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Summary

For the past two decades, Integrated Water Resources Management (IWRM) has been considered the dominant paradigm in water resources. It is the flagship project of supranational global bodies such as the Global Water Partnership (GWP) and has also been actively promoted by multilateral and regional development banks (e.g. the World Bank; African Development Bank) as well as bilateral donor agencies which make it out to be the panacea to address the water management crisis in the global south, leading to major water reforms programmes and the rewriting of national policies drawing on IWRM principles in a range of countries in southern Africa. This paper offers a conceptual approach for studying the evolution, spread and uptake of IWRM. It then turns to the actual practices, and how IWRM has been interpreted in multiple ways, and how it aligns with existing patterns of legal pluralism. The paper proposes a conceptual framework that builds on three main themes, the *flow* of IWRM as an idea in international and national fora, the *translation and adoption* of IWRM into national contexts, and the *practice* of IWRM in local contexts. In constructing such a conceptual framework, we draw on several strands of thought, including policy discourse, network and regime theory (*flows),* translation theory and donor-recipient studies (*translation and adoption*) and theories of legal pluralism, institutional bricolage and agency (*practices).* With this framework we hope it will be possible to trace the spread, transformation and uptake of IWRM across global, national and local scales, to unearth the convergences and divergences in understandings and applications of the notion of IWRM raising challenges and issues for debate and further research and key actors operating at different levels mediating/moderating/articulating the travel of policy ideas. The latter may create generic insights on policy processes and practice that goes beyond the concept of IWRM and the water world. This framework will guide the critical study of various interpretations and challenges of how policy ideas travel at multiple political and geographical scales, from macro political forums to localised arenas and communities, speaking to wider themes such as policy translation and uptake and the politics of the development process.

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Acknowledgements

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Introduction

For the past two decades, Integrated Water Resources Management (IWRM) has been considered the dominant paradigm in water resources management (Conca 2006; Gyawali *et al.* 2006). While this concept has been around for a long time (see below), its current form gained momentum at the International Conference on Water and the Environment (ICWE) in Dublin, in January 1992. Since then it has been the flagship project of supranational global bodies such as the Global Water Partnership (GWP), (see GWP 2000). It is central to the European Water Framework Directive which emphasises river basins as management units, stakeholder involvement and water as an economic good (European Union 2000). It has also been actively promoted by multilateral and regional development banks (e.g. the World Bank; African Development Bank) as well as bilateral donor agencies which make it out to be the panacea to address the water management crisis in the global south. The promotion by these global players has led to a quasi-global industry around IWRM manifesting itself in various forms such as Master's degrees and short courses, annual symposia such as WaterNet in southern Africa, IWRM toolkits and manuals as well as major water reform programmes and the rewriting of national policies drawing on IWRM principles in a range of countries in the south. It has rapidly moved from the global north and temperate regions to many developing countries in Africa, Asia and Latin America.

However, a growing body of research has highlighted 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 and ecological outcomes due to the uncertainty and complexity of river basins and the plural, overlapping and competing formal and informal legal and customary systems. In this paper we propose a framework to study the emergence of ideas of IWRM – as constructed at the European and global levels – and their translation into narratives and practices in different countries in Southern Africa. This research endeavour engages with two objectives: (1) It studies the concept of IWRM and its principles/practices. It asks: how did it travel, what effects did it produce on the ground, what alternative futures were squashed by it? ; (2) it explores through the study of the IWRM policy odyssey how we may better understand the nature, mechanisms and key actors operating at four policy levels mediating/moderating/articulating the travel of policy ideas. The latter may create generic insights on policy process and practice that goes beyond the concept of IWRM and the water world. Our study takes on even greater importance because of the fact that AMCOW has adopted IWRM, as has the African Development Bank, a major funder of water projects. It would appear on the surface that the major promoters of IWRM have succeeded in Africa. However we would like to unpack how this process has proceeded in four African countries to examine IWRM in its phases

This framework will guide the critical study of various interpretations and challenges of IWRM policy and practice at multiple political and geographical scales, from macro political forums to localised river basins and communities, speaking to wider themes such as policy translation and uptake and the politics of the development process.

The paper begins with a selective review of the history of IWRM and its core principles. It then moves on to draw up a conceptual framework that builds on three main themes: the *flow* of IWRM as an idea in international and national fora; the *translation and adoption* of IWRM into national contexts, and the *practice* of IWRM in local contexts. In constructing such a conceptual framework, we draw on several strands of thought, including policy discourse, network and regime theory (*flows),* translation theory and donor-recipient studies (*translation and adoption*), and theories of legal pluralism, institutional bricolage and agency (*practices).* Adopting a multi-sited ethnographic and comparative methodology, we aim to trace the spread, transformation and uptake of IWRM across global, national and local scales, to

unearth the convergences and divergences in understandings and applications of the notion of integrated water management, raising challenges and issues for debate and further research.

1. What is IWRM?

Unlike what is commonly assumed, Integrated Water Resources Management (Global Water Partnership 2000) is not a new concept. The idea of 'integrated' management has been practised in many forms for decades, if not centuries, and goes back to early ideas of integrated water management in the US and Europe (Mitchell 1990; Rahaman and Varis 2005).[1] The Tennessee Valley Authority, which was established in 1933 in the US, was an early example of IWRM in practice, as it was set up as a river basin organisation to facilitate multi-purpose management to deal with water supply, pollution, navigation, flood management and conservation. Many authors have made reference to the TVA as a model of IWRM, in that it contained many of the elements, such as comprehensive planning, and paying attention to economic, social and to some degree environmental objectives (Snellen and Schrevel 2004; Mukhtarov 2009; Cherlet 2012). The many who 'rediscovered' it in the 1990s were not aware that it had been around for a while, according to Biswas (2004). Most dominant modes of water management have been characterised by sectoral approaches that separate out issues of supply and waste, water and sanitation, as well as water for food, energy, domestic supply, irrigation and floodwater management. In the 1990s, supply-oriented paradigms gave way to demand-led approaches, leading to the promotion of a holistic approach to water resources management and the reincarnation of IWRM.[2] Out of the Dublin Statement on Water and Sustainable Development (1992) emerged the four *Dublin Principles* which are considered integral to IWRM. They 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 recognise water as an economic good (International Conference on Water and the Environment 1992) IWRM's pivotal importance in water development has been confirmed in global water fora such as the World Water Fora of 1997, 2000, 2003, 2006 and 2009. It has also heavily influenced the EU's Water Framework Directive, though this is a piece of legislation that mainly focuses on water quality (European Parliament 2000; Kaika 2003). Since Dublin, IWRM has gradually emerged as the sanctioned discourse on water resources management in both the global water domain as well as in the national water legislations of SADC and other African states (Allan 2003; Swatuk 2005; Conca 2006; Swatuk 2007).

The Dublin principles of 1992 were integrated into Agenda 21 at Rio in 1992 which strongly influenced the development of IWRM. The first principle, through emphasising the need to recognise the finite nature of water resources, has led to the widespread practice of taking an ecosystem approach to water, i.e. managing water according to its hydrological boundaries (Jaspers 2003; Nilsson 2006). To put the Dublin principles into practice, IWRM emphasizes the following concepts: (1) Holistic management and Integration; (2) Decentralisation; (3) Participation, and (4) Economic and Financial Sustainability (see GWP 2000 and World Bank 2006). These concepts are of course very broad, and often difficult to implement in practice as the wide literature on IWRM reveals. Similarly, the definitions of IWRM, while very logical and sound, remain abstract even at the theoretical and conceptual level, let alone when

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[1]   See Rahaman and Varis (2005) for a detailed discussion of the forerunners of the present IWRM concept, e.g. participatory stakeholder water tribunals in Spain date back to the tenth century.

[2]   The incarnation of IWRM can be dated to the Mar del Plata conference in 1977 (Biswas 2004) but the UN is not given due credit. Instead, a forum of experts, not governments or the UN, namely the 1992 Dublin conference, gave prominence to the concept and is largely credited in the literature for its emergence.

unfolded on the ground. The most commonly used definitions include the one by the Global Water Partnership 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' (Global Water Partnership 2000). Another definition by USAID says: 'IWRM is a participatory planning and implementation *process,* based on sound *science*, which brings together *stakeholders* to determine how to meet society's long-term needs for water and coastal resources while maintaining essential *ecological* services and *economic* benefits. (...) IWRM helps to protect the world's environment, foster economic growth and sustainable agricultural development, promote democratic governance, and improve human health' (quoted in Xie 2006: emphasis in original).

Nobody would doubt the value of such processes, definitions and initiatives. Still as several authors such as Molle (2008) and Biswas (2004) have systematically argued, even though these definitions are impressive on face value, in reality, they are often unusable, internally inconsistent and un-implementable in operational terms. Thus, despite the very important aims of holistic and integrated approaches in water management, the concept of IWRM remains ideal-typical and is beset by contradictions, which makes it very difficult to operationalise and implement IWRM on the ground.

Take integration: Mitchell identifies three possible interpretations of integrated water management, based on a review of the literature (1990). The most straightforward form involves the systematic consideration of the various dimensions of water and their interdependence (e.g. quality and quantity; surface water and groundwater). The task here is to ensure adequate linkages between various water management functions, such as water supply, wastewater disposal or flood protection. A second, more comprehensive interpretation of integrated water management addresses the interactions between water, land and the environment. In this case the management tasks cross sectoral boundaries between land and water use, for example with floodplain management, the reduction of diffuse-source pollution or the preservation of water-dependent habitats. The third, most far-reaching form of integration looks beyond physical impacts to the interaction between water and economic and social development. This approach is rooted in the debate on sustainable development and addresses, in addition to the above, the role of water in, for instance, electricity generation, transportation or recreation tired old adage, but still no less true – importance of context specificity indicate that a flexible and contextually sensitive approach can help to overcome this dilemma (Mitchell 1990). Many of the difficulties experienced in the past emanated from the attempt to introduce a blueprint of river basin management – based for instance on the Tennessee Valley Authority – in very different contexts. They revealed how important it is for institutions of river basin management to respect the political traditions and culture of the host country or region (Newson 1996: 15).

Bolding (2000) has identified further ambiguities regarding integration. These include: (1) the integration of different uses of water (for drinking, irrigation, ecological functions, manufacture etc.) and how they influence each other; (2) the integration of analytical perspectives and the fact that the organisation of knowledge production tends to be along disciplinary and sectoral lines, making it a challenge to integrate different disciplinary and sectoral approaches; (3) the integration of the different institutions responsible for water resources development and management. This need exists at different levels of governance and administration where much sectoral compartmentalisation exists between different ministries (e.g. irrigation, rural water supply, forestry, land and so on). These raise the more general issue of how to organise stakeholder involvement in water and natural resources policy-making, planning, development and management. (4) Finally, water management as integrated with ecosystem services, ecological sustainability, economic growth, poverty alleviation, gender equity, employment generation, quality of life; in short, human development. Some stress the need to realise that IWRM is a process, a goal-oriented

process where the goals can be different – for example, economic development, agricultural expansion, urban water supply etc. – and where integration is not an either-or thing, but rather a question of degrees (Cardwell *et al.* 2006).

Regardless of these ambiguities, it is often overlooked that integration is also a political process (Saravan et al 2009) and we need to ask who is doing the integrating and whose interests are being represented and how contested interests should be contained (Merrey *et al.* 2005). These political and political economy aspects are often ignored because integration implicitly draws on a normative logic of Habermasian communicative rationality where different members seek to reach a common understanding and cooperative actions by consensus rather than strategic action strictly pursing their own goals (Saravan *et al.* 2009). What are essentially political economy concerns, relating to how to prioritise allocations and weigh trade-offs among different water uses and sectors, tend not to come to the fore. The factors that influence emergent 'allocation discourses' (Movik 2011), and the political economy context within which such discourses emerge, need to come much more to the fore than is the case at present. But as in the case of other approaches such as Elinor Ostrom's design principles (1990), integrated water management (Mitchell 1990) and adaptive management (Pahl-Wostl *et al.* 2010) questions concerning power, politics and contestation are often glossed over. The IWRM emphasis on the three E's - equity, efficiency and environmental sustainability – also seems to idealise win/win scenarios and whitewashes possible trade-offs and conflicts between these three goals and the resulting conflicts that usually ensue between a range of water users, decision makers as well as local people.

Jeffrey and Geary (2006) have noted a set of IWRM principles which are characteristic of many national, regional and basin-scale strategies (IWA/UNEP 2002):

IWRM should be applied at catchment level.

- It is critical to integrate water and environmental management.
- A systems approach should be followed.
- Full participation by all stakeholders, including workers and the community.
- Attention to the social dimensions.
- Capacity building.
- Availability of information and the capacity to use it to anticipate developments.
- Full-cost pricing complemented by targeted subsidies.
- Central government support through the creation and maintenance of an enabling environment.
- Adoption of the best existing technologies and practices.
- Reliable and sustained financing.
- Equitable allocation of water resources.
- The recognition of water as an economic good.
- Strengthening the role of women in water management.

These principles are, however, extremely broad and retain the ideal typical, all or nothing character that has been so criticised above. While the principles are indeed very holistic and capture the social, biophysical, economic and hydrological principles of water management, in reality more attention has gone into increasing the efficiency of water use through transfers into higher value-added areas or through new technologies than to the equity and social justice aspects that are central to human development (Mukhtarov 2007; UNDP 2006). In this sense, IWRM often has taken a technical focus rather than a social focus.

In this vein, Merry *et al.*(2005) have criticized IWRM for being too narrow and not prioritising the livelihoods of poor people and ignoring wider natural resources management and the links with land, a valid criticism considering the growing trends of land and water 'grabbing' in sub-Saharan Africa (Benjaminsen and Bryceson 2012; Mehta *et al.* 2012). Furthermore,

IWRM does not explicitly focus on poverty reduction issues and wider development concerns. In fact, in its early years, there was an ideological tussle between those who felt that IWRM (by its focus on 'second generation issues' such as demand management and water re-allocation) could be harmful in a range of African contexts where water resources development is often more necessary than management measures and where agriculture contributes to poverty reduction and livelihood security. These issues call to question the application and logic of IWRM in Africa.

Despite contestations, or perhaps rather because of the very ambiguity around the meanings and definitions of IWRM, it became the rallying point for international water policy (Conca 2006). IWRM has become a ubiquitous buzzword, spawning a massive amount of output, giving rise to reams of analysis and assessments and continuing to hold a firm sway over policymakers, practitioners and academics (Van der Zaag 2005; Molle 2008; Mukhtarov 2009; Srinivasan *et al.* 2011). Its conceptual renewals appear as 'fads', 'fashions', 'bandwagon concepts' or 'buzzwords' (Cornwall 2007 in Cherlet 2012). It has become a sanctioned and hegemonic discourse (Allan 2003; Conca 2006). A key question, then, is: Why has IWRM become so popular and so resilient? One possible answer is that IWRM has 'something for everyone', as it is so vague; it allows ample space for interpretation. Even though it means different things to different people, everybody from river basin officials, donors and government agencies can say they are doing IWRM whilst getting on with whatever they happen to be doing at the time. For example, in late 2012, a representative of the African Development Bank in Zimbabwe said that IWRM guides the Bank's work in the continent. Donor focus in Harare, however, had shifted to urban water supply and sanitation (largely due to the cholera problems in Harare) and there was very little evidence of any IWRM being applied on the ground. When asked whether the emphasis had shifted from water resources management and development to water supply and sanitation, the official said that IWRM was still the guiding principle which allowed donors to (1) integrate water and sanitation rather than just look at water; as well as (2) build capacity and institutional structures in-country; and (3) create better policies and facilitate a water reform process (Interview with AfDB official, 1 November 2012).

Thus, 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, be it gender,[3] ecological sensitivity and conservation of resources (Boon *et al.* 2012), greater engagement of 'stakeholders' (Dungumaro and Madulu 2002; Wester *et al.* 2003; Kemper *et al.* 2007; Warner 2007; Parés 2011) or economic efficiency (Pigram 1997; Briscoe 1996; Briscoe 1997; Schiffler 1997). IWRM adoption usually accompanies a water reform process where a new water policy, water law and regulatory framework is introduced, often with donor influence. Each of the four Dublin principles has wide appeal, often for very different audiences and for widely differing reasons. The emphasis on holism and integration appeals to many ecologists and hydrologists, accustomed to thinking in terms of complex, interlinked systems. The importance of participation speaks to policymakers, and NGOs, the first sometimes as a means of devolving responsibility and getting a burden off their shoulders as well as concerns for genuine participatory planning (see Kemper *et al.* 2007 for a review of the degree of decentralization). The principle of the importance of women aligns

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[3]   http://ebookbrowse.com/water-alliance-gender-and-iwrm-resource-guide-complete-pdf-d239014585
http://www.genderandwater.org/page/5390.html
http://www.pacificwater.org/pages.cfm/water-governance/integrated-water-resource-management/meeting-reports-outputs/pacific-integrated-water-resources-management-workshop-2008-1/background-meeting-documents/iwrm-gender.html
http://www.docstoc.com/docs/15351198/Gender-and-IWRM-How-to-integrate-Gender-Concerns-into-IWRM
http://www.genderandwater.org/page/2417.html

with the increasing emphasis on gender mainstreaming in development,[4] and the principles of acknowledging water as an economic good appeals to economists, planners, and entrepreneurs. Its enduring popularity is due to its claims to achieve a holistic and comprehensive approach in a sector beset with reductionism, fragmentation and compartmentalization (Biswas 2004). Indeed, in the post Dublin world of the 1990s when the economic aspects of water were endorsed over its cultural and social dimensions, IWRM provided a way to address multiple goals in one go. Seemingly addressing all these disparate concerns, IWRM provides a common ground, a framework within which to discuss water matters. Precisely because it holds such wide latitude for interpretation, it continues to challenge and prod people into getting to grips with the concept.

Molle (2008) conceptualises IWRM as a 'nirvana concept' – a concept that embodies 'an ideal image of what the world should tend to' (p. 132). However, as Molle admits, the likelihood of achieving Nirvana is low. Still, the possibility of achieving it makes it attractive and it has become a focal point for donors and summits, as well as national governments. It is thus useful to conceptualise IWRM as a 'boundary term' (Gieryn 1999) that different actors in scientific and policy worlds interpret and deploy in different ways in accordance with prevailing political interests. Such boundary and 'nirvana' terms help galvanise resources and action. But they also obscure the political nature of water resources management and are liable to be hijacked by particular interest groups to advance their own agendas.

2.   The uptake and spread of IWRM

The IWRM paradigm is the most influential policy model currently being implemented in basins around the world, including in Africa (GWP and INBO 2009). 80 per cent of countries around the world have IWRM principles in their water law or policies and two-thirds have developed IWRM plans (see Cherlet 2012). 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' (Conca 2006, emphasis in original). How such globally defined constructs of flexibility and vagueness translate in diverse political, cultural and social contexts around the world, and how and to what extent they become locally appropriate are thus key questions.

As discussed, an 'integrated' approach to water resources management evolved in response to the ineffectiveness of narrowly focused and isolated solutions to water resource problems. A large body of research, however, has documented how different rationales underpinned the introduction of basin-level management, often rooted in local socio-political and economic contexts. For example, in the USA river basin management was originally a response to drought and limitations to urban development (Mitchell 1990), in Spain in the 1920s and 30s it was an important tool for modernising agriculture (Swyngedouw 1999), whilst in England the central motives shifted from land drainage via flood protection to securing adequate water supply (Newson 1997). Certain political, economic or professional interests were favoured at the expense of others – in Spain, for example, it was used by a new generation of wealthy farmers as a tool to undermine the traditional water regimes of the landed aristocracy (Swyngedouw 1999, see Moss 2003). Bolding (2008), drawing on Teclaff's seminal work on river basin management, argues that there have been three waves in river basin management – one around the end of the 19th century that was inspired by both

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[4]   While it is also fair to note that narrowly defining gender as being about women, 'conveniently' parks and sidelines the issue beyond mainstream business in the male dominated water world. A redefinition of gender as being also about masculinity, would probably facilitate bigger inroads into changing gender relations and practices in the water world.

geopolitical and practical (invention of reinforced concrete) considerations in the Indus, Nile and Western US; a second wave around TVA and its clones worldwide, and finally a re-invented use of river basin management latched onto IWRM in the 1990s. Thus, there are diverse beginnings and interpretations of what constitutes river basin management in different countries, even though since the 1990s, there is an international consensus that river basin management is the best way to protect water resources in an integrated fashion.

The attractiveness of management based on river basins is evident in the European context as well. The European Water Framework Directive (WFD) was created in 2000 as a response to the fragmented legislation relating to water, and also to the mounting concerns among European citizens who perceived water pollution to be an increasing problem (Kaika 2003). However, while the WFD draws heavily on IWRM, some authors have separated out the Water Framework Directive and IWRM as two distinct discourses (Beveridge and Monsees 2012), but whereas IWRM constitutes an approach – a management philosophy, if you will – the WFD is a piece of legislation. While it adopts several of the principles of IWRM in the sense that it advocates an ecosystem approach along hydrological boundaries and the principle of subsidiarity, it does not pay much attention to development of water resources – its primary focus is water quality, introducing the concept of 'good ecological status'. Gender and poverty dimensions are completely absent (Rahaman *et al.* 2004). Still, the WFD is seen by some as a version of IWRM for Northern Europe.

The early versions of the WFD required countries to create river basin institutions (where none such existed) from scratch. However, Germany vetoed this, and the end result was that the Directive allowed countries wide latitude of discretion in terms of determining how they wished to interpret and implement the Directive. This has resulted in a variety of modes of implementation (Hedin *et al.* 2007). Moss (2003) has shown how it is up to each member state to set up appropriate administrative arrangements for each river basin and district. He also demonstrates how river basin management as conceptualised at the European level raises questions of 'fit' and 'compatibility' with national and sub-national institutions of water management not arranged around river basins. While river basin management seeks to manage water according to a logic of ecosystems rather than political-administrative boundaries, in countries such as Germany there are problems of 'interplay' between water and other institutions (e.g. agriculture) which could be exacerbated through the creation of a different territorial unit for water management. Therefore the WFD has not proven effective and very limited management plans have been produced. Thus Germany is seen to practise a form of IWRM 'light'.

WFD has signaled a shift away from government 'command-and-control' styles of resources management to a more governance-oriented approach which manifests itself in different ways in different countries. Participation is one of the key principles of IWRM. But even in so-called mature democracies in Europe, public participation has been fraught with problems. Water authorities have adopted a very minimalist interpretation of public participation often taken to encompass information available in journals, newspapers and on the internet (Moss 2003). The implementation of the WFD and the emphasis on participation has led to a shift from social contestation to consensual governance (Parés 2011). While civil society and social movements have been able to gain access to policy-making processes, their participation has not challenged existing geometries of power (*ibid.*). Parés (2011) argues that new water governance arrangements are foreclosing the possibility to change the established system leading to increasing managerialism and consensual politics, a sentiment that is echoed in Swyngedouw's work on 'post-democratisation', where he explores the dynamics of de-politisation and the erosion of democracy and shrinking public spheres (Swyngedouw 2011).

Elsewhere in the world, Australia is considered to be the model for state-of-the-art water management and is a Mecca for courses on IWRM for officials from countries such as India and South Africa. But even here, even though states were encouraged to have legislation to

support IWRM, not all of them have developed the required policies and legislation to empower catchment and watershed groups (Bellamy *et al.* 2002). This brief discussion in the Western context should highlight that the 'wicked' nature of water management has not been resolved through IWRM, neither in Europe through the WFD, nor in the USA or in Australia, which all have a long history of engagement with integrated water management practices.[5] If integration is so difficult here, one can imagine that the challenges in an African context are even more wicked. However, this argument might also be inverted – the lack of institutional density in many African countries may offer a wider scope for radical redesign compared to many Western settings, where a lot of institutional resistance is to be expected against any attempt to reform the way things are done.

This is largely due to the presence of legal pluralism, overlaps between informal and formal water rights and environmental conditions that differ markedly from those countries where IWRM originated. Africa's rivers are larger, more complex and variable, and far more prone to extreme events (Elberier and Babiker 1998; World Bank 2009) than are rivers in temperate zones, and there is a dearth of data on both hydrology and usage. Moreover, an important aspect of IWRM is its emphasis on 'holistic' management, and the associated trend of making the State a trustee (or in some cases the outright owner) of a country's water resources, and instituting administrative, time-bound user rights. But IWRM also emphasises decentralisation, and efforts to decentralise decision-making has led to experimentation with new institutions, new procedures, new accountability standards and new planning processes. However, the capacity of national governments to ensure that these are followed remains problematic (Ribot and Larson 2005). Research suggests that IWRM policies in Africa tend towards (*re-)centralising* power (Movik 2010) and facilitating the rise of expert authority over locally situated knowledges and management practices (Biswas 2004; Shah and Van Koppen 2005). Furthermore, local customary arrangements matter. African nation-states tend to have plural, overlapping and competing formal and informal legal and customary systems, and most countries in Sub-Saharan Africa are characterised by primarily informal water users' practices (Biswas 2004; Shah and Van Koppen 2005). There are also problems around participation, elite capture and the importance of local social, gender and power relations (Van Koppen *et al.* 2007). Such unintended consequences of development interventions and discourses are not uncommon (*cf.* Ferguson 1994).

As the preceding discussion has highlighted, even though the idea of integration has been around for decades, the last two decades have seen a dramatic rise in the IWRM paradigm as the solution to address a country's water management problems. However, challenges in implementation exist around the world, particularly in African contexts where donors rolling out water reform and IWRM have often ignored ecological, socio-political and cultural complexities as well as historical legacies, resulting in poor or inadequate implementation. We now go on to presenting the key aspects of our conceptual framework.

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[5]   In water management discourse, this is now a move towards 'adaptive management' as a way forward to embrace uncertainty, complexity and address the 'wicked' nature of water management (see Pahl-Wostl *et al.* 2003). Adaptive management is also emerging as more important with growing climate change challenges, something that was not centre-stage in the early 1990s when the Dublin principles emerged. How IWRM fits into adaptive management and climate change discourses will be an important component of our research.

3. Outlining a conceptual framework to studying the flows, translation/ adoption and practices of IWRM

In our study, we will map (i) the rise of the *idea* of IWRM, and how it has become institutionalised within global institutions and networks, (ii) how it is being translated, adopted and transformed within national contexts in Southern Africa, and (iii) how it is practised on the ground in different local contexts. Mapping the three stages – rise and spread of ideas, translation/ adoption, and implementation - we will draw on several strands of thought, including discourse-theoretic approaches, regime theory, network theory and translation theory. However, before moving on to discuss each in turn, an important caveat is in order, as it is important to appreciate that these stages are not discrete by any means. Echoing John Dewey's (2007) admonition against drawing too sharp divides between theory and practice, clearly ideas and practices reinforce each other in a constant back-and-forth process and the division presented below will necessarily entail a host of overlaps across various scales and domains.

3.1 Flows – studying the emergence and spread of IWRM as an idea

There is an abundance of case studies documenting the implementation of IWRM in various guises in different country contexts (for a few illustrative examples, see e.g. Sokile *et al.* 2005; Kemper *et al.* 2007; Stålnacke *et al.* 2008). However, very few have been done on the spread of IWRM as a set of ideas and how these get morphed, translated and obfuscated through processes of negotiation and transformation at the global, national and local levels (exceptions are Mitchell 1990; Mukhtarov 2009 and Cherlet 2012). One reason for this is the challenges posed in terms of how to study such processes of flows and transformations: how policy ideas travel, evolve and are taken up, translated and transformed.

This may have something to do with the fact that policy is a diffuse concept, and it is difficult to get to grips with what policy actually is. Many conventional studies of policy talk about policy as if it were a purely logical, reiterative process (Hill 1997; Hill and Hupe 2002). The idea that it is possible to address a particular problem and make a well-informed decision and objectively evaluate the policy is quite problematic, as it ignores the role of individuals, networks and 'policy entrepreneurs' (Cobb and Elder 1979; Shore and Wright 1997). This study conceptualises policy as *process* rather than instrumental prescription. Policy processes take place in a variety of arenas, involving different policy actors and degrees of stakeholder involvement at different scales (global-regional-national-local). The articulation as well as the negotiation and crafting of dominant policy ideas reflecting different institutional interests (Wester 2008) results in the emergence of new policy discourses that predominantly travel from the global to the local scale. However, this is no one-way process. Rather, various actors push different ideas and interests in different arenas and policy networks, emphasising the recursive nature of policy processes.

Policy studies have expanded to take into account more heterogeneous perspectives on policy and what it is. The analysis of policy ideas, policy and policy change has only relatively recently become a field in its own right (Pressman and Wildavsky 1984; Lindblom and Woodhouse 1993; Fischer 2003; Hajer and Wagenaar 2003). An important aspect is the role of *advocacy*, drawing on Sabatier's (1988) work on 'advocacy coalitions'. The basic idea of 'advocacy coalitions' is that sets of ideas exist about causation and value in public policy, and coalitions form because certain interests link to them. However, Hajer (1995) argues that the 'advocacy coalition' approach does not pay sufficient attention to the importance of discourse itself, arguing that the very discourses or the 'ensembles of ideas' to be a focus of

scrutiny in and of themselves, and how 'epistemic communities' (Haas 1992) serve to propagate particular paradigms. Keeley and Scoones (2003) did pioneering work on the politics of environmental policy processes in Africa. They developed framework that combined different approaches to understanding policy flows, including (1) knowledge/discourse (2) actor/networks and (3) politics/interests where power emerges as central throughout the analysis, which provides a useful point of departure for our analysis as well. To understand how IWRM has emerged as a global ideology in water management, we will draw on Foucauldian analyses of discourse (Foucault 1980; Foucault 1991). The vocabularies and concepts used in dominant paradigms such as IWRM represent a form of power, in that they promote or constrain particular ways of acting and being (Foucault 1980; Foucault 1991). To understand diverse perceptions of IWRM at multiple levels, we will draw on the critical literature of framing which highlights the process of '…selecting, organizing, interpreting and making sense of a complex reality to provide guideposts for knowing, analyzing, persuading and acting' (Rein and Schön 1993).

Regime theory is another approach to understanding the spread and establishment of particular paradigms. Regimes can be understood as a set of 'agreed-upon rules of the game that will yield convergent expectations and normative prescriptions, information flows and institutionalized relationships' (Conca 2006: 11). Examples of such regime –building include transboundary co-operative management regimes, the dams movement, the increasing neoliberalisation of water, but also focuses on an increasingly concentrated and extensive international network of experts, including managers, technologists, economists, analysts and policy professionals. There are distinct sets of norms about water governance, and one such set is that produced by international water policy networks working to promote global water governance according to largely rational-functionalist ideas about integrated water resources management. Hence, in order to trace the spread of such norms one must understand the specific content of a particular normative framework, and map the various nodes, sites, networks and platforms within the international system and world politics where such norms have begun to gain some traction, and to examine how such norms embed metanormative stances towards authority, territoriality and knowledge, concentrating on institutional building in nondomestic political spaces, and highlighting where such institutionalisation occurs (Conca 2006).

Mukhtarov (2009) in his study of the emergence of IWRM and its incorporation into Kazakh planning approaches, emphasises the need to combine studies of policy transfers and global networks, looking at what he coins Global Policy Transfer Networks. This refers to the 'process by which knowledge of policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system' (Dolowitz 2000; Dolowitz and Marsh 2000). He usefully sketches three broad stages of concept development: (i) knowledge-generation from bottom-up; (ii) policy standardisation and formulation at the international level, (iii) 'marketing' and promoting policy transfers from the top-down. Different kinds of networks are involved in the different stages – the standardisation process occurred mainly through the global institutions, meetings, etc.

With respect to the rise of IWRM as an idea, Mukhtarov (2009) stresses the 'standardisation' of the concept through global institutions, Conca (2006), on the other hand, emphasises the emergent fragmentation in understandings of the IWRM concept at the global level, such as the emergent confusion surrounding the mandates of two of the biggest global 'water outfits' the Global Water Partnership (GWP) and the World Water Council (WWC). For some, IWRM represents an idea of comprehensive planning, for others it implies a shift from a state-supplied public good to a market-based approach, what Delli Priscoli (1998) calls a dialectic between two philosophies, the planning model and the market model – the reality probably being that it is more like a continuum with different 'water outfits' and governments

advocating somewhat different interpretations, which is why IWRM is so widely adopted as it is flexible and can be adjusted to existing arrangements.

The rather technical nature of IWRM might go some way towards explaining its widespread appeal, as it downplays the intrinsically political nature of water and the associated tradeoffs. By contrast, Actor-Network Theory (ANT) maps relations that are simultaneously material (between things) and semiotic (between concepts (Callon and Latour 1981). ANT demonstrates how knowledge production takes place as a result of interaction of different groups of actors (human and non-human) with different interests. Jan Cherlet (2012) draws on ANT to understand how a range of actors (academics, donors, INGOs and local officials) draw on various alliances to support IWRM. His work stresses the need to conduct ethnographic research on actors who promote and create fashionable concepts such as IWRM. He thus charts how a range of actors established various connections and assemblages around IWRM, a key one would be to problematise the fragmented nature of water and problems of access after the failed 1990s decade to propose a new solution around integration. He also focuses on the key role played by non-human devices such as the Dublin principles, organisations such as the GWP, WWC etc. and argues that ANT urges us to look at why a paradigm such as IWRM attracts so much donor attention and money. This has little to do with actual performance on the ground but instead is due to the success of the alliance and network and how the apparent success of IWRM is interpreted and sustained by a host of actors.

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. We argue that it is useful to draw on a combination of these approaches to map the conception of IWRM, and its spread and institutionalisation in different nodes and sites. The first challenge is to understand the rise and spread of IWRM as a hegemonic discourse, drawing on discourse-theoretic approaches, and how it has been propagated through different networks and channels. Mapping the ascent, coalescing, spread and fragmentation of IWRM poses conceptual challenges. In order to do this, we will draw on different elements of the policy and regime theory literature discussed above. Analysing policy as a set of discourses helps to bring out the persuasive nature of ideas, and how language itself shapes thinking and the conceptualisation of particular norms. Coupled with an understanding of how such ideas get propagated and institutionalized through different nodes, sites and entries into becoming an institutionalised dogma it is useful to draw on both regime theory as well as Mukhtarov's Global Policy Network Transfer to map how IWRM has been institutionalised (*cf.* earlier sections) and the role of various actors (both human and non-human) and networks in contributing to its global appeal. Finally, our starting point is that ideas and policies that travel will always be socially constructed and subjected to contingencies and ambiguities in governance and interpretation (see Mukhtarov 2009) which takes us to the issue of translations, adoptions and transformations.

3.2 Translations, adoptions and transformations

Here we draw on insights from translation studies (see Rørvik 2007) and the anthropology of development literature (e.g. Long and Long 2007) to understand how IWRM as an idea has been taken up, translated, adopted, resisted or contested in national and local policies and programmes.

Let us begin with translations. Some key questions pertinent in this respect are; why, how, and by whom are concepts translated? There are intended and unintended acts of translation. Intended translation occurs when there is a conscious effort to take up an idea and concert it into a form appropriate for the particular local context. For Latour, translation is the 'spread in time or place of anything – claims, artefacts, goods...' (Latour 1986: 267). Policy translation has been put forward by Freeman (2009), Lendvai and Stubbs (2007) and

Mukhtarov (2009) as a way to look at the ways in which policies and their accompanying technologies change. Seen in this light, translations allow for bringing together global and local realities in understanding how ideas are adopted and implemented (see Mukhtarov no date).

Regarding the question of *who* is doing the translation, since we are looking at the flow of the concept into four Southern African countries, we need to take account of the role of donors and how national governments and donors interact. There are many different strands of literature focusing on the role of donors with regard to policy influence (e.g. Harrison 2004; Gibson *et al.* 2005; Easterly 2006; Fretheim 2008). However, relatively little attention has been devoted to the actual processes of negotiation between donors and national governments, and how policies get articulated as a result. Recently, however, research carried out by Lindsay Whitfield and her team took a comprehensive approach to donor policy, investigating the role of donor influence on national policy-making, and the degree of 'ownership' exercised by governments over national policies (Whitfield 2009). They make a strong case for respecting the sovereignty of African states,[6] arguing against a prevalent notion of 'neo-patrimonialism', which refers to the idea that African states essentially are hybrid creations in which elements of a Weberian rational–legal system blend with 'patrimonial' practices characterised by client–patron relations, and a systematic appropriation of public resources and personalised political authority. Rather more fruitful than such generalised ideas is a historical approach that seeks to analyse the meeting of African societies and liberal Western institutions in the post-colonial period.

How do current processes of negotiation between donors and recipient governments play out against the backdrop of specific historical trajectories? This is precisely the question we need to ask with regard to the implementation of IWRM – rather than statist models looking at e.g. institutional fit and scale (Galaz *et al.* 2008) there is a need for thick, rich descriptions of how the ideas pushed around at water summits are picked up by donors and negotiated in government offices and boardrooms. To what extent do national governments exert real influence and 'ownership' over these policy ideas and the processes of implementation? Is the idea of IWRM a 'donor baby' that meshes poorly with national or local needs? What forms do negotiations of ideas and practices take, what is carried through and what is left at the wayside? Understanding the extent of ownership and authority in influencing donor-driven policies involves understanding the contextual and historical factors that influence recipients' particular choices. Whitfield and Fraser (2009) offer an effective overview of existing literature on donor–recipient relationships, highlighting the enduring influence of 'rational-actor' models that draw on new institutional economics and game theory to explain and model client–patron relationship (see Gibson *et al.* 2005, for an example). However, we will by necessity have to take a diachronic approach – not having had the opportunity to take part in these meetings, we will need to trace the gist of discussions through interrogating the memories of people present, but since we are not party to the actual negotiations themselves we will only be able to provide a fragmentary history and partial interpretation – but at least these histories and interpretations can help to flesh out the story of how IWRM has travelled.

While these models have offered important insights, it is far more useful to appreciate and understand the structural conditions and the economic, political and ideological factors that affect negotiating capacities of donors and recipients. This stresses the need for rich descriptions of the particularities of the historical, political and economic context, showing how these influenced the relative negotiating capacity of donors and recipients. Studying the role of donors and their interactions with national governments will not be confined merely to the process of negotiation, but will be a cross-cutting dimension, as donors are key in the

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[6] They thus take issue with the view of any scholars' notion of sovereignty as something suspicious, 'a thin veneer justifying dictatorships and brutality within states' (Whitfield and Fraser 2009: 7). The main argument for this view is that colonialism left in its wake many dysfunctional quasi-states that cannot be left to their own devices.

emergence and consolidation of the concept, as well as in the practical implementation phase – and then they all too often leave (as in Zimbabwe) prematurely.

The domain of knowledge production and the politics of knowledge and discourses also matter. Foucault and his concept of discourse stresses the mutual production of dominant institutions and knowledges, which embodies and reproduces relations of power (Foucault 1980). The Foucauldian perspective also highlights how discourses of IWRM or water governance are embodied in policies, their rationale and implementing bureaucracies and the effects these discourses may have on rural peoples' lives. This is one way to explain the power and reach of IWRM and the ways in which it is incorporated into the national agendas and by local people and basin officials into their work and vocabulary. There is a danger though that this approach risks viewing state bureaucracies, river basins etc. as monoliths; subsuming practice into discourse appears to absolve the actors involved of agency, intentionality and in particular responsibility, while obscuring the everyday dilemmas and situations of interaction faced by rural people and administrators (Grillo 1997) and the ways in which local people and local officials could adapt, adopt and subsequently benefit from dominant discourses and interventions. This approach thus needs to be complemented by a critical political ecology (Biersack and Greenberg 2006; Peet and Watts 1996; Forsyth 2003) in order to examine contestations around different knowledges and flows and different interests across multiple scales.

Furthermore, we also need to leave space for contingencies, agency and unpredictability. As many works in development studies have demonstrated, planned interventions have unpredictable outcomes as state projects and practices play out in relation to people's own projects and practices, and the relations of power in which they are structured (Long and Van der Ploeg 1994; Long and Long 1992). Thus, in our studies of IWRM on the ground, we will need to pay attention to the articulations and actions of different stakeholders and their practices in different sites, and the complexities at the 'interface', be it between communities and extension workers, basin officials, NGOs and also researchers like ourselves. Indeed, it is often through such 'interfaces' and 'encounters' that dominant policies and prescriptions are resisted or adapted and transformed. Thus, it is also important to study whether local water reforms and top-down processes such as IWRM can open up space for contestations and alternative articulations.

3.3 Practices – studying the implementation of IWRM in local contexts

A historical approach will be required to look at impacts of water reform processes at the macro and micro levels. As socioeconomic theorists (e.g. Etzioni 1985) and economic sociologists (e.g. Granovetter 1985; Granovetter and Swedberg 1992) have highlighted socio-economic action and institutions are embedded in ongoing social and personal networks. Thus, the over-emphasis on 'efficiency' issues in institutional arrangements or water management could ignore wider questions concerning political economy and history, as well as how what is 'efficient' for one person may not be 'efficient' for another. Thus, a historical and political approach will be necessary to map out water reform processes in the various countries under study as well as processes of institutional change at both the national and basin levels.

Understanding the dynamics of IWRM interpretation and practices on the ground also means looking at the relationship between structure and agency and drawing on approaches of sociologists of the middle ground such as Giddens (1984) and Bourdieu (1977) who show how some action and practices serve to reproduce structures, whereas other actions have agency, subverting established norms and perhaps serving over time to shift them. This interplay of agency and structure only becomes visible through a historical sociology (Abrams, 1982), thus a kind of path dependency. Thus, with respect to IWRM we need to ask, how are IWRM policies and programmes reproduced? How are they altered or subverted and by whom? Which historical conditions in-country have led to diverse

articulations and interpretations of IWRM? What changes are accepted or rejected by those organisations and institutions most vested in the promotion of IWRM?

The actual implementation of IWRM practices on the ground will be profoundly shaped by the particular local histories and contexts, and the nature of negotiations between donors and government, and other key actors within the water scene in specific country contexts. For example, decentralisation, which is a key element of IWRM policies, entails a reconfiguration of domains of bureaucratic power and responsibilities, and consequently of changing forms of accountability and state control, rather than the mere devolution of power to lower levels. Water bureaucracies have been particularly resourceful in maintaining their command-and-control orientation under the guise of apparently drastic institutional reforms (Ferguson 1994; McCool 1994; Rap *et al.* 2004). This requires careful study of bureaucratic domains, organising practices (Law 1994; Long 1989), and new ways of engineering consent and control at a distance (Miller and Rose 1992). Even though IWRM seeks to resolve 'wicked' problems, it could be a way to control the unruly and 'wicked' and make the illegible 'legible' á la Scott (1998).

This takes us to the study of local-level institutional arrangements around water management at the basin and local level. Institutions managing water resources are conventionally viewed as rules, regulations or conventions imposing constraints on human behaviour to facilitate collective action (e.g. Ostrom 1990; North 1990). But such approaches can downplay people's agency and the political processes that are embodied in the shaping of institutional arrangements managing water. Other approaches offer alternatives which see institutions in more processual and dynamic terms (Cleaver 1998; 2012; Mosse 2003); as the product of social and political practices; as sites where production, authority and obligation are contested and negotiated (Berry 1989), or as part of the interplay of knowledge and power.

Common Property Resources (CPR) analyses have made important contributions in focusing attention on the importance of informal institutions in natural resource management. However these approaches have looked at purposive institutions, indeed frequently assuming that institutions emerge (are crafted, in Ostrom's terminology) specifically to perform certain water resources management functions. This contrasts with other approaches (e.g. Cleaver 2012) which look at the complex matrix of institutions in which people live their lives, and in which water management is located. These institutions are usually power-laden, gendered and not necessarily inclusive. Clearly, communities within which new IWRM related institutions are introduced are diverse and embody conflicting interests of water use. Thus, many new IWRM related institutions (such as water user groups) that are specifically created in reform processes can also be beset with conflict, factional divisions and power politics and can also reinforce heterogeneous patterns of resource use based on dominance and dependence. However, these issues are rarely acknowledged in the idealised IWRM literature, though fairly standard and well known in the water politics literature (e.g. Mosse 2003; Cleaver 2012; Mehta 2005).

Finally, as recent approaches concerning 'bricolage' highlight (*cf.* Cleaver 2012), it is 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. In this 'messy middle', institutional arrangements may be highly contested, and beset by ambiguity and openness to divergent interpretations (Mehta *et al.* 1999; Cleaver 2012). Here the study of legal pluralism especially in the water domain (Derman *et al.* 2007; Meinzen-Dick and Pradhan 2001; von Benda-Beckmann 2001; Spiertz 2000) will be necessary to study how IWRM will necessarily co-exist with a range of (often invisible) pre-existing customary arrangements and how diverse institutions and property regimes create different sets of cultural practices and discourses. While different legal and institutional arrangements can create uncertainty and ambiguity, they usually offer routes to livelihood

security, enable multiple users of water as well as lead to multiple outcomes and compromises in complex settings, as shown for examples in studies of legal pluralism (von Benda-Beckmann 1981; van Koppen *et al.* 2005; Chimhowu and Woodhouse 2006).

4. Methodological approaches

4.1 Multi-sited ethnography

Having sketched out a conceptual framework, we now turn to describing how we will go about the research in practical terms. We will draw heavily on Marcus's concept of a 'multi-sited' ethnographic approach, in order to understand how IWRM plays out in different arenas (from local to global and across bureaucracies in Europe and Africa as well as in river basins and communities) we will conduct multi-sited ethnographic work. As George Marcus (1995) argues, it is necessary to move from a '… conventional single-site location, contextualised by macro-constructions of a larger social order… to multiple sites of observation and participation that cross-cut dichotomies such as the 'local' and the 'global', the 'lifeworld' and the 'system.' Resulting ethnographies are, therefore, both 'in and out of the world system' (Marcus 1995: 95). Hence our study spans different arenas and research sites ranging from World Water Week in Stockholm, the next World Water Forum, to interviews with donors and the Global Water Partnership in Europe to regional and national ministries in the four countries of study to basin level officials as well as village level work. We aim to conduct both a macro and micro analysis given that both these realms co-exist and have no meaning without each other. While such research might occasionally be dispersed and fragmented, with the macro or micro realm or one of the other methods being unduly privileged at times, multi-sited ethnographies inevitably are the product of diverse knowledge bases (*ibid.*). Hence, different sites require different methods and fieldwork conducts and, depending on the issue to be analysed, not all the areas receive the same degree of depth or focus.

Multi-sited ethnography will also allow following actors/ people at different levels – the people who formulated policies and have moved on; those participating in the summits, and actors in various donor organisations, government and basin officials as well as members of water user groups and catchment councils as well as local women and men. This approach ties up with the primary issue of documenting and mapping how policy 'flows' are transmitted along particular networks and coalitions, where the main challenge is to trace processes as they have unfolded, going back to document key events and gatherings of actors.The methods will involve looking at key documents from the summits and proceedings from the workshops, interviews with the key officials in donor agencies involved in the particular countries, interviewing the government officials mapping out the processes through piecing together timelines based on grey literature and documentation from interviewees, teasing out how processes unfolded through a historical approach). We will also review published and grey literature on the development and expansion of IWRM, conducting semi-structured interviews of key professionals within the major global water institutions, as well as other major players. In addition we also need to understand current water use issues and debates which have influenced and will influence how IWRM is accepted or not, modified or not, or just been side-lined (for example IWRM has not in the African context focused on health, but this became the major emergency and humanitarian issue in Zimbabwe).

Similar approaches will be pursued at the regional and local levels,to understand the concepts of translation and practices. A core ambition is to analyse how particular ideas, conceptions and values have carried over or been transformed in the process of translation (Rørvik 2007). Concerning the end result of these translations, the actual practices taking place at the local level, we will also draw on participant observation, focus group discussions and ethnographic methods.

These tasks and activities will be carried out in a phased, but overlapping manner, to allow for cross-checking and triangulation of different events. Research carried out in different contexts, realms and countries can be difficult and multi-sited research poses certain unresolved questions, as we are dealing with a range of globally and locally defined categories and constructions. This can only be through the juxtaposition of a variety of sources and knowledge claims from a variety of sources are investigated to constitute what could be called 'hybrid research' (Batterbury *et al.* 1997).

We will also use a combination of reconstruction via historical analysis and deconstruction (e.g. policy agendas and popular narratives) whilst locating actors within both macro and micro realms. Though largely based on qualitative data, quantitative data concerning water use, extraction, withdrawals etc. will also need to be analysed. The study will also need to use historical sources and anthropological approaches for fieldwork at the village-level.

4.2 Comparative analysis

Our research with its focus on global actors and institutions as well as four southern African countries (Mozambique, South Africa, Tanzania and Zimbabwe) will be explicitly comparative. We thus rise to Westcoat's (2009) challenge to address critical water issues in the 21ˢᵗ century through rigorous comparative analysis, drawing on rich historical experiences and geographical contexts, bringing together new comparisons of analyses, case studies and creative analogy. As discussed in this paper the rise of IWRM at the global level is a great example of the globalisation of water policy and discourse, given the number of global and European actors promoting its spread. Similarly, there is a simultaneous process of localisation with the complexities of implementation and looking at what's happening on the ground in different contexts (what we have called 'practices' of IWRM). As Mollinga and Gondhalekar (2012) argue, water studies have tended to separate out these levels and there has tended to be a polarisation between the 'generalised' and the 'contextualised', between the standard policy-prescription toolboxes, and the anthropological case studies. Thus, debates regarding what would be a 'right level' of specificity and contextuality in water policy are caught in a deadlock of polarised positions, notwithstanding convincing critiques of both standardisation and 'the glorification of community' (*ibid.*; see also Mosse 2003). We follow Mollinga and Gondhalekar (*ibid.*) in attempting to conduct a particular kind of comparative study that avoids either extreme.

The point of comparative research is to uncover significant differences of different situations and to potentially 'help to define "relevance domains" for specific policy interventions, or in reverse, help to design relevant policy approaches and instruments for given situations' (pp. 4-5). In fact, since social phenomena are invariably unique and typical, all sociological research could be seen to be comparative (*ibid.*). In our study, we will use a qualitative small-N comparative approach (see Ragin 1997 and others). The purpose of the comparative analysis is to bring out key differences in characteristics, processes, understandings and practices. A comparative approach will be helpful in identifying how framings differ and where the key ruptures and disconnections are in relation to the dominating discourses. Configurational Comparative Methods and Qualitative Comparative Methods display features and strengths of both case-oriented and variable-oriented approaches, making these techniques holistic case-oriented, but at the same time analytic in nature as it is necessary to break down cases into variables (Mollinga and Ghondhalekar 2012: 10)

In our research we will be bring together the global to the local and the local to the global through our interrogation of the diverse meanings, interpretations and understandings of IWRM in Europe, at the regional level and in-country.

In-country research focuses on detailed cases studies. In **Zimbabwe,** the study will focus on the Manyame Catchment and field sites include the Upper Manyame Sub-catchment which is implementing a unique institutional model in catchment management and the Manyame

sub-catchment which used to be characterised by intensive commercial use of agricultural water whose current status remains to be documented and was also the site of GWP initiative in IWRM planning. In **Tanzania,** research will take place in the Wami Ruvu basin which is an important yet under-researched basin for urban water supplies to the capital, Morogoro as well as coastal towns. It also has a mix of large and small-scale farming and growing land grabs with strong donor presence. In **South Africa,** research will focus on the Inkomati Water Management Area situated in the north-eastern part of South Africa in the Mpumalanga Province with a small area in the Limpopo Province. The Inkomati has been a key site for South Africa's water allocation reform and home to the first catchment management agency in South Africa. The historical legacies of colonialism and apartheid have had lasting impacts on water use patterns and affect IWRM practices and implementation. In **Mozambique,** the team has established links with the International Centre for Water Economics and Governance in Africa which is part of Universidade Eduardo Mondlane in Maputo. They helped create fruitful links with ARA-Sul (the Regional Water Authority operating in the Incomati and Limpopo rivers) and Wageningen researchers are now looking at IWRM adaptation in two different locations in the Limpopo basin (upstream (former) ProCana site in Massingir, and downstream Baixo Limpopo site near Xai-Xai).

In all four countries, research is taking place at the national, basin and local levels where the influence of global discourses of IWRM and their impacts at the basin and local levels will be investigated. The team will also 'study up' key policy actors and networks that were involved in development cooperation projects that supported the reform of water policies and the adaptation of IWRM.

The case study countries have been selected to complement each other and build on existing research work and familiarity. They allow for sufficient depth and breadth of focus of the research themes across key southern and eastern African basins in particular around intersections between global, regional, national and local processes around conflict/hotspots. They will also allow us to investigate IWRM (and perhaps IWRM fatigue) at different stages, given that South Africa and Zimbabwe have a longer history with it compared with Tanzania and how exogenous and endogenous influences coalesce together.

Four key variables have been identified to guide the comparative research process:

1. **Contextual in-country characteristics**

   Hydrological water availability and pressures on water. How much water is there, where is it, and what are the main and competing demands on water?

   Hotspots/ conflicts (Land and water grabs; historical legacies; race and ethnic conflicts)

   Historical legacies water and land rights

   Political transformations – what sort of political reforms and transformations have each country undergone?

   Economic / political climate: growth or decline?

   The nature of state and the extent of devolution of power within the field of natural resources governance (specifically water)

2. **Water reform and policy processes**

   Policy and legal reforms (GWP recognises 'policy formulation' as a precondition for creating an enabling environment).

Key actors (agencies, ministries, and departments; role of donors)

Current legislative framework, and its adequacy with respect to facilitating the implementation of IWRM (relevant issues/challenges include fragmentation of responsibility, ambiguity and vagueness, etc)

Contestations/ knowledge politics in interpretations of IWRM

3. **Translations/ adoption/ transformation of IWRM**

Process of introducing IWRM – who has been involved, how, and what has the degree of resistance/acceptance been at different levels of governance?

Donor/ national government relations – who were the key actors? Multilateral/bilateral/external agents; who did they interact with? How have discourses changed over time? What did they promote and what has changed?

Diverse articulations and interpretations: What constitutes IWRM? When is it seen to be practised and implemented*? What counts as successful IWRM or not? (NOTE that we are not going with any a priori understanding of IWRM but seeking to understand how our interviewees and research participants understand it!)*

Contestations/ transformations? How is IWRM resisted and by whom and when? How is it subverted and transformed and by whom?

4. **IWRM practices at the basin and local level**

Customary law and local practices: How does IWRM interact with local customary law and water rights?

Gender and social relations: How does IWRM interact with local gender and social relations?

User groups/ stakeholder dynamics: selective use, neglect of poor/marginalised. Creation of new conflicts?; who benefits; who participate and who is left out?

Implications for water access, equity, efficiency, environment sustainability (3Es.)

Our study has consciously decided against going with one set understanding of IWRM. Instead, we will seek out in the different research sites, diverse understandings and interpretations of IWRM. We have also consciously decided against just focusing on a small set of aspects of IWRM (E.g. participation, water as an economic good etc.) and studying how they are played out in diverse sites. Instead, in each of the case study countries, basins and locations we will study how IWRM is understood differently by different actors and what they understand by its implementation in these diverse settings. We are aware that the 'anything goes' character of IWRM may pose some methodological challenges – still we believe that taking this broad approach will allow us to study the three components (flows, translations/adoption/transformations and practices) best.

5. Conclusions

There is a rich and voluminous literature on water policy and water resources management, including on integrated water resources management. However, many studies tend to focus on single cases, or are rather technical in their nature. Though there is, too, a growing body of literature focusing on water politics too, the politics of IWRM has tended to be largely

absent from this latter vein of writing. Relatively few studies – Mitchell (1990), Mukhtarov (2009), Conca (2006) and Cherlet (2012) have sought to trace the growth of IWRM as an idea and a concept that has gained unparalleled attention in recent years. The dominance of IWRM at international fora, and the current trends to implement IWRM in a range of different developing country contexts, with very mixed results, suggests that there is a need to explore in greater detail the birth and spread of the concept and its translation and practice in diverse settings.

In this paper, we have attempted to draw up a conceptual framework and methodology for addressing these issues. Whereas much research on environmental and water governance has tended to fall into either a category of looking at institutions and institutional change at scale or studying local cases to explore the dynamics, politics and practices of resource governance and bricolage in particular local settings, we are proposing to do both within the growing field of comparative water research. The object of our study is an idea and its material implications at global, national and local levels, rather than a particular institutional arrangement or specific local practice. Such a venture necessitates drawing on an eclectic array of perspectives and theories, including discourse-theoretic approaches to analyse the emergence of a particularly powerful idea in policy, regime and network theories to explain its rapid spread and consolidation at the international level, and drawing on insights from translation theory as well as studies on donor-government interaction to explore its transposition into four different Southern African countries. Finally, examining the implications of the ideas in practice requires a familiarity with issues of legal pluralism and social anthropological perspectives. The result is thus not a neat set of analytical 'boxes' or schemata from which one can then address the issue at hand in a step-by-step manner, but rather a constellation of insights from different disciplines and theoretical traditions that allow the treatment of the topic to be lighted from multiple angles. We tend towards the rich descriptions emanating from understanding the historical and political contexts, rather than attempting to construct some derivative of institutional theory. This hints at the limits of institutional theory and the usefulness of approaches sensitive to historical and political contexts. There is a need to understand the workings of politics and policy in each individual country, as well as the history of the spread of the idea.

A key question in the unraveling of how IWRM has mapped out is also what will follow in its wake. If we are successful in building a conceptual framework that will help to understand how concepts travel and are taken up, it will also very likely aid in understanding the emergence of new trends and buzzwords, and the drivers that underpin them. New paradigms and buzzwords have emerged, and are emerging, to characterise water resource governance, such as water security, adaptive water governance (Pahl-Wostl *et al.* 2010), and the water nexus – shifting between water-energy, water-food, water-energy-food, water-land-climate, etc. (Hoff 2011; Cook and Bakker 2012). How are these emerging buzzwords shaping thinking on water governance, and what will the implications be? Will these approaches supplement or be superimposed on current practices, or will they usher in whole new sets of approaches and paradigms that will eventually replace the current hegemony of IWRM as an idea? What are the implications for deeper issues of development and democracy? For instance, there is also an emerging focus on developmental water management that puts emphasis on the role of the 'developmental state' and highlights the need to move away from management to focusing on meeting people's livelihood needs, including infrastructure (Schreiner and Van Koppen, forthcoming). We hope that our conceptual framework may be drawn on to aid further investigation and study of how concepts evolve and mutate and are absorbed as well as their impacts on more deep-seated concerns of development and justice in resource distribution.

Appendix

1992 Dublin Principles

Principle No. 1 – Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment
Since water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or groundwater aquifer.

Principle No. 2 – Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels
The participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.

Principle No. 3 – Women play a central part in the provision, management and safeguarding of water
This pivotal role of women as providers and users of water and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women's specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.

Principle No. 4 – Water has an economic value in all its competing uses and should be recognized as an economic good
Within this principle, it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price. Past failure to recognize the economic value of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources.

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