

The role of local government in Integrated Water Resources Management - potential and practice in Southern Africa.

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Abstract

Water resources are directly linked to various mandates of local government, ranging from water supply and sanitation to landuse planning and local economic development. These functions are either affected by the way water resources are managed, or have an impact on downstream water uses. This makes local governments a key player in IWRM. The local government plays its role in IWRM in two ways. In “full” IWRM local governments get effectively represented in IWRM institutions such as catchment management agencies. In “light” IWRM the local government only applies IWRM principles within its mandates. This paper provides a conceptual introduction to light and full IWRM based on a global literature review. An assessment of the current practices vis-à-vis both approaches in Southern Africa is then presented. The paper concludes that in Southern Africa there is currently a limited involvement of local government in IWRM. On one hand, IWRM institutions such as catchment agencies and river basin commissions do not seem to open up sufficiently to this local government level. On their part local governments are often too preoccupied with reaching water and sanitation targets that IWRM issues fall off their agenda.

Keywords: Decentralisation, IWRM, local government, Southern Africa, stakeholder participation water sector reform,.

Introduction

Integrated Water Resources Management (IWRM) is promoted by many organisations as a response to the so-called “water crisis”. It seeks to tackle some of the root causes of this management crisis, namely the inefficiencies and conflicts that arise from un-coordinated development and use of water resources. It is an approach which tries to move away from traditional sub-sector based approaches (water and sanitation, irrigation, industry, etc) to a more holistic approach to water management based upon a set of key principles, first formulated as the Dublin principles (WMO, 1992), and since then slightly adapted. These form a philosophy, or way of analysing, and subsequently managing water resources in situations of increasing competition and conflict between different uses.

Most countries have now embarked on water reforms using IWRM as guiding framework. The typical “package” of reforms includes the development of a national water policy, law and regulatory framework; the establishment of water resources authorities (herein referred to as IWRM institutions), mostly on the basis of river basins as units of planning, and the establishment of water allocation systems (based on Shah and van Koppen, 2006). Through such a package, it is expected that water resources can be managed in a way that promotes poverty alleviation, meet the MDGs as well as enhance equitable access to water resources for all whilst minimising negative environmental impacts. In this regard all countries in SADC notably South Africa and Zimbabwe have revised their water laws to foster decentralisation as well as ensure equitable resource allocation.

Box 1: Some key issues on IWRM and Local government in Southern Africa as perceived by LGs.

Enabling Environment	Institutional Roles	Management Instruments	General & Mainstreaming
<p>Lack of involvement in water resources management, consequences in other sectors: Lack of awareness Pollutions and down stream effects not catered for Rainwater systems are not fully exploited. (rain tanks etc) Lack of political will</p> <p>·Insufficient funding for IWRM activities-Lack of water storage capacity ·Lack of water points in settlements Need to identify how IWRM can be embedded into local government activities</p>	<p>·Catchment planning activities-Implementing agents only·Lack of a sense of ownership of community projects on the side of the communities· Need to identify specific areas where an IWRM strategy can be implemented·Responsibility (surface and GW) - who is responsible....local govt, provincial govt, national govt? Public ownership – water schemes, GW.- who takes responsibility e.g. for quality?</p>	<p>Municipal responsibility:</p> <p>·Lack of joint work with other cities downstream-lack of cooperation on actions etc·Difficult to collect fees (esp from govt agencies) ·Lack of meters (not installed or damaged, no capacity to repair, especially for big users, hospitals etc)·Pollution control – responsibility, dilution factor not accounted for· Lack of financial resources Activities and proposals have to be streamlined within any existing master plans</p>	<p>Integration:</p> <p>Local level (internal) vMetro (cross boundary between cities).Bulk supply – various sources? Eg import water (from Vaal dam (ex Lesotho) – income generator Environmental issues ·There is a need to apply components of IWRM to existing projects, and raise awareness of the potential of IWRM·Mining and other industrial activities at the expense of other users need to explore potential for recycling, or use of waste water in mining</p>

Source: LogoWater meeting, 2005.

An important stakeholder in such IWRM reforms is local government, defined here as the lowest tier of government with juridical authority over a defined geographical area (often but not always consisting of a governing body and full-time secretariat staff). Examples of local governments include municipalities and district councils. For the purposes of the Logowater project a local government was taken to be any governance institution that has legally defined mandates and powers over an area of defined geographical extent. The project has focused much of its work on its Associated Local Governments of Selebi Phikwe and Palapye in Botswana, Chokwe and Xai Xai in Mozambique, Makado and Tswane in S. Africa and Beitbridge and Bulawayo in Zimbabwe. The issues that these local governments consider key in terms of IWRM are presented in Box 1 above.

Local governments are hardly ever the government body with the mandate to lead the implementation of IWRM, nor would that be feasible (Jouravlev, 2003), as their interests are purely local, while water resources issues transcend the local government boundaries. Yet, they have a high stake in water resources management, as in fulfilling their various mandates, such as services provision and planning, their performance depends upon water resources. At the same time, their actions do have an impact on the water resources, as they are users and polluters of water. Despite this importance, little effort has gone into developing practical ways for local governments to engage with IWRM and to apply the framework in their activities.

This paper explores the dynamics of local government (LG) and integrated water resources management (IWRM). Current practices of local government engagement in IWRM in Southern Africa are analysed With particular attention on the four countries of the Limpopo basin namely, Botswana, Mozambique, South Africa and Zimbabwe.

This work has mainly been developed on the basis of review of literature, focusing on international practices of local government involvement in IWRM (Smits and Butterworth, 2006) and the case studies in the Southern Africa region (Nyagwambo et al, 2007) under the auspices of the Logowater project During which several meetings were held with sector stakeholders from the Southern Africa region, where these concepts and practices were discussed.

Local government mandates and water resources management

Following policies of decentralisation in many countries, local governments are increasingly tasked with a range of functions and responsibilities that were originally the preserve of central governments. Specific responsibilities of local government differ from country to country, but can in general be distinguished in the following two categories (Jouravlev, 2003; Mazibuko and Pegram, 2004):

- Provision of local services, such as water and sanitation services, stormwater management, solid waste management, local roads and market places etc, generally referred to as WASH (water sanitation and hygiene).
- Development planning and promotion, including spatial planning and promotion of local economic development

In each of these two categories, and in the different mandates specifically, there are various links with the water resources base. These either come down to local government being a user (or polluter) of the resources, or, it being a planning authority, and indirectly having an impact or demand upon the resource. These will be illustrated below.

Services provision

Water services such as domestic water supply and sanitation are the most obvious services that have interactions with the resources. These happen at the two obvious critical points – inlets and outlets, as these form the interface with the uses in the water resources cycle (Moriarty *et al.*, 2004). Examples of these interactions include:

- the struggle to access water resources for basic services delivery
- the management and discharge of wastewater
- conflicts between domestic users and others

Other services have impacts or demands on service provision. For example, solid waste and storm water management, if not handled properly, often has a negative impact on water resources,.

Development planning

Local government plays a role in promoting and planning the development of its area of jurisdiction. This has two main linkages with the water resources base:

- Planning of economic development has impacts on water demands. Local government may stimulate its economy, by promoting for example agricultural development, industries or tourism. However, some of these activities may have water requirements which cannot be met, or have negative downstream impact. Not all water development goals may be achieved at the same time, and trade-offs need to be managed. Difficult choices may have to be made between economic development, ecological concerns and

Box 2: Local government mandates in Southern Africa, example of the Tswane municipality in S. Africa.

1. Environmental Management
2. Planning Water Services
3. Environmental Planning
4. City Planning
5. Stormwater and Roads
6. Wastewater Treatment Plant
7. Local Economic Development (LED)
8. (Rietvlei) Dam maintenance and Water Treatment Works

service delivery. Local authorities need to consider water resources as a key factor in development planning and promotion.

- Spatial planning. This has mainly an impact on run-off, drainage and flooding. Often, formal or informal housing development takes place in areas which are subject to flooding. The development of urban areas may alter stream courses, causing downstream impacts. Spatial planning thus has a big impact on water resources, and the subsequent services that are delivered by the same local government such as storm water management or housing delivery. Box

2 the presents mandates and functions for the Municipality of Tswane in South Africa. It highlights the diverse nature of local government responsibilities in the region.

The IWRM framework

There are thus many linkages between local government mandates and the resource base. IWRM is of importance for local governments as it can:

- Contribute to improved performance in local government mandates; as shown many functions of local government may be negatively hampered by current water resources management practices. IWRM can be a supportive framework in the improvement of these practices, and hence contribute to improved performance by local government.

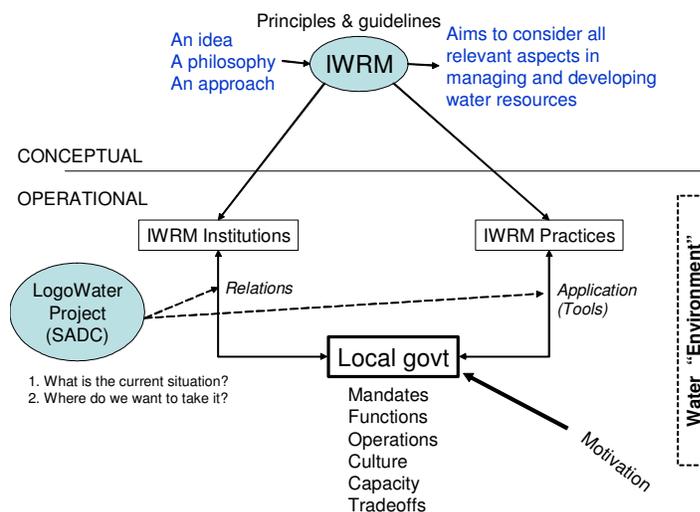
Box 3: IWRM principles in Southern Africa

1. Considers the hydrological cycle in its entirety; downstream and upstream interests are taken into account (basin-wide, also across national borders), as well as surface and groundwater sources, and, most importantly, rainfall;
2. Considers the full range of sectoral interests; allocation decisions entail a process whereby all relevant objectives and constraints of society are considered, and, if necessary, priority-setting is made by weighing the objectives in an informed and transparent manner. Integrated management implies, among other things, close co-ordination between institutions that are often sectorally defined, the involvement of stakeholders in decision-making, and taking into account those stakeholders without a voice (such as the environment);
3. Considers future needs as legitimate claims to the water resource, such as future generations.

- Assist in planning. IWRM is a framework for thinking through linkages between the water uses and the resource base. In that sense it can help analysing different alternatives for providing the different services, and their respective impacts. Box shows these principles as applied in Southern Africa.

Entry points for local government engagement in IWRM

Figure 1: Local governments and IWRM



The section above has shown the need to local government to engage with water resources issues. However, as mentioned above and highlighted in Figure 1, local governments hardly ever have the final responsibility to lead the implementation of IWRM. There are good reasons for that. Water resources management issues need to be addressed at a higher level of scale, in order to be able to oversee externalities caused by different uses, going beyond local government boundaries. Institutions at river basin level often also have more hierarchical clout to enforce water resources management rules. Yet, there are several ways in which local governments can still engage. Based on the work done by for example Moriarty *et al.*, (2004), two main pathways, or entry points, can be identified, both in turn consisting of two sub-models through which local government can start engaging. These are:

1) Engagement with IWRM beyond local government boundaries

In this approach local governments participate in institutions which go beyond local governments' juridical boundaries. This is what Moriarty *et al.* (2004) call "full", or institutional-based, IWRM. There are two principal modalities: a) vertically, or b) horizontal.

Vertical engagement refers to local governments participating in bodies at the higher level of scale, such as catchment management authorities or river basin bodies. Even engagement in transboundary commissions could fall under this modality. Often, specific rules and regulations exist on how local government can participate in such institutions. But where these don't exist local government can advocate for the inclusion of their needs in such bodies.

Horizontal engagement refers to processes where several local governments join forces to address a commonly felt water management problem, often not for a specific river basin.

2) Applying IWRM principles at local level

In this approach local governments apply IWRM principles within their different mandates without necessarily addressing the water resources issues at the higher level of scale. The two sub-approaches are a) application of principles within selected mandates, and b) the development of local water plans. This is what Moriarty *et al.* (2004) call "light", or principle-based IWRM.

The idea behind taking a principle-based approach, is that if all sub-sector and all stakeholders in water management try to apply good IWRM practice at their own level, in their own work, this will in turn lead to the emergence of better local level water resource management, and will be an important first step in the process of IWRM. This can be done for specific sub-sectors such as water supply, sanitation or stormwater management, etc. Two useful examples of using guidelines based on the Dublin principles to implement principle-based IWRM at project or sub-sector scales are the working principles for IWRM in WATSAN developed by Visscher *et al.* (1999) and,

with a broader focus, the 1998 EC guidelines for water management. The Bellagio principles (SANDEC/WSSCC, 2000) and the Household Centred Environmental Sanitation (HCES) (Kalbermatten *et al.*, 1999) approach can be seen as ways of applying IWRM principles to sanitation development. So far, little experiences have been found where local government have taken these or other similar principle-based approaches as the basis of their work.

The development of local water plans builds upon the other one, but by definition aims to include different water-related mandates (such as water supply, sanitation, stormwater management, etc) into a single local water plan, but also within the local government's area of jurisdiction. The unit of planning can be at different levels:

- Water plan for (nearly) the entire area of jurisdiction. Such a plan would thus have to cover all the water bodies in the local government's area of jurisdiction. It is often more generic in nature, and may for example describe a vision and strategies for the entire local government area.
- Water plan for a sub-unit, like neighbourhood, ward or community. These are more detailed plans for such a specific sub-unit. A specific form of this kind of integrated water plans which has emerged over the last few years is what is called multiple use services (Van Koppen *et al.*, 2006). These are water services aiming to meet both people's domestic and productive water needs through an integrated approach, often combining multiple sources. It is seen as IWRM at the lowest level (GWP, 2006). Multiple use services, however, do not necessarily include issues such as stormwater management.

Between developing water plans for an entire local government area and one community there are obviously more intermediate models. These will differ in degree of complexity.

These two approaches are not mutually exclusive. In fact, in most situations it will make sense for local governments to embark on both approaches simultaneously (Moriarty *et al.*, 2004). For example, a local water plan can be linked to a broader catchment plan (entry point of vertical integration). For example, in the Netherlands, Municipalities now make municipal water plans, but these need to fit into the plans of the water board (who use the catchment as unit for planning). In some case, several municipalities together can make a joint water plan, which would then fall in the category of horizontal integration.

Practices in Southern Africa

General

Southern Africa is home to over 160m people of whom about 30% live in urban areas. The general characteristics of the area are summarised in Table 1 below.

Table 1: Socio-economic and demographic summary of the southern Africa region

Climate	75% arid to semi-arid
Rainfall	100 - 2000 mm/a
Per capita water availability	50,160m ³ /cap/yr
Mean annual runoff	650 cu. km.

IWRM policy in SADC is informed by the Protocol on Shared Water Courses at the regional level and national water legislation and policy at the national level. The emergence of the new water governance framework for Southern Africa has resulted in a dispersal of regulatory

power from the traditional nation state centre towards the sub-national and supra-national levels. Such actors include various state, private sector and civil society actors whose operations interact and overlap both horizontally and vertically within the hierarchy.

Local Government and IWRM at different spatial scales

At regional level the regional level there has been a realization that international river basins are best managed through para-national institutions. In line with this thinking, river basin commissions have sprung up in the SADC region. Whilst the institutional set-ups are well designed to serve national governments and quasi-governments organizations they often leave out the stakeholders within the basin particularly local government institutions.

In the project area almost all the river basin commissions do not prescribe any specific roles to the local government. In fact no definition of local government for water resources management purposes is given. As a result the local governments are not fully aware of the operations of the river basin commissions let alone their role in them. Of the eight local governments that participated in the project only one, the city of Bulawayo in Zimbabwe was an official member of transboundary river basin organisation committee.

In-country all the riparian countries in the region's river basins have elaborate structures and institutional arrangements to facilitate stakeholder participation in IWRM including but not specifically targeting local governments. However, participation by local governments does not happen as planned and intended. A variety of reasons are advanced including the following:

- i) Lack of resources to facilitate participation
- ii) Lack of capacity to effectively participate (capacity of the stakeholders themselves)
- iii) Low motivation to participate (no immediate benefits perceived by potential stakeholders)
- iv) Too much bureaucracy by government agencies frustrates stakeholders
- v) Limited empowerment from higher levels (top down approaches).

In the project countries Botswana and South Africa had adequate financial resources for effective local government participation in IWRM. In the case of Botswana the local governments are overshadowed by the central government In Zimbabwe the human capacity was apparent but financial resources limiting.

At the local level the decentralization of water resources management has involved the emergence of a hierarchical organizational structure for the governance of water resources within country. At the local catchment level, the devolution of authority to river basin institutions has been based on the principles of stakeholder participation, equity in access to water resources, efficiency in resource use and management, and sustainability of the ecosystem, livelihoods and administrative structures. The local river basin institutions are increasingly embedded in a larger set of globalized economic and political processes.

Since the late 1990s most states in SADC have enacted far-reaching Local Government Acts. In most cases these laws transfer administrative and political authority to the district and municipal levels, and integrates governmental agencies at these levels into one administrative unit. In all cases, institutional and legal changes have involved significant devolution of authority from central government to local levels: District Assemblies, Traditional Authorities, user groups and communities. With respect to water resources local governments are for the first time being called upon to shoulder responsibilities in circumstances that are markedly different from the old political and socioeconomic context. However, effective participation by these local governments is still hampered by lack of harmony in sector legislation and policy framework For example in Zimbabwe water is governed by water, environment, public health and mining legislation among other legislation. Which piece of legislation take precedence in the case of conflict therefore remains a critical issue?

Dimensions of Local Government and IWRM engagement

Table below summarises the nature of local government engagement with IWRM in the Southern Africa region.

The legally recognized stakeholders that constitute the water institutions include local authorities (Municipalities, Town Councils, Rural District Councils and traditional leadership), Mines, Large and Small Scale Commercial Farmers, Communal Farmers and, in some cases, civic organizations with particular interests e.g., environmental groups. The responsibilities of water institutions are to monitor the exercise of permits, water flows and

use; to assist in pollution control, catchment protection and data gathering; and to collect from permit holders the levies to be used in the performance of the councils' functions.

Most of the new water institutions and old local governments derive their power from acts of parliament. Lack of harmony around these acts, as they usually are sector specific, have resulted in discordant operations between water institutions and local governments.

Table 2: Characteristics of local governments and IWRM engagement in Southern Africa

	Botswana	Mozambique	S. Africa	Zimbabwe
LG mandates defined by law	WASH only	WASH only	WASH (and IWRM)	WASH (and IWRM)
Water sector reform and establishment of IWRM institutions	Revision of water Act	Revision of water Act	Water Act + Catchment a agencies	Water Act + Catchment a agencies
Role of LG in IWRM institutions				
LG participation in IWRM institutions	Represented by national government	Represented by national government	Through LG association (SALGA)	Direct representation
Resources for participation	From government	From government	Government grant & own resources	Government grants & SCC levies
Relationship with IWRM institutions	none	none	Formative	Both cordial & antagonistic
IWRM juridical powers	none	none	Own boundary	Own boundary
IWRM planning	Not involved	Contributes	Contributes	Contributes
Type of IWRM	Light	Light	In between	Full

Representation of local governments in water management institutions is usually by default. By virtue of being some of the major users of water and also because they have juridical power over designated geographical areas, local governments find themselves seating in water management institutions. Local government officials are then nominated to attend meetings on behalf of the local government. Naturally, different individuals attend the meetings at different times and the level of participation of the local government resonates with the enthusiasm of their representative in the water management institution. Often the local government is accused of not taking water management institutions seriously enough. For example, the City of Mutare in Zimbabwe attended less than 50% of all meetings of the Save Sub-Catchment Council in which it is major stakeholder.

While most recent Water Acts in the region identify local authorities within particular catchments as stakeholders the relationship between most water institutions and local authorities has been far from cordial.

There is generally a lack of effective coordination and consultation in the catchment planning process for water resources management. This has resulted in discrepancies

between the needs perceived by councillors in water institutions and the actual needs perceived by local people. Most governments in the region pursue a decentralization policy, in which the government ministry, through local authorities, has the responsibility for coordinating local level service provision by the various sectors. This role includes the coordination of services related to primary water supply and sanitation. However most of the water sector reform initiatives in the region have vested water institutions with the responsibility for coordinating water resources use, development and management at the catchment level, which transcends the local authority administrative boundaries. Effective co-ordination between local authorities and water institutions is therefore weak if not downright despised by either party.

The lack of effective coordination has been ascribed in part to the lack of a synergy between the new Water Act emanated from water sector reform and related Acts administered by other sector agencies. Hence, although the legal instruments are not necessarily in conflict, the local level articulation of policies by the water institutions and local authorities are often at variance with each other.

The lack of effective coordination was also due to overlaps in the relative alignment of administrative and catchment boundaries. The water institutions view some of the overlaps as inconvenient to ICM, and consider that certain adjacent institutions manage portions of some sub-catchments since the places were more accessible from those Catchment Areas.

Generally there is a failure by sector players to develop new protocols of organizational behaviour in line with the recent shifts in the water sector. In some cases there is resistance by some established local authority actors to the new river basin institutions, who were felt to be usurping the political action space. In some cases, local authority personnel have refused to participate in the sub-catchment planning process.

The competition between interests in water among the various stakeholders as manifest in the emergence of alliances among stakeholders belonging to the same sector has often left local authorities relatively weak in IWRM institutions. In the case of Zimbabwe, representatives of local authorities are usually a minority in most water institutions or because most local authorities do not contribute much to generating the levies required for the operations of water institutions, their clout in the decision-making processes is visibly less. Often this results in non-participation by the local authorities in water institution activities. In turn, the local authority is often accused by other members of the water institution as undermining their authority and efforts in articulating water policy.

This power play between the local authority and the water institution effectively denies the local authority the opportunity to voice its concerns regarding water problems that affect them, such as water pollution, supply and sanitation.

Furthermore, local authorities appear to have shunted the responsibility of representing their residents to water engineers employed by the local authority. Ironically, accountability

to the local authority constituency is presumably greater for the elected councillors than it is for the employees of the local government.

Technical skills and financial resources remain central to successful implementation of IWRM by local governments in the region. Sadly governments do not yet contribute financially to regional initiatives nor do they finance water management beyond their own structures. The result is that stakeholder organizations such as catchment councils are grossly under funded and can hardly organize meetings in countries such as Zimbabwe. However this is not a universal reality in SADC. Some countries such as Botswana have the capacity to finance IWRM initiatives within their borders – the constraint in such cases is that such countries may not be willing to finance regional initiatives. Even if they were it is debatable if the regional operational framework can facilitate such approaches.

Conclusions

The concept of local governments as part of IWRM initiatives is not well established in the region. The engagement of local governments is heavily on the “Light” side though there are indications that with time it can become “Full”. As such local governments are not considered as a constituency of IWRM bodies and local governments rarely factor in the contribution of IWRM institutions in their operations.

Specifically:

- i) The legislation governing the operations of river basin organizations in the region, transboundary and national, do not specify the role of local governments.
- ii) Though national governments acknowledge the role of local governments in implementing government policy at the local level they do not take them on board in para-national operations nor define a role for them in para-national water institutions.

At the national level it is worrying to note that much of the water reform in the SADC region has been to some extent in direct response to global perspectives. As such the institutions that arose from these reforms are not always clear on their roles and responsibilities given the national framework. On the ground however, the main problem of local governments and IWRM institutions at the local level are centred on co-operation and co-ordination of activities in water supply and sanitation. The main issue is who is responsible for what?

Specifically:

- i) Though water laws (and in some cases environmental laws) are explicit on the roles and responsibilities of water institutions sector instruments are mostly sector specific making it difficult to harmonise operations.

- ii) The spatial juridical boundaries of water institutions and local governments seldom coincide leading to conflicts on authority and in some cases downright power struggles.
- iii) Most local authorities seat in water institutions by default as a stakeholder group represented by employees rather than elected representative.

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