). Decree no 43/2007, of October 30.
- Government of Zimbabwe. (1992). *Land acquisition act*. Harare: Government Printer.
- Government of Zimbabwe. (2000). *Water resources management strategy*. Harare: Government Printer.
- Government of Zimbabwe. (2012). *National water policy*. Harare: Ministry of Water Resources Development and Management.
- GWP. (2000). *Integrated water resources management* (Background Papers No 4). Technical Advisory Committee (TAC) Stockholm, Sweden: Global Water Partnership.

- GWP. (2006). *Gender mainstreaming: An essential component of sustainable water management* (Policy Brief No. 3). Stockholm, Sweden: Global Water Partnership.
- International Conference on Water and the Environment. (1992). *Dublin Statement on Water and Sustainable Development* [online]. Retrieved June 11, 2006, from <http://www.gwpforum.org/servlet/PSP?iNodeID=1345>
- Jonker, L. (2007). Integrated water resources management: The theory-praxis-nexus, a South African perspective. *Physics Chemistry of the Earth, Parts A/B/C*, 32, 1257–1263.
- Keeley, J., & Scoones, I. (2003). *Understanding environmental policy processes: Cases from Africa*. London: Earthscan.
- Lastarria-Cornhiel, S. (1997). Impact of privatization on gender and property rights in Africa. *World Development*, 25, 1317–1333.
- Long, N., & Long, A. (Eds.). (1992). *Battlefields of knowledge: The interlocking of theory and practice in social research and development*. London: Routledge.
- Manjate, C. (2010). Analysis of water and related laws in Mozambique. In P. Van der Zaag (Ed.), *What role of law in promoting and protecting the productive use of water by small-holder farmers in Mozambique?* (pp. 9–29). Maputo: CGIAR Challenge Program on Water & Food.
- Manzungu, E. (2002). More than a headcount: Towards strategic stakeholder representation in catchment management in South Africa and Zimbabwe. *Physics and Chemistry of the Earth, Parts A/B/C*, 27, 927–933.
- Matondi, P. (2012). *Zimbabwe's fast track land reform*. London and New York: Zed Books.
- Mehta, L., Veldwisch, G. J., & Franco, J. (2012). Introduction to the special issue: Water grabbing? Focus on the (re) appropriation of finite water resources. *Water Alternatives*, 5, 193–207.
- Meinzen-Dick, R. S., & Nkonya, L. (2005). *Understanding legal pluralism in water rights: Lessons from Africa and Asia*. Paper presented at the International Workshop “African Water Laws: Plural Legislative Frameworks for Rural Water Management in Africa”, 26–28 January 2005, Johannesburg, South Africa.
- Merrey, D. J., Drechsel, P., de Vries, F. W. T. P., & Sally, H. (2005). Integrating “livelihoods” into integrated water resources management: Taking the integration paradigm to its logical next step for developing countries. *Regional Environmental Change*, 5, 197–204.
- Mjoli, N., Nenzhelele, R., & Njiro, E. (2009). *Assessment of gender equity in water user associations*. South Africa: Water Research Commission.
- Molle, F. (2008). Nirvana concepts, narratives and policy models: Insights from the water sector. *Water Alternatives*, 1, 131–156.
- Moriarty, P., & Butterworth, J. (2004). *Beyond domestic: Case studies on poverty and productive uses of water at the household level* (IRC Technical Series Paper 41). IRC International Water and Sanitation Centre.
- Movik, S. (2010). Return of the leviathan? Hydropolitics in the developing world revisited. *Water Policy*, 12, 641–653.
- Moyo, S. (2011). Three decades of agrarian reform in Zimbabwe. *The Journal of Peasant Studies*, 38, 493–531.
- Mukhtarov, F. G. (2009). *The Hegemony of integrated water resources management: A study of policy translation in England, Turkey and Kazakhstan*. Budapest: Department of Environmental Sciences and Policy, Central European University.
- Muller, M. (2014). Allocating powers and functions in a federal design: The experience of South Africa. In D. E. Garrick, G. R. M. Anderson, D. Connell, & J. Pittcock (Eds.), *Federal rivers: Managing water in multi-layered political systems*. Cheltenham UK: Edward Elgar.
- Republic of South Africa. (1998). National Water Act. Government Gazette Vol. 398. 26 August 1998. Cape Town: Office of the President.
- SADC. (2000). Revised protocol on shared watercourses in the Southern Africa development community.
- Schreiner, B., & Hassan, R. (2011). *Transforming water management in South Africa: Designing and implementing a new policy framework*. Dordrecht and New York: Springer.
- Shore, C., & Wright, S. (Eds.). (1997). *Anthropology of Policy: Critical perspectives on governance and power*. London and New York: Routledge.
- Swatuk, L. A. (2005). Political challenges to implementing IWRM in Southern Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, 30, 872–880.

- Van der Zaag, P., Juizo, D., Vilanculos, A., Bolding, A., & Post Uiterweer, N. P. (2010). Does the Limpopo river basin have sufficient water for massive irrigation development in the plains of Mozambique? *Physics Chemistry of the Earth, Parts A/B/C*, 35, 832–837.
- Van Koppen, B., Khumbane, T., de Lange, M., & Mohapi, N. (2006). Gender and agricultural productivity: Implications for the revitalization of smallholder irrigation schemes program in Sekhukhune District, South Africa. In K. Lahiri-Dutt (Ed.), *Fluid bonds: Views on gender and water*. Calcutta: Stree.
- Varis, O., Rahaman, M. M., & Stucki, V. (2008). The rocky road from integrated plans to implementation: Lessons learned from the Mekong and Senegal river basins. *International Journal of Water Resources Development*, 24, 103–121.
- Warner, J. F. (2006). More sustainable participation? Multi-Stakeholder platforms for integrated catchment management. *International Journal of Water Resources Development*, 22, 15–35.
- Wester, P. (2008). *Shedding the waters: Institutional change and water control in the Lerma-Chapala Basin*. Mexico, The Netherlands: Wageningen University.
- Whitfield, L. (2009). *The Politics of aid: African strategies for dealing with donors*. Oxford: Oxford University Press.
- Woersem, B. V., Zijlstra, P. J., & Juizo, D. (2007). *IOB evaluation water sector, Country report Mozambique*. Draft report submitted for comments to the Royal Netherlands Embassy in Maputo, Mozambique.
- Woodhouse, P. (2012). Reforming land and water rights in South Africa. *Development and Change*, 43(4).
- Zimbabwe Water Act. (1998a). *Water Act (chapter 20:24)*. Harare, Zimbabwe.
- Zimbabwe National Water Authority (ZINWA) Act. (1998b). *Zimbabwe National Water Authority (chapter 20 :25)*. Harare, Zimbabwe.