

The Legal Framework in the Governance of Potable Water Supply In Zimbabwe: A Global, Regional And National Overview of The IWRM Paradigm

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Abstract

This paper looks at the adoption of the Integrated Water Resource Management (IWRM) paradigm in southern Africa with special focus on Zimbabwe. The paper is based on national legislation and policy documents, international and regional conventions and protocols, and other available legal documents on managing water resources. The methodology used was largely qualitative research based on documentary analysis and personal observation. Since the late 1990s, all countries in the Southern African Development Community (SADC) region have been busy reforming their water legislation and policies in line with the demands of the IWRM paradigm. Nevertheless, while the framework for a perfect IWRM system exists now in Zimbabwe, the situation on the ground does not reflect this ideal situation. The reform process has not taken off as expected owing to a combination of factors ranging from conflicting policies and weak institutional linkages, to insufficient funding. Thus the effectiveness of the new system has been found wanting in as far as implementation is concerned.

Key words: potable water, governance, legal frameworks, legislation, IWRM, Zimbabwe

1. Background to IWRM

Allan (2003) postulates that water resources management has passed through five paradigms over the last 200 years. These are pre-modern, industrial modern, late-modern green, economic, and finally political approaches. The first paradigm is associated with pre-modern communities with limited technical and organisational capacity. The second is that of industrial modernity, whereby the state and private sector activity boosted by developments in science and technology gave shape to the 'hydraulic mission' (i.e. harnessing water resources for human needs as typified by the era of 'big dam building' and the rapid extension of irrigation systems). This period, extending for roughly 100-150 years to about 1980, was characterised by the belief that people could control nature, and that scientific knowledge could provide exact and incontestable information for decision-making.

For Allan (2003) it is only by the year 2000 that the political nature of water resources management has been acknowledged (Swatuk, 2008). Allan calls his fifth water management paradigm integrated water resources management (IWRM). IWRM embodies all previous approaches, including recognition of the political nature of decisions regarding the allocation and usage of water. IWRM is defined as a holistic framework that provides wide-ranging and interpretive principles to guide the management of water resources. It recognizes that water must be considered in all its forms if it is to be managed sustainably for the benefit of all users now and in the future.

As shown in Allan's paradigms, water resources management practice has undergone changes in management approaches and principles over time. The earlier paradigms, which are still prevalent in the practice of most countries today are characterised by what scholars refer to as the hydraulic mission where extreme engineering was the order of the day. Water resources managers and policy makers were driven to manage and supply water to people for its direct compartmentalised uses such as drinking water, agriculture, and providing power for domestic and industrial use.

2. Integrated water resources management: A theoretical discourse

IWRM is a response to the much-criticised, sector-by-sector approach to water management (irrigation, municipal, energy, etc.). It is the product of water policies in the developed countries like the United States of America, the United Kingdom, Canada, France, and Germany, among others (Mulder, 2005). Concerns by environmentalists and the scientific community during the early 1990s about the deterioration of water quality (caused by human activities and industrial pollution) and the limited water resources, subsequently led to widespread support for the IWRM

paradigm (Schlager and Blomquist, 2000).

The IWRM assumption is that integrated water resources management ‘promotes not only cross-sectoral cooperation, but the coordinated management and development of land, water and other related resources so as to maximise the resulting social and economic benefits in an equitable manner without compromising ecosystem sustainability’ (UNESCO, 2006). The socio-economic dimension is a crucial component of the approach, taking full account of stakeholders having input in the planning and management of potable water resources, ensuring especially that the interests of women and the poor are fully represented; the multiple uses of water and the range of people’s needs; integrating water plans and strategies into the national planning process and water concerns into all government policies and priorities, as well as considering the water resource implications of these actions; the compatibility of water-related decisions taken at a local level with a country’s national objectives; and the water quantity and quality needs of essential ecosystems so that they are properly protected (GWP, 2000).

Cap-Net (2009) sees integrated water resources management (IWRM) as a ‘systematic process for the sustainable development, allocation and monitoring of water resource use in the context of social, economic and environmental objectives’. IWRM is about integrated and ‘joined-up’ management. It is about promoting integration across sectors, applications and groups in society and time based upon an agreed set of principles. It contrasts with the sectorial approach that leads to uncoordinated water resources development and management resulting in waste, conflict and unsustainable systems (GWP, 2000).

As put forward by Mulder (2005), the IWRM paradigm is characterised by the integration of society and natural resources. This refers to the active involvement of water users in water institutions at the level of clearly defined catchment areas. A catchment area is a geographical area where the surface and groundwater naturally flows into a common watercourse such as a river. Catchment demarcations help inhabitants (both human and the ecosystem) benefit from available water resources because they allow full participation of community members in the catchment decision making process. Strategic plans for the catchment should be generated from all residents. Water allocation must take the entire ecosystem’s needs (human, vegetation, animals) into consideration. Catchment councils are statutory bodies created as platforms for different stakeholders to consult and collectively manage water resources in that catchment area. In Zimbabwe and South Africa, catchment boundaries straddle provincial and district borders, because they are based primarily on the major river systems rather than on political administrative boundaries.

IWRM is also a process of moving from an existing state to some envisaged and preferred future state by achieving commonly agreed principles or best practice in managing water through the involvement of all relevant stakeholders. It is a process of implementing the Dublin Principles as outlined below;

- **Principle 1:** Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. Since water sustains both life and livelihoods effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems.
- **Principle 2:** Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
- **Principle 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.
- **Principle 4:** Water has an economic value in all its competing uses and should be recognised as an economic good. Within this principle, it is vital to recognise first the basic right of all human beings to have access to clean water and sanitation at an affordable price.

According to Moriarty, Butterworth and Batchelor (2004) the fourth principle is misunderstood in many ways in the water and sanitation sector. They argue that it is often confused with issues of cost recovery and privatisation of water utilities. Yet the economic value of water and the costs of managing and supplying it are two different issues. Treating water as an economic good means trying to promote higher value uses of water. This could mean, for example, favouring industrial uses over agriculture. Or perhaps promoting higher value crops under irrigation. The highest value use of water is always domestic supply, and there are increased costs for the economy (e.g. in health) when supplies fail. Recognising the value of water use does not necessarily mean that this value should be passed on to all water users as a direct tariff. Values and charges (tariffs) are different things. Tariffs should as far as possible reflect the objectives of water resource managers, while ensuring that access by vulnerable communities for domestic or irrigation water is protected through mechanisms such as variable tariffs and targeted subsidies (Moriarty,

Butterworth and Batchelor, 2004).

Thus, one can distinguish two schools of thought on the economic value of water (Van der Zaag and Savenije, 2002). The market oriented view is advocated by the World Bank (Savenije, 2002). This paper subscribes to the second school of thought that interprets 'water as an economic good' to mean the process of integrated decision making on the allocation of scarce resources. This does not necessarily imply financial transactions. In fact, the concept of water as an economic good implies that 'decisions on the allocation and use of water should be based on a multi-sectoral, multi-interest and multi-objective analysis in a broad societal context, involving social, economic, environmental and ethical considerations' (Savenije, 2002).

It is important to note that the integrated water resources management paradigm should not be treated as a rigid prescription. It is a broad and elastic framework that should be contextualised (Xie, 2006; Mulder, 2005; Chikozho, 2005; GWP, 2000). According to Xie (2006) IWRM is a process, not a product, and it serves as a tool for assessment and programme evaluation. It does not provide a specific blueprint for a given water management problem but rather is a broad set of principles, tools, and guidelines, which must be tailored to the specific context of the country or region or river basin. GWP (2000) and Chikozho (2005) argue that there is no universal blueprint on how IWRM principles can be put into practice. The nature, character and intensity of water problems, human resources, institutional capacity, the relative strengths and characteristics of the public and private sectors, the cultural setting, natural conditions and many other factors differ greatly between countries and regions. Therefore practical implementation of approaches derived from common principles must reflect such variations in local conditions. This means that the paradigm should be used as a broad guideline within which different countries have to map out their own policies and strategies as dictated by their unique situations.

3. The Southern African Regional Framework

According to Chikozho (2005) almost all countries in southern Africa have instituted water reform programmes in which decentralised catchment-oriented structures, based on the IWRM paradigm, are expected to play a major role in water governance. Nevertheless, he further observes that empirical evidence from southern African countries 'that have been implementing these reforms indicates that positive results from these reforms will be long in coming (that is, if they ever do)'. This is not surprising as even the advanced economies and pioneers of these reforms took decades to accomplish a semblance of success.

For Swatuk (2008) and Mäki (2008), the reason for the poor performance in southern African reform efforts is largely historical. Swatuk (2008) argues that the ways water has been accessed, allocated and managed throughout southern Africa reflects the troubled history of the region. Colonial masters and settlers developed water delivery and sewerage systems for small urban areas. Commercial farmers were free to use whatever groundwater they could get their hands on, and enjoyed riparian rights over surface water. Large dams were built to provide water for both commercial and domestic use in urban centres established around the region's mines and industrial and commercial cities. Indigenous Africans were relocated to marginally productive lands where most of these people and their descendants remain today. In areas of little interest to colonialists, African resource management methods were left undisturbed and have only come to light today as they are being undermined by the regional water reform process and its emphasis on new institutions (Maganga, 2003). Swatuk (2008) observes that an extensive system of migrant labour has given rise to sprawling unserviced townships that still ring the cities today.

As put forward by Swatuk (2008), four strategic areas in the governance of potable water, have been identified. These include potable water resource planning and management, capacity building, governance, and infrastructure development. The logic connecting these four strategic areas is that the region's hydraulic infrastructure as currently developed was undertaken haphazardly over time to satisfy partial needs; there was limited understanding of or concern for the overall hydrological cycle or the needs of people throughout the region (Swatuk, 2008). Therefore, it is necessary to gather appropriate data, undertake skills training and implement systems of governance that ensure widespread benefits from water development, capture the resource and put it to work for broad based socio-economic development (Swatuk, 2008).

In line with the international policy developments, there is now general agreement among African governments that socio-economic well-being and a healthy natural environment are intertwined. Therefore, emphasis must be placed on policy options that safeguard vital natural resources such as water, while simultaneously striving to meet the development needs of the continent. Referring specifically to southern Africa, Ashton (2007: 81) remarks likewise that 'southern Africa's pressing need for social and economic development has prompted governments of

the Southern African Development Community (SADC) countries to focus on broader issues of social equity, and resource stewardship’.

There are, however, a number of institutional, technical, economic, social and environmental constraints on the effective management of SADC’s water resources. These include weak legal and regulatory frameworks; inadequate institutional capacities of national water authorities, and regional or river basin organisations; weak policy frameworks for sustainable development of national water resources; poor information acquisition, management and dissemination systems; low levels of awareness, education and training on economic, social, environmental and political issues related to water resources development and management; lack of effective public participation by all stakeholders particularly women and the poor; and in some cases infrastructure is inadequate and unable to meet the growing demands for service (SADC, 2005). These issues are being addressed through a number of programmes and projects that form part of the regional strategic action plan for integrated water resources development and management (RSAP-IWRM) which is now a component of the regional indicative strategic development plan (RISDP). The RSAP is implemented by the SADC secretariat through the directorate of infrastructure and services’ water division (DIS-WD).

4. The Zimbabwean Framework

In the past decade, Zimbabwe, like a number of other African countries, has undergone water sector reforms. These have been driven by both international calls for more efficient and sustainable water management approaches and forces inside the country (Pazvakavambwa, 2002).

4.1 Traditional water rights as basis for water rights in Zimbabwe

Derman, *et al* (2007) observe that water forms part of a broad ‘right to life’ that underlies rural livelihoods in Zimbabwe. Thus, drinking water should be for everyone (Matondi, 2001), and ‘one can’t deny drinking water to anyone’ (Derman and Hellum, 2003: 37). This right endures despite efforts by both colonial and independent governments to redefine rural citizens’ relationship to water (Derman, *et al*, 2007). The idea that to deny water is to deny life indicates an undisputable truth: there can be no life without water.

Empirical studies in Zimbabwe suggest that drinking water should be made available to all (Derman, 1998; Sithole, 1999; Matondi, 2001; Nemarundwe, 2003). Nemarundwe (2003) reports from the Romwe catchment in Masvingo that drinking water is available to all regardless of the source. Available water sources include boreholes, river bed wells, rivers, wells, collector wells and dams. She writes, ‘Because water is considered *hupenyu* (life), there has been no case of denying another village access to water during drought, although rules of use are enforced more stringently during drought periods’ (Nemarundwe, 2003: 108). The study points to incidents where this general ideal was challenged. One example is a well owner who prevented others from accessing his well. Two days after he locked the gate to the well he found a dead dog thrown in the well. In response he unlocked the gate (Nemarundwe, 2003). Thus ‘water is a public resource. It is a gift from God. None of us here are rainmakers’ (Chinamasa, 1998: 15).

4.2 Water legislation in Rhodesia

Manzungu and Machiridza (2005) allege that the system of water allocation in Rhodesia was based on the matrix of ideas of efficiency, modernity, white power, male supremacy and the conception of starving Africans of land and water. Campbell (2003) argues that the planning mechanism of the settler state was organised around the concept of water scarcity. Politicians, agricultural extension officers, water resource managers, hydrologists, engineers, planners and economists propagated the concept of water scarcity when in reality the problem of water availability was one of democratic distribution and not availability (Manzungu and Machiridza, 2005). This was re-enforced by the myth of white supremacy, backed up in law and in the allocation of resources. Commercial farmers were seen as promoting the modern state, while communal subsistence agriculture was considered backward. Little effort was spared to make the black farmers aware of the limited rights they had (Manzungu and Machiridza, 2005).

The Water Act of 1976 (Chapter 20:22) recognised three types of water, namely public water, private water and underground water. Under a 1984 amendment, the act also provided for some stakeholder participation in River Boards. The participation was, however, restricted to water right holders. The legislation also required that those who applied for water rights had to provide water measuring devices before a water right was confirmed as permanent. This explains why most water rights in the African communal areas were temporary. Most Africans in the communal

areas could not afford to install the requisite measuring devices.

Some of the main weaknesses of the 1976 Water Act (Chapter 20:22) are as follows:

- All water rights were centralised at the Water Court in Harare.
- A water right was issued in perpetuity on a first-come-first-served basis. This meant that when water resources were fully allocated, no further water rights would be issued, regardless of the need.
- In the event of water shortage, the process of reallocation was very long and complex.
- A water right would not be revised, even if the right holder was not exercising his/her water rights. Water rights could only be revised if the holder volunteered to do so.
- The process of acquiring a water right was long and tortuous. Once granted, there was no requirement to pay for the possession of the water right or to contribute towards general water service provision.
- The act was silent on water quality and issues relating to the environment.
- There was little or no consideration given to groundwater supplies. The secretary of water affairs had to be informed if a deep borehole was drilled, but there was no control on the amounts of groundwater pumped from the borehole, or the number and spacing of such boreholes (Kjeldsen, *et al* 1997: 531).

4.3 Water legislation in Zimbabwe

For almost two decades into independence water resource management continued to be governed by the 1976 Water Act (Chapter 20:22). Manzungu and Machiridza (2005) argue that the water reforms that culminated in the 1998 Water Act (Chapter 20: 24, Act No 31 of 1998) began as a knee jerk reaction to the 1991/92 drought, the worst in the country's history. The first step towards reviewing this legislation was the setting up of an inter-ministerial review committee headed by the Ministry of Lands, Agriculture and Water Development in mid-1993. The committee recommended that a new water act be put in place.

The 1998 Water Act (Chapter 20: 24) is founded on economic efficiency, environmental sustainability and equity of use. The following are its main features: water rights have been replaced with water permits which are issued for a limited period and can only be renewed subject to water availability and evidence of efficient use; the priority principle has been done away with; water can no longer be privately owned; water is to be viewed from the complete hydrological perspective; both groundwater and surface water are treated as part of one hydrological system; stakeholder-driven institutions have been formed that will have more say on water allocation and general water management on a day-to-day basis; there is greater consideration of the environment, with environmental water use now recognized as a legitimate user; there is more control over pollution, with the 'polluter pays' principle being introduced; the state owns all surface and underground water, except for primary purposes (domestic uses such as drinking, cooking and washing), therefore any use of water needs the approval of the state; and water is recognised as an economic commodity; those who use water must pay for it.

The Water Act (Chapter 20: 24) has decentralised the management of water to stakeholder-managed Catchment Councils and Sub-catchment Councils. A new framework for water management has been formed. Its aims are to involve stakeholders in water management; replace water rights with water permits, which expire after a set period; create more efficient water allocation processes; develop catchment water use plans, with the full participation of stakeholders; treat the environment as a legitimate user; and form new stakeholder-driven institutions to facilitate more efficient water management. As a result of these developments, new key institutions to manage water affairs were established. Below is an outline of the institutions formed:

- **The Zimbabwe National Water Authority (ZINWA):** formed to provide water services on a commercial basis. All fees charged for commercial water services are retained by the water authority for the provision of water services. Services of a statutory nature, provided by ZINWA are funded through the water fund, as directed by the minister responsible for water.
- **Catchment Councils:** established for the management of the seven demarcated catchment areas on the basis of major river systems in Zimbabwe, namely Gwayi, Manyame, Mazowe, Mzingwane, Runde, Sanyati and Save. A Catchment Council consists of representatives of lower-level catchment management institutions. The main responsibilities of Catchment Councils are to prepare a catchment management plan in consultation with the stakeholders for the river system, grant permits for water use, regulate and supervise water use, supervise the performance of Sub-catchment Councils and resolve conflicts within their areas of jurisdiction.
- **Sub-catchment Councils:** formed to facilitate water management on a smaller scale. Each council comprises representatives of the various water users within the Sub-catchment. Representatives from each

Sub-catchment Council form the Catchment Council, thereby representing their constituents at the Sub-catchment scale. The main functions of Sub-catchment Councils are to regulate and supervise the implementation of permits, monitor water flows and use in accordance with allocations by the Catchment Council, provide representatives for the Catchment Council, promote catchment protection, monitor water discharge, assist in data collection, participate in catchment planning and collect rates and fees for all permits issued.

4.4 Why have Zimbabwe's water sector reforms not performed as expected?

Manzungu and Machiridza (2005) observe that while the water reforms might have been partly a result of internal developments, they were largely shaped by international donors Campbell (2003) concluded that the old settler-dominated river boards were somewhat reincarnated (with some black faces) as Catchment Councils that continued to wield power over water issues to the disempowerment of smallholder farmers. It should however be noted that the situation has changed since the fast track land reform programme. White commercial farmers who were active in the early stages have been replaced with a black elite. This has rendered the water reforms somewhat cosmetic (Manzungu and Machiridza, 2005). Manzungu (2004) further observes that the new law and institutional framework has marginalised domestic water supply aspects. He claims this on the grounds that the reforms have done little to engender involvement by some rural communities.

The reform process has not taken off as expected owing to a combination of factors ranging from conflicting policies and weak institutional linkages, to insufficient funding. For Derman, *et al* (2007) some of the reasons for this poor performance include donor withdrawal as a result of civil strife emanating from the fast track land reform programme; financial stability; weak institutional linkages; lack of capacity in key institutions; remuneration for participants; lack of enforcement of legislation; different levels of appreciation of water; and political interference. For Manzungu (2004), participation of some stakeholders has been poor, especially the rural communities, because of lack of financial resources, for example to pay bus fares to attend the meetings. He further argues that government-defined regulations for selecting stakeholders have also been a problem because they do not take into account local dynamics. Non-farm stakeholders, such as industry and urban authorities, have not been really active. The emphasis on making all water users pay for water in the spirit that water is an economic commodity, a central philosophy of the reforms, has not helped at all. According to Manzungu (2004), this has conveyed the message that it is merely a revenue collecting exercise. The other problem has been a lack of adequate community knowledge about the process, worsened by the use of the English language as a medium for communication. Thus the emphasis on information dissemination rather than communication has also been a problem (Marimbe and Manzungu, 2002).

Manzungu (2004), reports that powerful individuals or groups have been observed sometimes to hijack the process for their own selfish benefits. In addition, the state has retained considerable influence to protect public interests (Manzungu, 2001). For example the structure of the new water institutions is largely hierarchical with the state at the top. This has created problems for the new stakeholder institutions. Authority for charging various water users and for allocating water permits, for example, took more than 12 months to be put in place (Manzungu, 2004). Manzungu (2004) further notes that the lowest management level, the Sub-catchment Council, was too large to be effective. As a result, water user boards, which bring together group water users in a particular section of a river, have been created as a level below the Sub-catchment Council. Thus lack of adequate legal provision for participation in water resource management at the point where water is used became another problem.

Furthermore, spatial and jurisdictional boundaries of the new water institutions remain a thorny issue (Beukman, 2002). As put forward by Manzungu (2004), some of the problems have to do with the fact that communities owe allegiance to their traditional institutions and district and provincial administrative boundaries, which do not necessarily follow catchment lines. He further observes that the hydrologically defined boundaries have tended to split communities. Therefore, clear-cut jurisdictional responsibilities between the catchment and sub-catchment councils, water user boards, water point committees and rural district councils, still need to be clarified.

Potable water governance issues are littered over a plethora of pieces of legislation, ministries and other administrative institutions. Thus, Chinamora (2002) observes that potable water legislation in Zimbabwe is seriously fragmented and bedevilled by lack of coordination and uniformity in areas of responsibility. As a result there is a considerable overlap of institutional mandates. For example, the Natural Resources Act (Chapter 20:13 of 1941), now repealed and replaced by the Environmental Management Act (Chapter 20:27, Act No 13 of 2002) provides,

among other things, for the construction of works to prevent soil erosion and promote the conservation of soil and water resources. And as observed by Patel (2002: 16), with reference to water development and usage, it reflects several potential conflicts of an administrative nature vis-à-vis the provisions of the Water Act (Chapter 20: 24, Act No 31 of 1998).

5. Lessons from the Above Experiences

It has already been noted that the IWRM paradigm was largely a product of water policies in the developed countries like the USA, the UK, Canada, France, Germany and Australia. The experiences of these countries do not only act as benchmarks for others, but they are lessons for the road ahead of all other countries that are busy implementing new policies in line with the demands of the IWRM paradigm in the governance of water resources. What exactly can be learnt from the experiences of France, southern Africa, and other countries that have adopted the IWRM paradigm in the governance of water resources?

Achieving any of IWRM normative goals has proved exceedingly difficult. This scenario is well pronounced in southern Africa where the main challenges are described as political. Furthermore, the discourse on IWRM in southern Africa has revealed several points of contention, including stakeholder participation, water as an economic commodity, water as a holistic resource, the river basin as the unit of management, and infrastructure development. These issues are not individually resolvable because together they reflect actors' understanding of 'what water is, who should have access to it, for what purpose, and how decisions regarding allocation, use and management of potable water supply are made' (Swatuk, 2008: 2).

As already observed above, the Dublin Principle no. 4 is the most contentious principle of the four principles, especially considering that there is no agreement on its meaning. Elitists would interpret it as merely implying cost recovery, but scholars who sympathise with the grassroots or communal societies interpret it as referring to the importance of water for human life and community development. This has brought ambiguity and confusion, especially in poverty stricken communities of southern Africa. If the concept is taken to mean full cost recovery, then most people in rural communities in southern Africa would not be able to afford it and would thus be denied access to potable water, as in the case of a woman in Lutsheko, a village in South Africa, as reported by Kasrils (2001: 51):

Last year, I visited a newly installed water supply scheme in a typical South African rural village called Lutsheko. Communal taps had been installed within 200 metres of every household, the reservoir fed by a diesel pump taking water from a nearby borehole. Households were contributing R10 a month (under 5 US cents per day) to cover the operating costs. The project was well run by a village water committee and had improved the lives of 3000 people.

Afterwards, I went down to see the borehole on the banks of a dried out riverbed. There I found a young woman, with a three week old baby on her back, scooping water out of a hole she had dug in the riverbed. When I asked her why she was not using the taps, she told me she could not afford to do so. For those living in deep poverty, a US nickel is just too much to spend on a day's supply of clean water

Kasrils (2001: 52) further reports the findings of a South African survey that established that many poor rural women in South Africa feel that to spend R10 on clean water would be to deprive their children of food. So they choose to search for free, unsafe water instead. The plight of these poor women is a great challenge to both policy makers and communities in southern Africa. Water is of great value to them just as it is elsewhere, but cost recovery should not be applicable to them. In fact water is a basic requirement which people cannot do without. It therefore follows that it must be readily available to ensure continuity of life.

The first lesson, outlined by Manzungu (2004) and Xie (2006), is that a broad base of support is needed for the wide ranging reform process. The changes required by IWRM can sometimes be revolutionary, and involve drastic modifications of the current ways of doing business. As such they run the risk of opposition from those interest groups who benefit from the status quo. Therefore, not only top-level political commitment is required; a broad base of popular support is necessary for any large-scale changes to take place. Factors that may trigger demand for water reforms range from financial straits in government agencies, water scarcity and droughts, natural disasters, water quality and pollution crises, to the dissatisfaction of users about inadequate water services. Initial reform

should therefore target areas where there is the greatest need. Ultimately, all affected stakeholders must be convinced of the value of IWRM and its reform process. Stakeholder consultations that give voice to all concerned and that provide clear justifications for reforms, backed up with solid data, can help build support for IWRM (Xie, 2006).

Xie (2006) refers to what he calls 'pick the low-hanging fruit'. By this he means that the sustainability of the IWRM process depends on the ability to demonstrate on-the-ground benefits. When prioritising a list of reforms it is important to first target those areas that will quickly and easily demonstrate the success of IWRM policies and practices; the areas that can easily build political support for the overall process. The political pressures faced by most decision-makers discourage risk-taking behaviour, so there should be immediate rewards to promote the implementation of the large-scale changes required by IWRM.

Another important lesson is the significance of contextual factors. Chikozho (2008), Manzungu (2004) and Xie (2006) argue that while the IWRM principles provide general directions, the institutional context of a given water management problem must dictate the specific approach used. For example, treating water as an economic commodity and achieving full economic sustainability may not be possible if supply infrastructure requires expensive rehabilitation or if beneficiaries of water services are unwilling or unable to pay full-cost tariffs (see the case of the woman in Lutsheko above). Numerous gradual steps must therefore be taken to break the vicious cycle of poor water service delivery and reluctance (or inability) to pay, involving loans for rehabilitation, targeted subsidies, institutional reform to remove political influence, formation of user associations and capacity-building, improved stakeholder consultation and participatory management, and private sector participation (Xie, 2006). He further argues that even countries with similar water management problems have vastly different institutional capacities. Therefore each country's IWRM approach must focus on building on existing strengths and addressing weaknesses. There is no one magic solution that fixes all problems.

The French experience shows that implementation of IWRM is a process that could take several decades. According to Xie (2006) France took nearly 30 years to reach today's stage of river basin management, while it took Spain more than 20 years to implement IWRM. Success in some areas may be accompanied by on-going challenges in others. Certain goals such as full economic sustainability and reconciling human water needs with the needs of ecosystems, will require substantial changes to current practice and culture, and will therefore take even longer to achieve. Given the short-term focus of politicians and policymakers in most areas, there is always the temptation to seek quick solutions and abandon the IWRM process if immediate gains fall short of expectations. For example, Zimbabwe embraced IWRM in the late 1990s with great enthusiasm, only to throw away the zeal when the ruling party governance monopoly was threatened by the Movement for Democratic Change (MDC) at the beginning of the twenty first century. Persistent, patient progress on multiple fronts is necessary to achieve the ultimate goals of IWRM. It is important to develop a sequenced, prioritised list of reforms to avoid getting bogged down in partial implementation of too many reforms.

Commenting on the implementation of IWRM in southern Africa, Chikozho (2005: 2) observes:

There are tensions between establishing best practice approaches on the one hand and, on the other, adapting them to specific contexts. There are questions about the significance of scale in determining what can and what cannot work. There are also tensions between emphasis on form and process in catchment management. There are tensions between more centralised catchment governance, and more participatory, decentralized approaches. There is a tension between catchment thinking and other narrower orientations to issues such as meeting the backlog of water supply demands... The similarity and standardization of the prescriptions across different countries is undeniable. It is, however, inconceivable that the 'one size fits all' approach to the policy-making associated with these reforms will bear positive results, considering their obvious disregard for the prevailing social, cultural and institutional contexts in most of the countries involved.

As already observed above, the argument is that the IWRM paradigm can only work when contextualised to the dictates of concerned communities' immediate environment in a systems management perspective. A sound alignment between the immediate and broader global environment is required for efficiency and effectiveness. As observed by Mulder (2005), although the implementation of IWRM policies seems successful in most developed countries, developing countries face numerous obstacles including lack of financial resources, the absence of

scientific and technical knowledge, inadequate data and a general lack of capacity. Mulder (2005) claims that the prevailing cultural norms, values political structures and the level of economic development also contribute to the challenges facing developing countries that have adopted the IWRM paradigm.

Van Koppen, *et al* (2007: ix) argue:

Ignoring community-based water laws and failing to build on their strengths, while overcoming their weaknesses, greatly reduce the chance of new water management regimes to meet their intended goals. In contrast, when the strengths of community-based water laws are combined with the strengths of public sector contributions to water development and management, the new regimes can more effectively lead to sustainable poverty alleviation, gender equity and overall economic growth. Indeed, the challenge for policy makers is to develop a new vision in which the indispensable role of the public sector takes existing community-based water laws into full account.

They further argue that although the emphasis on users' participation suggests otherwise, water resources management reform has paid little attention to community-based water laws in rural areas in developing countries.

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