Freshwater governance conference narrative

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Water, water, water everywhere!
Water has no enemies but,
How many of us do have water?
The earth consists of 70% of water and,
Mankind is still thirsty of water;
Ladies and Gentlemen,
How many of us do have enough water?
The righteousness of mankind is still negative,
Many are those who control this water!
On this earth are many without water,
On this earth too are many in darkness,
How sad it is to see many dying of thirst;
Water has no enemy at all but, mankind has! !
The problem lies in our own hands and,
I do rest my case.

Edward Kofi Louis

The **purpose** of this narrative is to create a tapestry of governance related issues that will be deliberated in the eminent International Conference on Fresh Water Governance for Sustainable Development from 5-7 November 2012, Drakensberg, South Africa[5] . It is an effort to allow the participants/readers to view the logic used in designing the programme for the above conference.

Freshwater is naturally occurring water on the Earth's surface in ice sheets, ice caps, glaciers, bogs, ponds, lakes, **rivers and streams, and underground as groundwater** in aquifers and underground streams. As a natural resource, freshwater is not limited by boundaries, political preferences or divided responsibilities. The river is a natural integrator of a myriad of land uses, cultures, political boundaries and landscapes as it weaves its way from headwaters to the sea. It is only befitting that the society that derives benefit from the resource takes collective responsibility for its management. It is imperative that government institutions work collectively and avoid duplication, whereas in practice lines are still drawn between and sometimes within them.

Water governance is **defined** by the political, social, economic and administrative systems that are in place, and which directly or indirectly affect the use, development and management of water resources and the delivery of water service delivery at different levels of society. Importantly, the water sector is part of broader social, political and economic developments and is thus also affected by decisions outside of the water sector[6].

Water management is a traditionally technical field, but over the past two decades, water managers have realised that water management involves people and that they come at the centre of any biophysical-ecological intervention aimed at the use and sustainability of water resources. With decentralised management, the processes of making good management decisions, resides with many people and at many interacting levels. In the quest for better management, the contemporary 'issues' related to water governance have become more interdisciplinary and complex. The crux of the challenge is how the different but related 'institutions' work collectively – *how do the multiple priorities (environment, human right, growth and development), multiple actions by multiple players at multiple scales together influence natural resource outcomes*.

Defining Water Governance

Ever since the world's water crisis was described as a 'crisis of governance', there has been a concentrated global effort toward understanding the nature of governance in the water sector. Ostrom (1992)[7] defines governance simply as 'a dimension of management involving the generation of rules for management practices'. An endless number of documents have been produced articulating theories and models of '**good** (water) **governance'**, as well as numerous case studies in search of 'best practice'. The focus of these studies is most often in one of five subject areas: urban water delivery, rural water supply, irrigation management, basin level management and transboundary water governance and management. Water resources governance *per se* has not had as much focus and hence this conference is aimed at making a contribution to improved understanding of freshwater management as well as governance at various levels of scale including the regional, basin, national and sub-national levels.

Definitions of governance are many throughout the resource management literature. One key aspect is that which embraces the intent and spirit of corporate governance in all its operations. This requires the adoption of the seven characteristics of good corporate governance, namely: discipline; transparency; independence; accountability; responsibility; fairness; and social responsibility (Jonker, et al 2010)[8]. Experience shows that in lower and middle-income countries that are applying innovative approaches to

[1] Water Research Commission
[2] CapNet
[3] Institute of Natural Resources
[4] Water Research Commission
[5] For more information see http://www.wrc.org.za/freshwaterfreshwater

[6] SIWI, Water Governance Facility. http://www.watergovernance.org/whatiswatergovernance
[7] OSTROM E (1992) *Crafting Institutions for Self-Governing Irrigation Systems.* San Francisco, USA.
[8] LE Jonker, LA Swatuk, M Matiwane, U Mila, M Ntloko and F Simataa (2010). EXPLORING THE LOWEST APPROPRIATE LEVEL OF WATER GOVERNANCE IN SOUTH AFRICA WRC Report No. K5/1837/1

water and river basin management, the 'democratization' of water management is fraught with difficulties. From a social democratic perspective, including the poor and achieving substantive stakeholder representation in river basin management is premised on the redistribution of **power** and resources to enable citizens to **participate** in decisions that affect their lives. Although few would disagree that the institutions for managing river basins should be broadly **democratic**, where the boundaries of consent for river basin management are drawn is a political choice, and should be treated as such in current water reforms. Invariably, some of the **challenges** are the dynamics of governance at the different **administrative** levels when superimposed on **hydrological** boundaries within a country or when **shared** between countries, resulting in complicated institutional arrangements with unclear roles, responsibilities and inter-relationships. Decentralisation to the lowest appropriate levels, in some instances, has pre-empted some poor **institutional fits** which were mismatched in settings especially regarding the establishment of river basin authorities. Stakeholder participation has yielded varying successes in spearheading and mobilising the necessary resources for managing water at a catchment level especially where the **role of the state** as referee is unclear creating a referee/player dichotomy.

Water governance across borders

Cooperation on shared water resources is critical, especially in water-scarce regions where the upstream and downstream impacts of consumption and pollution are magnified. **Shared river basin and aquifer systems** continue to present opportunities for cooperation and joint water resources development within as well as between countries.

The fact that there are some **264 international water cooperation agreements** in place makes cooperation more likely than conflict and dispute. But conflicts and disputes occur and it is important that societies are vigilant and set in place domestic, and bi- and multilateral mechanisms through which conflicts and disputes can be mediated in peaceful and effective ways.

Water governance across sectors

Resource limitations in all sectors require a shift towards increased resource use efficiency, demand management and more sustainable consumption patterns. Without such changes, current development trajectories threaten to drive social– ecological systems at all scales towards critical thresholds. **Water, energy and food security** are inter-related and rely on the use of these scarce natural resources. There is potential to increase overall resource use efficiency and benefits in production and consumption though an integrated approach across sectors. Better integrated policy-and decision-making that account for external costs across sectors will have to complement conventional approaches aimed at only improving sectoral resource productivity. This can lead to improved overall resource use efficiency, sustainable resource management and equitable benefit sharing. In turn, institutions need to be flexible, adaptive, and enabled to cooperate with institutions representing other sectors.

Rather than creating new institutions or departments the aim should be to maximise the use of existing integrated frameworks. In recent years, considerable effort has focused toward the implementation of integrated water resources management (IWRM) frameworks and plans in Africa. These provide a foundation for partnerships between water-using sectors whose policies and strategies are governed by many factors outside the water sector.

Productivity and the availability of water, energy and land vary enormously between regions and production systems. There is potential to increase overall resource use efficiency and benefits in production and consumption, e.g. by addressing intensive agriculture (which often has higher water productivity but lower energy productivity than other forms of agriculture) or water- and energy-intensive meat products. The nexus approach can boost this potential by addressing externalities across sectors. For example, nexus thinking would address the energy intensity of desalination (also termed 'bottled electricity'), or water demands in renewable energy production (e.g. biofuels and some hydropower schemes) or water demands of afforestation for carbon storage.

Also, action to avoid land degradation saves water and energy, for example by increasing soil water storage and groundwater recharge, as well as reducing the use of energy intensive fertiliser. Water, which has only very recently received attention in the Green Economy debate, is an essential input for all biomass growth and hence for all ecosystem services and associated jobs and livelihoods. Improved water resources and intact ecosystems ('natural infrastructure') can mutually reinforce each other and generate additional benefits.

Water security is defined in the Millennium Development Goals as 'access to safe drinking water and sanitation', both of which have recently become a human right. While not part of most water security definitions yet, availability of and access to water for other human and ecosystem uses is also very important from a **nexus** perspective. **Energy security** has been defined as 'access to clean, reliable and affordable energy services for cooking and heating, lighting, communication and productive uses' (UN), and as 'uninterrupted physical availability [of energy] at a price which is affordable, while respecting environment concerns'. **Food security** is defined by the FAO as 'availability and access to sufficient, safe and nutritious

food to meet the dietary needs and food preferences for an active and healthy life'. Adequate food has also been defined as a human right.

"Water flows upstream to money and power"

Development's purpose is to improve people's well-being, give them a say in the decisions that affect their lives, and expand their freedoms, choices and opportunities. From this perspective, the way in which water resources are allocated in countries around the world is deeply problematic. Water resource allocation for a range of productive purposes, from agriculture to industry to ecosystem services, is typically inequitable. Often it is the comparatively **powerless groups** which are shut out not just to water itself but also to the processes where allocation decisions are made. Although the integrated water resources management (IWRM) approach is ostensibly guided by a balanced concern for economic efficiency, environmental sustainability, and social equity, in practice, **the social equity goal is often given less priority when water allocation decisions are made.**

In 1997, the then-UN-Secretary-General initiated a process to mainstream human rights in the UN's development programming. This process resulted in the adoption of **human rights-based approaches** by many UN agencies. On 26 July 2010 the UN General Assembly adopted a resolution on the human right to water and sanitation declaring 'the right to safe and clean drinking water and sanitation is a human right that is essential for the full enjoyment of life and all human rights' which further underscores the need of understanding the linkages between human-rights approaches and water management.

Some people are put off by the language of human rights. Human rights regimes identify **"rights-holders"** – those who can legitimately claim a right – and "**duty-bearers**," almost always government bodies, who are responsible for not getting in the way of the realization of the right (respecting the right), not allowing others to interfere with the realization of the right (protecting the right), and facilitating the realization of the right (fulfilling the right).

Some critics find it problematic that human rights language is silent on the responsibilities of the rights-holder. The idea that one party has rights but no responsibilities, whereas another has responsibilities, but no rights, strikes them as unfair. They ask questions like this: What if a subsistence farmer freely chose to move from a verdant part of the country to a desolate, barren desert; would he or she be able to claim a right to water or a right to food, and would the state be obliged to respect, protect and fulfil this right? Where does the question of that farmer's responsibility for making prudent choices fit in? In the case of the right to water, what of the responsibilities of rights-holders to avoid wasting water or polluting the water source?

Human Rights Based Approaches (HRBA) and good governance can both inform analyses of water allocation systems. A glance at the literature on both reveals that they are, in fact, startlingly similar in many respects. The objectives of each are subtly different, however. A HRBA asks us to focus on the relationship between the state (duty-bearer) and its citizens (right-holders), with the objective of safeguarding the integrity and dignity of the human person. It has been established for use as a tool for integrating human rights into development programming. A HRBA uses the substantive and procedural human rights set out in international human rights instruments, the former being used to define the goals of development programming, and the latter governing the ways in which development is done. Procedural rights include non-discrimination, participation and inclusion, accountability and access to information. Good governance seeks to achieve equitable and sustainable development through ensuring that decisions reflecting economic, social and environmental priorities take account of the views of all stakeholders, including the most disadvantaged. It encompasses the inter-relationships between individuals and the state, and also their relationships with private sector organizations and non-state authorities, as governance operates at many geographic, political and social levels, from the village to international basins. Its principles are generally recognized as being accountability, transparency and participation.

In summary both IWRM and HRBA approaches are firmly rooted in a concern for equity, equality, non-discrimination, participation, and inclusion. IWRM rests upon policies and legislation, institutional frameworks, and financial and operational management instruments, the very areas that RBA advocates seek to influence to enable people to exercise their internationally **guaranteed** human rights[9]. Obviously, this will need to be fulfilled taking full cognisance of the ecosystem requirements to sustain its functioning and continue to provide these services.

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[9] Filmer-Wilson, Emilie, 'The Human Rights-Based Approach to Development: The Right to Water" http://www.energyandenvironment.undp.org/undp/index.cfm?module=Library&page=Document&DocumentID=6282.
Mbedzi, Silas and Roger Short, Derek Weston, Nik Wullschleger, Mazwi Raquel Nomathemba, Tshaimo Matabane, "A Rights-Based Approach to IWRM : Empowering Communities to Engage in Water Management Institutions for Improved Livelihoods," Department of Water Affairs and Forestry, South Africa
Tropp, Håkan, "Water Governance Challenges" World Water Development Report, 2006
http://www.unesco.org/water/wwap/wwdr/wwdr2/pdf/wwdr2_ch_2.pdf
UNDP, Human Development Report 2006 -- Beyond Scarcity : Power, Poverty and the Global Water Crisis
WaterWiki, "A human rights-based approach to water governance" http://waterwiki.net/index.php/Human_Rights-Based_Approach

Water governance and complex adaptive systems

As our understanding of the links between aquatic ecosystems and society has developed we are encouraged to view **ecosystems** as providers of services from which we can derive benefits. Society's interest in aquatic ecosystems is thus focused on how the benefits of access to and use of services should be apportioned, a process that requires trade-off and collective decision making. The need to allocate rights to benefit from ecosystem services that are highly variable in time and space, stresses the central importance of understanding the concept of property rights in the context of common pool resources and embedding this in dialogue addressing the sharing of benefits[10].

Water governance and the natural resource system it interacts with is a **complex adaptive system** – a system consisting of many components that interact in varying degrees. Cause and effect relationships are not simple or linear and simple command and control interventions often do not work. Multiple interactions determine its behaviour (Walker and Salt 2006)[11] and this cannot be predicted by understanding how individual components or even several components work together. Variation between system components and time can lead to different outcomes from the same intervention. In these circumstances, no individual, organisation or government is in control. Although a system may be described as a complex system, this doesn't mean that its outcomes are random. The structural and functional relationships between components, and the **feedbacks** between them, usually act to maintain the system in a state that is self-sustaining. Over long time periods and at larger spatial scales, a few slow-changing variables can usually be identified that have a stronger influence than others on the status of the system. These present a much simpler focus for thinking about how to influence long-term system behaviour. Adaptive management (AM), also known as **adaptive resource management** (ARM), is a structured, iterative process of robust decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. **Social-learning** deals with considering new ideas about systems thinking and looking at all the major NRM 'institutions' together and how they interact. It may produce new insights and provide suggestions for ways forward in which components of the system reinforce rather than work against each other. (adapted from Australia's NRM governance system, 2010)[12]**.Learning by doin**g, has been defined as the good way to avoid making the same mistakes in the management of water resources over time and space.

Is it correct to classify **water as "common property**"[13]? Ostrom and Hess[14] indicate that terminology often creates theoretical problems that are difficult to overcome. They point out that the term "common-property resource" is regularly used to describe a "type of economic good that is better referred to as a ***common-pool resource*****"**. The use of the term 'property' to refer to a specific type of 'good' creates the impression that goods sharing specific attributes tend to share the same property regime. Only when a specific property regime allows the 'good' to attain specific characteristics that classify it as property, should the term be used.

This being said, it is necessary to discern the most important attributes shared by all common-pool resources. Once again we turn to Ostrom and Hess for guidance:[15] "All common-pool resources share two attributes of importance for economic activities: (1) it is costly to exclude individuals from using the good either through physical barriers or legal instruments and (2) the benefits consumed by one individual subtract from the benefits available to other."

Gendered aspects of water governance

Water remains the most vital natural resource. The bonds between people and water are primal and have a long history that spans both ancient and contemporary cultures. Bonds with water reflect the cultural values and social differences embedded in societies. There are significant **gender** differences in use, access and management of water, which helps to explain why some cultures, societies or communities are more successful than others at managing water. In many cases, gender discrimination can limit the women's and men's chances to access vital water resources, by placing restrictions on their autonomy.

Gender equality and women's empowerment goals are cornerstones of the four Dublin Principles (1992), the UN Conference on Environment and Development, (1992), the 2000 Millennium Development Summit and the 2002 World Summit on Sustainable Development (WSSD). Principle 3 of the former states "Women play a central part in the provision, management and safeguarding of water". In addition, this institutional framework is upheld by the Convention on Elimination of Discrimination Against Women (CEDAW) and the Beijing Platform for Action. Women's empowerment is critical to improve water resources management. Regional and national level solutions thus require the development of water

[10] Nkhata, BA, C M Breen, D G Hay, J Crafford and K Harris (2012). Interim research report for WRC on; embedding Property Rights Theory in Cooperative Approaches to the Management of Aquatic Ecosystem Services in South Africa. K5/2073, unpublished.

[11] Walker B, Salt D (2006) Resilience Thinking. Sustaining Ecosystems and People in a Changing World. Island Press: Washington.

[12] Ryan S, Broderick K, Sneddon Y, Andrews K (2010) Australia's NRM Governance System. Foundations and Principles for Meeting Future Challenges. Australian Regional NRM Chairs: Canberra.

[13] E van der Schyff (2011). The concept of public trusteeship as embedded in the South African National Water Act, 1998. WRC research report, K8/942

[14] Ostrom and Hess note **Error! Bookmark not defined.** above at 8.

[15] *Ibid.*

sector plans that are aligned with existing gender policy frameworks. Though considerable progress has been made, significant gaps prevail. Bridging this gender gap will require acceptance and implementation of Principle 3 of the Dublin Principles to promote positive policies, strategies and actions that seek to address women's needs; that equips and empowers women in ways defined by them.

Attitudes such as, "Women should – or should not – do this and that" or "Men are supposed to do this –but not that", may prevent either women or men from acting regarding water use, access or management. These practices often result in unfair and self-perpetuating impacts on the lives of both women and men as they reduce the benefits of development among disadvantaged groups and marginalize their contribution to society—"no water, no wealth, no well-being". This also explains why some people obtain more benefits or are more impacted from water policies.

Addressing gender and water together acknowledges these imbalances and seeks to ensure that the contributions of both men and women are recognised. To manage water effectively and sustainably, it is important to understand the different roles of men and women and to target action appropriately. Re-examining how women and men manage water will allow us to; share benefits from the use of water, make progress towards a more sustainable use of water; and maximize social and economic benefit from the sustainable use of water. This becomes increasingly urgent in a situation where water is becoming scarcer and competition between users is growing[16].

Youth in Water

This also alludes to the role and relevance of individuals and/or particular age groups on effective water governance. It is widely recognised that capacity building and sustainable knowledge transfer are critical concerns for several sectors in South Africa, and the water sector is no different. The loss of intellectual assets is a major threat to effective water management particularly in water-scarce countries such as South Africa where the onus has always been on the scientific community to find technological solutions for sectoral challenges. The repercussions for the sector include high staff turn-over as well as the loss of skills and institutional memory. Young water professionals in South Africa are therefore faced with the threefold challenge of developing their skills; finding mentors to help them do so; as well as grappling with the added responsibility of re-learning knowledge that could have been retained through sustainable knowledge transfer policies and programmes. It is therefore imperative that discussions of governance capture the way in which young professionals and the youth at large are affected by management practices, and they way in which they in turn shape the nature of governance today. Indeed global change requires us to look at issues of water governance from a multi-level lens, one which emphasises the multiplicity of actors, scale, power, knowledge and agency.

Lastly, to ensure a sustainable water future there is a need to improve **water knowledge** by sharing the results of research and lessons learned from experience. In so doing, new tools and innovative practices progressively evolve. Ways of implementing more effective mechanisms of action for change and policy dialogues between scientists, policy makers and water stakeholders provide the right environment for **effective creation, uptake and impact of water research.**

These issues will all be deliberated in this freshwater governance conference. They might not be exhaustive or inclusive but pose a variety of pertinent governance related issues that can enhance our understanding as a collective.

[16] Cap-Net UNDP and GWA 2006. Why Gender Matters: a tutorial for water managers. Multimedia CD and booklet. Cap-Net International network for Capacity Building in Integrated Water Resources Management, Delft.
AMCOW Africa Gender Strategy, 2012.