Using progressive realization and reasonableness to evaluate implementation lags in the South African water management reform process*

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I. Introduction

Over the past decades, throughout much of the world water management has moved away from supply driven management, dominated by engineering and hydrological issues, toward demand driven solutions.[4] Along these lines, Integrated Water Resource Management (IWRM) has gained prominence as a powerful water management paradigm[5] and the notion of tradable formal or administrative entitlements, known variously as permits, licences, concessions or grants play a prominent role.[6] This

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[4] Synne Movik, 'Return of the Leviathan? "*Hydropolitics in the developing world*" revisited' (2010) *Water Policy* 1.

[5] Although this paper does not delve into the vast literature on IWRM, we refer to some basic definitions and scholarship. For definitions of IWRM, see e.g. Sharon Pollard and Derick du Toit 'Integrated water resources management in complex systems: how the catchment management strategies seek to achieve sustainability and equity in water resources in South Africa' (2008) 34(6) Water SA 671 (noting that the South Africa Department of Water Affairs & Forestry defines IWRM as 'a philosophy, a process and a management strategy to achieve sustainable use of resources by all stakeholders at catchment, regional, national and international levels, while maintaining the characteristics and integrity of water resources at the catchment scale within agreed limits'); Global Water Partnership, 'Integrated Water Resource Management' (2000) Technical Background Paper No. 4 < http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf> accessed 26 November 2012 (defining IWRM as 'a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems'.). For a criticism of how IWRM has been defined, see Asit K. Biswas, 'Integrated Water Resource Management: A Reassessment' (2004) 29(2) Water International 248.

mirrors a shift in water management from common-law legal doctrines such as the Riparian Principle to one where water is a public resource that is regulated by the state.

South Africa has led the way, by undertaking systematic shift in its water management system by adopting IWRM. The new system challenges the policies and values of the past by framing water resource management within the context of the principles of equity and sustainability, both reflected throughout the new Constitution of the Republic of South Africa and rooted in the economic, social, environmental and political circumstances of the country.[7] These principles are strongly transformative and aim to strike a balance between the use of resources for livelihoods and its protection for future generations, whilst promoting social equity, environmental sustainability and economic efficiency.[8]

As with any transformative policy, it will take and has taken time for the government to implement the new water management approach. In other words, when there is a significant transformation of policy and priorities to manage a complex system, as with the water resource management sector in South Africa, there will always be a "lag" from policy formulation to implementation.[9] Nevertheless, despite the inevitability of implementation lags, the best designed and intentioned policies are meaningless if a) the time it takes to "implement" them is too long or b) their implementation is of an unacceptable quality or standard.

This paper draws on legal concepts relevant to implementing and evaluating socio-economic constitutional rights to propose a framework for water resource managers and policy makers to facilitate planning and implementation of IWRM within South Africa. The framework seeks to give practical meaning to two legal concepts related to the realization of certain South African Constitutional obligations that can serve as yardstick for measuring progress towards the implementation of IWRM, namely the concepts of *progressive realization* and *reasonableness*.[10] Moreover, the framework is informed by complexity theory and strategic adaptive management (SAM), both of which are often discussed widely within socio-ecological disciplines and much less so in legal scholarship. As discussed in section IV, complexity theory and SAM recognize that lags are inherent attributes of complex systems that display

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[6] Movik (n 4) 2. See also UN-Water, *Status Report on Integrated Water Resource Management and Water Efficiency Plans for CSD16* (2008). According to UN-Water, by 2005 approximately 20 countries were well underway in incorporating the main elements of the IWRM approach, 50 countries were in the process of preparing national strategies or plans, and 25 countries had taken initial steps.

[7] National Water Act, Act No. 36 of 199 (SA); Pollard and du Toit, 'IWRM in complex systems' (n 5) 671.

[8] DWAF, National Water Resource Strategy (2004) (NWRS), 7; Pollard and du Toit, ibid 671.

[9] Pollard and du Toit, ibid 673, 677. For example, in the field of economics, this period between policy formulation and implementation is commonly referred to as an implementation lag. In human rights, the obligations to progressively realize economic and social rights recognizes time delays.

[10] Although this paper focuses on South Africa, we believe the framework is sufficiently flexible so as to allow its adaptation and application within other countries.

multiple drivers which operate and influence outcomes, and are thus relevant to a discussion of water management regimes. This discussion is particularly pertinent because although some 14 years have passed since the enactment of the new water law, there are serious implementation delays.[11]

II. Water management reform in South Africa

In order to facilitate a better understanding of the discussion of our proposed framework in Section IV, which draws examples from how IWRM has been operationalized in South Africa, a brief overview of the policy and legal framework governing water management reform in South Africa is given. This is also important because the overarching objective of our framework is to give practical meaning to principles underlying South Africa's water management approach, which are rooted in the South African Constitution.

1. The Constitution as the key driver of water resource management transformation

Unlike many countries undertaking water management reform, South Africa's transformation is rooted in its Constitution, which espouses fundamental rights around sustainable development, participation, non-discrimination, equity, and access to basic services. The importance of linking IWRM with Constitutional norms is that it places IWRM implementation within the context of constitutional obligations and concepts, and in particular the obligation to enact *reasonable legislative and other measures* and the concept of *progressive realization*. These concepts are fundamental to our discussion and will be elaborated on in Section III.

The constitutional mandate related to water resource management is primarily rooted in Section 24 and 27 of the Constitution. Section 24 establishes a right to an environment that is not harmful to a person's health or well-being, and requires the environment to be protected for the benefit of the present and future generations.[12] The protection should be afforded through reasonable legislative and other measures that secure ecologically sustainable development and use of natural resources, while promoting

[11] For an in depth discussion of what some of these implementation lags are and their causes, see Barbara Schreiner, Guy Pegram and Constatin von der Heyden 'Reality check on water resources management: Are we doing the right things in the best possible way?' (2009) Development Bank of South Africa Working Paper Series No.11 <http://www.dbsa.org/Research/DPD%20Working%20papers%20documents/DPD%20No11.pdf?AspxAutoDetectCookieSupport=1> accessed 26 November 2012; Sharon Pollard and Derick du Toit, 'Towards the sustainability of freshwater systems in South Africa: An exploration of factors that enable and constrain meeting the ecological Reserve within the context of Integrated Water Resources Management in the catchments of the lowveld' (2011) South African Water Resource Commission Report TT 477/10 < http://www.wrc.org.za/Pages/DisplayItem.aspx?ItemID=9122&FromURL=%2fPages%2fKH_DocumentsList.aspx%3fdt%3d1%26ms%3d4%3b5%3b%26d%3dShared+Rivers+Initiative+Phase+1+towards+ecosystems+sustainability%26start%3d21> accessed 26 November 2012.

[12] Constitution of the Republic of South Africa, Act 108 of 1996 (SA Constitution), section 24*(a), (b)*.

justifiable economic and social development.[13] Section 24 firmly establishes environmental protection and sustainability as key tenets in a development paradigm.[14]

Every person also has a fundamental right of access to sufficient water. The right to water is indirectly linked to the sustainable management of water resources, because in order to ensure sufficient and clean water in the long term, the resource must be managed sustainably. Giving effect to this right could also give effect to, among others, the constitutional right that a person has to have his or her dignity respected and protected[15] and to the right to life.[16] Government must realize this right through reasonable legislative and other measures to progressively realize to ensure sufficient water. In the absence of available resources, the failure of the State to fulfil its obligations should not be a violation.

Moreover, Section 25 of the Constitution places a commitment on government to bring about equitable access to the water resources.[17] The State may take legislative and other measures to achieve water reform in order to redress the results of past racial discrimination.[18] The Constitution also requires a high level of cooperative governance between overlapping mandates.[19] These provisions set a framework to manage water in an integrated manner that seeks to avoid fragmentation.[20]

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[13] ibid section 24*(a)*, *(b)*(iii). For a comprehensive discussion of section 24 see Michael Kidd, *Environmental Law: A South African Perspective* (2d edn, Juta 2011); Jan Glazewksi, *Environmental Law in South Africa* (2d edn, Butterworths 2005)

[14] See *Fuel Retailers Association of Southern Africa v DG Environmental Management, Department of Agriculture, Conservation and Environment Mpumalanga Province* 2007 (6) SA 4 (CC).

[15] SA Constitution, section 10.

[16] ibid section 11.

[17] ibid section 25(4)*(a)*.

[18] ibid section 25(8). Other Constitutional provisions related to IWRM include equal protection and benefit of the law (Section 9(1)); non-discrimination (Section 9(3)); privacy (Section 14); access to information (Section 32);just administrative actions (Section 33); and disputes that could be resolved by the application of the law decided in fair public hearing before a court or, where appropriate, another independent and impartial tribunal or forum (Section 34).

[19] Section 40 recognizes that the three spheres of government (local, provincial, and national) are interdependent and interrelated. Section 40(2) further recognizes that all levels must adhere to the principles of cooperative government and intergovernmental relations. Section 41(1)(f) specifies the requirements of cooperative government.

[20] Johan Nel and Louis Kotzé, 'Environmental management: An introduction' in Hennie Strydom and Nick King (eds), *Environmental Management in South Africa* (2d edn, Juta 2009).

These overarching norms bring new priorities for action, and provide the basis for the shifts that the administrative, legal and collaborative management system needs to respond to.

2. Legislative and strategic planning framework

The main framework legislation underpinning South African water management reform is the National Water Act (NWA) which builds on the 1996 water policy.[21] It re-orients the water resource management system and adopts an IWRM approach. The Act explicitly recognizes "the need for the integrated management of all aspects of water resources".[22] The purposes of the Act include promoting equitable access to water; redressing the results of past racial and gender discrimination; promoting the efficient, sustainable and beneficial use of water in the public interest; facilitating social and economic development; protecting aquatic and associated ecosystems and their biological diversity; and meeting international obligations.[23]

Critically, the NWA departs significantly from the previous water management regime by adopting the public trust doctrine which espouses the (National) Government as the public trustee of the water resources.[24] This has paved the way for a system of water use authorization administered through licenses.[25] Another fundamental change that accompanied the policy overhaul is the progressive devolution of responsibility and authority for the management of water resources on a catchment basis. The Act requires the national government to establish a National Water Resource Strategy (NWRS) that should promote management on the basis of catchments within a water management area in a holistic and integrated manner.[26] To give effect to this, the NWRS initially divided the country to 19 Water Management Areas (WMAs) based on catchment boundaries. Each WMA will be managed by a single catchment management agency (CMA) that represents the interests of different water users at the catchment level.[27] At the time of writing, however, the Minister for Water Affairs had proposed to reduce the number of WMAs to nine due to various "operation challenges".[28] A CMA will need to develop a

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[21] *White paper on a National Water Policy for South Africa* (1997).

[22] NWA (n 7) preamble.

[23] ibid, section 2.

[24] ibid, section 3. For a discussion of the public trust doctrine in the NWA, see Robyn Stein, 'Water law in a democratic South Africa: a country case study examining the introduction of a public rights system' (2005) 83 Tex L Rev 2167.

[25] NWA, chapter 4.

[26] ibid, sections 5-11.

[27] NWRS (n 8) sections 1.4, 2.1.

[28] DWA, *Gazetting of the Amendments of the Water Management Areas in South Africa for comment*, 21 April 2012

catchment management strategy (CMS) for each of the WMAs and must ensure that water resources within its specific WMA is protected, used, developed, conserved, managed and controlled.[29]. CMAs are critical to promote public participation in water management and to foster cooperation in inevitably difficult water management decisions.[30]

The NWA and the NWRS have established a framework for implementing IWRM and meeting the constitutional obligations, namely, through two complementary strategic areas, known as Resource Directed Measures (RDM) for protection of water resources and Source Directed Controls (SDC) for regulation of use.[31]

The RDM are directed at protecting the water resources base by setting objectives for the desired condition of resources, and collectively they comprise important management tools such as classification of the resources, setting an ecological reserve or ecological flow requirement[32], and establishing resource quality objectives.[33] These measures focus on the quality and quantity of the water resource itself. The SDC are measures to regulate water use to limit impacts to acceptable levels, as defined through RDM. These measures are primarily implemented through conditions on water use authorizations.[34] The SDC cannot be undertaken without RDM and vice versa.[35] RDMs and SDCS are at the heart of giving effect to sustainability of the resource, and thus section 24 of Constitution.

Several other legislations relate to the water resource management reform process, including the National Environmental Management Act of 1998, and its subsequent amendments, the Water Services

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[29] NWA (n 7) section 8(1).

[30] For further discussion on CMAs, see Ramin Pejan and Jonathan Cogger, 'The application of assignment and delegation within the context of the National Water Act: the implications on Catchment Management Agencies' (2013) SAJL (forthcoming); Magalie Bourblanc 'Transforming water resources management in South Africa. "Catchment Management Agencies" and the ideal of democratic development' (2012) 24 Journal of International Development 637; Peter Ashton, 'Integrated catchment management: balancing resource utilization and conservation' (2000) AWIRU Occasional Paper <http://awiru.co.za/pdf/astonpeter.pdf> accessed on 26 November 2012.

[31] NWRS (n 8) 56.

[32] Section 1 (xviii) (b) of the NWA (n. 7) defines ecological reserve as 'the quantity and quality of water required to protect aquatic ecosystems in order to secure ecologically sustainable development and use of the relevant water resource'.

[33] NWRS (n 8) 57-9.

[34] ibid 60.

[35] ibid 56; Pollard and du Toit,'IWRM in complex systems' (n 5) 675-76.

Act[36], the Conservation of Agricultural Resources Act of 1983 and the Mineral and Petroleum Resources Development Act of 2002.[37] All of these interface with the IWRM process.

III. Legal concepts that inform the evaluation of IWRM implementation lags

We propose that the evaluation of whether an implementation lag within the context of operationalizing IWRM in South Africa is acceptable should be strongly informed by certain legal concepts associated with the realization of the Constitutional rights discussed in Section II that underpin water resource management reform in South Africa. In particular, such an evaluation must be connected to the legal concepts of *reasonableness* and of *progressive realization*. Although these two concepts have a very particular meaning within the South African legal system and to some extent in international human rights law (with respect to progressive realization), they can provide strong guidance to non-legal practitioners and other stakeholders who are grappling with trying to determine whether the pace of implementing IWRM in South Africa is acceptable. Our intention here, therefore, is not to critically deconstruct and analyze these concepts from a legal perspective, as many scholars have done[38], but to give practical meaning to them.

As discussed in section II, sections 24 and 27 of the Constitution require that *reasonable and other measures* be taken to achieve the content of each right, and section 27 places these measures within the ambit of *progressive realization*. For example, in *Mazibuko v. City of Johannesburg*,[39] a right to water case dealing with water service cut-offs, the Constitutional Court stated that section 27 of the Constitution "requires the state to take reasonable legislative and other measures progressively to achieve the right of access to sufficient water within available resources".[40] The concept of progressive

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[36] Act No. 108 of 1997

[37] See Hennie Strydom and Nick King (eds), *Environmental Management in South Africa* (2d edn, Juta 2009) for a review of laws related to protecting natural resources.

[38] See e.g. Geo Quinot and Sandra Liebenberg, 'Narrowing the band: reasonableness review in administrative justice and socio-economic rights jurisprudence in South Africa' (2011) 3 Stell LR 639; Stuart Wilson and Jackie Dugard, 'Taking poverty seriously: the South Africa Constitutional Court and socio-economic rights' (2011) 3 Stell LR 664; Sandra Liebenberg and Beth Goldblatt, 'The interrelationship between equality and socio-economic rights under South Africa's transformative constitution' (2007) 23 SAJHR 335; Murray Wesson, '*Grootboom* and beyond: reassessing the socio-economic jurisprudence of the South Africa Constitutional Court' (2004) 20 SAJHR 284; Marius Pieterse, 'Coming to terms with judicial enforcement of socio-economic rights' (2004) 20 SAJHR 383; David Bilchitz, 'Towards a reasonable approach to the minimum core: laying the foundations for future socio-economic rights jurisprudence' (2003) 19 SAJHR 1.

[39] 2010 (3) BCLR 239 (CC).

[40] ibid para 57.

realization in particular recognizes that socio-economic rights confer positive legal obligations and thus cannot be achieved immediately.[41]

Although it is not our intention here to critically and comprehensively deconstruct the meaning of these two legal concepts and how they have been defined by courts, an understanding of both of these concepts is essential to our proposed framework.

1. Reasonableness

The Constitutional Court has elaborated what "reasonable" means in several cases;[42] although none of these cases is related to water resource management. Glazewski has summarized the test for reasonableness to require measures that are comprehensive and co-ordinated, clearly allocating responsibilities and tasks; capable of promoting realization of the right; reasonable in conception and realization; balanced and flexible, providing for needs of different degrees of urgency, and refraining from excluding significant elements of society; and responsive to the most urgent needs and the management of crises.[43] Other requirements the Court has stated include that reasonableness must be determined on a case by case basis and requires an assessment of context[44]; although different spheres of government may be responsible for implementing the programme, the national government has the ultimate responsibility[45]; and a considerable amount of deference should be given to the State.[46] Finally, the Court has also adopted a number of indicators relevant to reasonableness associated with constitutional values, including transparency, non-discrimination, and the impact on other rights, such as the right to life, dignity and equality.[47] According to Quintot and Liebenberg, "the overall inquiry remains whether the impugned measures are sufficiently effective and expeditious in achieving the goal of the full realisation of the relevant socio-economic right."[48]

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[41] See Dennis Davis, 'Transformation: the constitutional promise and reality' (2010) SAJHR 85; *Government of the Republic of South Africa v. Grootboom* 2001 (1) SA 46 (CC) para 45.

[42] *Soobramoney v. Minister of Health, Kwazulu-Natal* 1998 (1) SA 765 (CC); *Grootboom* ibid; *Minister of Health v.Treatment Action Campaign (No 2)* 2002(5) SA 721 (CC); *Khosa v. Minister of Social Development; Mahlaule v. Minister of Development* 2004 (6) SA 505 (CC); *Mazibuko* (n 39).

[43] Glazewski (n 13). See also Carol Steinberg, 'Can reasonableness protect the poor? A review of South Africa's socio-economic rights jurisprudence' (2006) SALJ 264; Wesson (n 38); Pieterse (n 38).

[44] *Grootboom* (n 41) para 92; *Mazibuko* (n 39) para 60

[45] *Grootboom*, para 39.

[46] ibid, para 41;*Mazibuko* (n 39) para 61

[47] Quintot and Liebenberg (n 38) 656.

[48] ibid

Although the test for "reasonable legislative and other measures" was developed within the right to housing, the test is equally applicable to the same language contained in Sections 24 and 27 of the Constitution.

2. Progressive Realization

Progressive realization has been developed as a concept in international human rights law and within South Africa as a means to recognize that the positive legal obligations associated with socio-economic rights cannot be met immediately, but that their implementation will take time and should be achieved progressively.[49] The concept of progressive realization also recognizes that implementation can only be achieved if there are available resources. This concept is contained in the South African Constitution specifically in association with socio-economic rights, such as section 26 (housing), section 27 (health care, food, water and social security), and section 29 (1)(b) (further education), and defined by the Constitutional Court.[50]

The South African Constitutional Court has defined progressive realization by referring to its development in international human rights law.[51] The Court recognizes that *progressive realization* has its genesis in the International Covenant of Economic, Social and Cultural Rights (ICESCR), the main international human rights treaty governing socio-economic rights, and it relies on General Comment 3 of the United Nations' Committee on Economic, Social and Cultural Rights (CESCR), the body charged with monitoring the ICESCR, to extrapolate the meaning of progressive realization, stating that" the meaning ascribed to the phrase is in harmony with the context in which the phrase is used in our Constitution".[52]

Paragraph 9 of the General Comment 3, to which the Constitutional Court also refers, elaborates on the nature of the obligation, including that the a state cannot take retrogressive steps and must make use of the maximum available resources at its disposal to achieve the rights at issue:

> The concept of progressive realisation constitutes a recognition of the fact that full realisation of all economic, social and cultural rights will generally not be able to be achieved in a short period of time. Nevertheless, the fact that realisation over time, or in other words progressively, is foreseen under the [ICESCR] should not be

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[49] ibid 653-54.

[50] As the Constitutional Court has explained, "the scope of the positive obligation borne by the state in terms of section 27 is affirmed by the duty of progressive realisation. The fact that the state must take steps progressively to realise the right implicitly recognises that the right of access to sufficient water cannot be achieved immediately."*Mazibuko* (n 39) para 58. See also United Nations' Committee on Economic, Social and Cultural Right (CESCR), *General Comment 3* (1990) para. 9.

[51] *Grootboom* (n 41) para 45.

[52] ibid

> misinterpreted as depriving the obligation of all meaningful content. … It thus imposes an obligation to move as expeditiously and effectively as possible towards that goal. Moreover, any deliberately retrogressive measures in that regard would require the most careful consideration and would need to be fully justified by reference to the totality of the rights provided for in the [ICESCR] and in the context of the full use of the maximum available resources.

Moreover, international human rights law also recognizes that there are certain core obligations associated with each socio-economic right that are not subject to progressive realization. The South African Constitutional Court has continuously rejected the existence of core obligations, a subject of extensive scholarly debate.[53]

How then does the CESCR monitor whether states are complying with the obligation to progressively realize the rights within the ICESCR? An important mechanism is through the use of indicators and benchmarks.[54] Indicators can serve as a critical evaluative tool and they enable decision-makers to assess progress in implementing policy, typically by setting various benchmarks or targets for each category of indicator. The literature on indicators is extensive and diverse across many different disciplines, and readers are referred to it for a more comprehensive discussion.[55] Within the proposed framework below, indicators are critical for evaluating the desired state of an action.

3. The progressive realization standard should also apply to section 24 of the Constitution

As mentioned, section 24(b) of the Constitution, unlike section 27, does not include a reference to progressive realization, but instead requires its implementation through reasonable legislative and other measures. Nonetheless, we believe that the concept of progressive realization is still relevant to evaluating the implementation of section 24—which, as we outlined, is directly relevant to the

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[53] See e.g. Mazibuko (n 39) para. 54-6. See Bilchitz (n 38) for a critique of the Court's jurisprudence rejecting the minimum core.

[54] See CESCR, *General Comment 15* (2003); United Nations, *Indicators of Sustainable Development: Guidelines and Methodologies* (2008).

[55] See Sharon Pollard and others, 'Sustainability indicators in communal wetlands and their catchments: Lessons from Craigieburn wetland, Mpumalanga' (2009) Water Research Commission Report No. K5/1709 < http://www.wrc.org.za/Pages/DisplayItem.aspx?ItemID=8719&FromURL=%2FPages%2FAllKH.aspx%3F > accessed 26 November 2012 (reviewing the literature on sustainability indicators, and proposing wetland indicators. Generally the authors identify three main categories of sustainability indicators: diagnostic, outcome and process indicators); Ann Janette Rosga and Margaret Sattertwaithe, 'The Trust in Indicators: Measuring Human Rights' (2009) 27 BJIL 2 (reviewing the history of human rights indicators. The authors outline three general categories: *structural, process,* and *outcome*).

operationalisation of IWRM in South Africa—because section 24 places positive legal obligations on governments that typically go hand in hand with the concept of progressive realisation, as is the case with other socio-economic rights.

There are several reasons why the positive legal obligations required under Section 24(b), all of which are relevant to IWRM, should also be evaluated based on a progressive realization standard (in addition to a reasonable one). First, Section 24 can be considered a third-generational right, and conceptually is more analogous to socio-economic rights obligations (second generational rights) that require both negative and positive obligations. Indeed, as discussed above, Section 24 (b) requires the State to take a series of positive steps to realise the right.[56] Many of the actions required to manage water resources sustainably also require positive and long term steps, such as creating entirely new institutions, undertaking several resource-directed measures, creating strategies, and transforming water management from a riparian regime to a licensing system. Thus, to the extent IWRM requires positive action it should also be logically evaluated through a progressive realization paradigm.[57]

Second, sustainably managing water resources as required by section 24(b) is intimately linked with section 27, the right of access to sufficient water. Simply put, access to clean and sufficient water cannot be guaranteed without an appropriate water management regime.[58] Accordingly, Section 27's progressive realisation requirement would inherently include water management actions.

Third, we believe that the Constitutional Court itself has moved toward integrating the reasonable test with the progressive realisation obligation, which lends support to the idea that these obligations are interdependent.[59] In other words, if the government is not meeting certain elements of the reasonableness test, it would also be difficult to argue that it is working towards progressive realization of the right in question. For example, the Court's requirement that government move beyond legislative measures by enacting well-directed policies and programs envisions a progressive approach. Moreover, the requirement that programs meet short, medium and long term needs and the recognition that reasonableness is context specific overlaps with a progressive approach.

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[56] See Kidd (n 13)

[57] See Quintot and Liebenberg (n 38) 653. We are not suggesting, however, that progressive realization apply to negative legal obligations created under Section 24, such as those where the state is required to respect the content of section 24. This might include situation where the state inappropriately authorizes an activity that will have direct negative impacts on the environment.

[58] See General Comment 15 (n 54) para 28 (outlining the need to ensure sufficient and safe water for future generations by reducing unsustainable extractions, preventing contamination of watersheds, monitoring water reserves, and evaluating impacts from activities on watersheds).

[59] See *Mazibuko* (n 39) para. 57.

4. The need to give practical meaning to progressive realization and reasonableness

Notwithstanding the Court's efforts to define reasonableness and progressive realization, they remain difficult legal concepts in application and with no shortage of criticism.[60] Within the context of water resource management, the issues and information that should be weighed up to determine what is reasonable will require a contextual specific inquiry taking into consideration, among other things, the state of the water resource at issue, the technical complexity of the specific policy requirements or tool, available resources, and social, ecological, political and other elements.[61]

Despite the challenges in giving the concepts of progressive realization and reasonableness practical application, they can still offer a valuable framework for the evaluation of lags in the operationalisation of IWRM. Importantly, they can provide guidance for water resource management officials who are tasked with realizing IWRM and who often, in our experience, have inadequate frameworks for gauging progress and have no legal background to understand the nuances of the legal standards used to evaluate their decisions. [62] After all, the Constitutional Court provides great deference to the executive branch to determine how to best realize Constitutional rights.[63] However, the task of translating these concepts to make them more practical meaning presents difficult challenges, and has presented a dilemma to many experts, and there is no shortage of literature on the subject.[64]

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[60] See e.g. Liebenberg and Goldblatt (n 38); Pieterse (n 38); Bilchitz (n 38)

[61] *Mazibuko* (n 39) para 62.

[62] See e.g. Pieterse (n 38) 409, who argues that any judicial review standard should foster a culture of justification "through insisting that democratic branches justify … their choice of policy option" thereby "inspiring government to pay attention to its constitutional obligations in policy-formulation".

[63] *Mazibuko* (n 39) para 61, explaining that "ordinarily it is institutionally inappropriate for a court to determine precisely what the achievement of any particular social and economic right entails and what steps government should take to ensure the progressive realisation of the right. This is a matter, in the first place, for the legislature and executive, the institutions of government best placed to investigate social conditions in the light of available budgets and to determine what targets are achievable in relation to social and economic rights".

[64] See e.g. Kate Tissington, 'Towards an SER Matrix: Monitoring the Progressive Realisation of Socio-Economic Rights in South Africa: A Review of Housing Policy and Development in South Africa since 1994' (2010), paper prepared for the Studies in Poverty and Inequality Institute < http://www.spii.org.za/agentfiles/434/file/Research/Review%20of%20the%20Right%20to%20Housing.pdf> accessed on 26 November 2012; Cameron Jacobs, 'Demystifying the Progressive Realisation of Socio-Economic Rights in South Africa' (2009) South African Human Rights Commission; Shareen Hertel, 'Why Bother? Measuring Economic Rights: The Research Agenda' (2006) 7 ISP 215; Audrey Chapman, 'A "Violations Approach" for Monitoring the International Covenant on Economic, Social and Cultural Rights' (1996) 18(1) HRQ 23.

The ensuing discussion seeks to connect the concept of reasonableness and progressive realization to a practical framework for evaluating implementation lags associated with the operationalisation of IWRM in South Africa.

IV. A proposed framework for evaluating IWRM implementation lags

In this section we outline the key elements of the framework which reflects a) the concepts of reasonableness and progressive realization; b) the complex nature of water resource management; c) appropriate management responses; and d) some examples of the strategic objectives of IWRM.

1. The framework's theoretical foundation

In order to link the proposed framework below to the legal concepts of reasonableness and progressive realization, we rely heavily on complexity theory, systems approaches, and SAM. Complexity theory and systems approaches lend themselves nicely to evaluating progressive development and reasonableness, because they require a holistic and integrated understanding of issues relevant to achieving desired outcomes. Within the water management sector, this would allow for water managers to develop more coherent policies, strategies, and action plans to meet IWRM. SAM, which is a management approach that is closely linked to complexity theory, requires the setting of clear objectives and outcomes based on principles with a continuous cycle of reflection, evaluation and learning, all of which arguably facilitate progressive realization and the implementation of reasonable measures. These concepts are briefly reviewed here.[65]

Systems approaches call for a holistic understanding of real-world issues such as the management of water asserting that such issues do not fall within the domain of single disciplines. Rather the 'real world' reflects the interaction between multiple socio-economic, political and environmental drivers and hence a need to understand socio-environmental systems. Flowing from this, complexity theory holds that socio-environmental systems are inherently complex and dynamic , as opposed to linear ones (like a car engine) where outcomes are predictable. Rather, because of the complex interaction of socio-economic, ecological and political factors which operate differently at different scales (temporal and spatial) the outcomes are often unpredictable.[66] For example, some five years ago few would have predicted the

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[65] For an in depth discussion of these concepts,see e.g. C.S. Holling, 'Understanding the complexity of economic, ecological and social systems' (2001) 4 Ecosystems 390; Harry Biggs and Kevin Rogers, 'An adaptive system to link science, monitoring and management in practice' in Johan T du Toit, Kevin H Rogers and Harry C Biggs (eds), *The Kruger Experience: Ecology and Management of Savanna Heterogeneity* (Island Press 2003); Brian Walker and others, 'Resilience, adaptability and transformality in social ecological systems' (2004) 99 Ecology and Society 5; Helen Allison and Richard Hobbs, *Science and policy in natural resources management: Understanding system complexity* (Cambridge University Press 2006); Pollard and du Toit, 'IWRM in complex systems' (n 5); Pollard and others (n 55).

[66] Pollard and du Toit, ibid

increased demand on local water resources due to the international scale impacts of the 2008 economic crises which, due to job losses, forced people back into rural areas in South Africa and put an unpredicted strain on the water resources. Nonetheless by striving to see the system holistically, with all systems as sub-systems of bigger systems to which they relate[67], one has a better sense of potential outcomes. In other words, one must manage a system keeping in mind its complex characteristics.

Given this thinking, there has been a gradual recognition for the need to manage differently such as through a process of strategic adaptive management that fundamentally embraces learning by doing.[68] Learning is taken to be a social process where engagement, communication and dialogue provide the basis for reflecting on and responding to system feedbacks – such as the influx of people in the above example - in a way that is open to change and that encourages creative and innovative responses to an ever evolving context.[69] SAM integrates research, planning, management, and monitoring in repeated cycles of learning that seek to improve on objectives.[70] The Inkomati Catchment Management Agency in developing its catchment management strategy and the Kruger National Park have each utilized SAM, and their efforts provide a valuable window into how to manage complex systems.[71]

Complexity theory is also closely linked to IWRM. In fact, the principles of water management, the National Water Resource Strategy and other planning and legal instruments recognize that water management takes place in a complex system.[72]

2. A framework for evaluating IWRM implementation lags

The following framework is illustrative, and it is hoped that it can serve to support the development of context specific evaluative tools. In South Africa, for example, this process should ideally be folded into the CMS process to allow for context-specific frameworks.[73] Determining the content of the framework

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[67] ibid

[68] ibid; Biggs and Rogers (n 69).

[69] Sharon Pollard and Derick du Toit, 'Recognizing heterogeneity and variability as key characteristics of savannah systems: The use of Strategic Adaptive Management as an approach to river management within the Kruger National Park, South Africa' (2005) Report of UNEP/GEF Project No. GF/2713-03-4679, Ecosystems, Protected Areas and People Project

[70] ibid.

[71] ibid; Pollard & du Toit, 'IWRM in complex systems' (n 5); ICMA, 'The Inkomati Catchment Management Strategy' (ICMS) (2010).

[72] White Paper (n 21), ss 2.2.2., 7.1.1.; NWRS (n 8), 2,10.

[73] NWRS (n 8) 9-10. The NWRS envisions the CMA as the primary mechanism through which the complex system is managed. The main tool by which the CMA will carry out its function is the Catchment Management Strategy. The CMS is a legislative requirement that must be aligned with the NWRS and one

will be a time-consuming process that must be coordinated as it requires the engagement of a wide range of practitioners, regulators, experts and other relevant stakeholders. Throughout the discussion we give examples drawing from enforcement actions against violations of the NWA. This is not meant to provide definitive content, but to help in understanding the framework's application and its relation to reasonableness and progressive realization.

The framework presents a hierarchical process that results in the development of indicators and time-frames, and includes cycles of monitoring, reflections, learning and action. The key elements of the framework include:

- A vision
- Principles informing the vision
- key strategic objectives and sub-objectives determined with stakeholders
- actions needed to realize the sub-objectives
- iterative development and testing of indicators and benchmarks that include appropriate time-frames
- Implementation of actions
- Evaluative cycle of monitoring, reflection, learning and action

Each of the Framework's elements is discussed in turn. Figure 1 presents a draft framework for demonstrative purposes.

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must be established for each WMA in a phased and progressive manner and reviewed at intervals of not more than five years. This allows for the reflexivity required to constantly re-evaluate implementation lags.

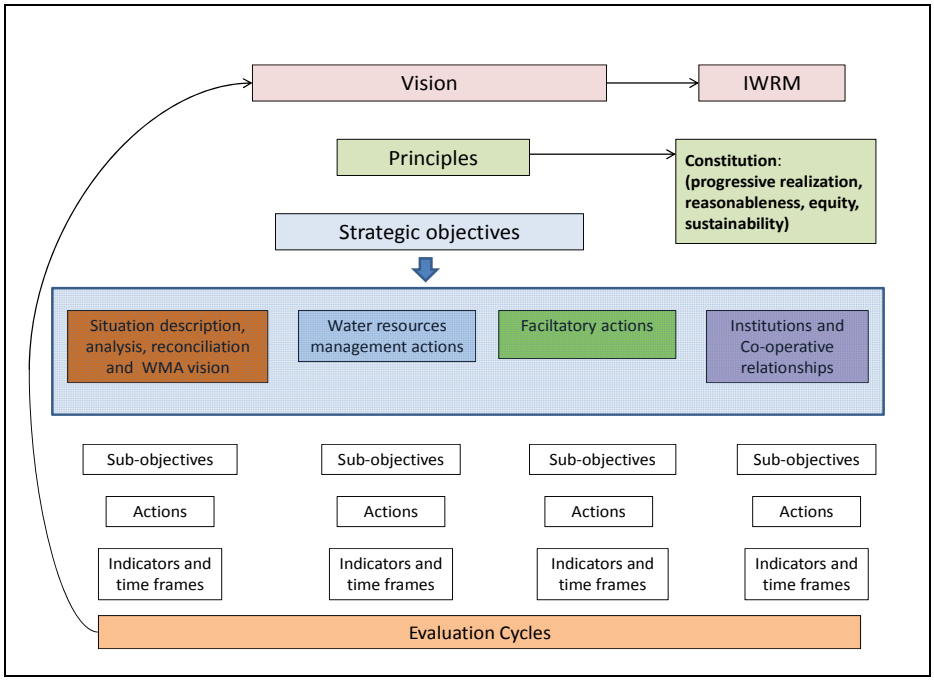

Figure 1- Illustrative framework for assessing reasonableness and progress realization towards implementing IWRM

a. Vision and principles

As reflected in Figure 1, we recommend that the overall vision for the framework is to ultimately implement IWRM. The key principles that inform this vision are rooted in the Constitution and the policies and laws that seek to realize the relevant constitutional rights. As discussed in section II, these Constitutional rights include substantive rights such as equity and sustainability, as well as the concepts of reasonableness and progressive realization.

b. Strategic objectives and sub-objectives

To determine the framework's strategic objectives, as an example we draw from the National Water Resource Strategy and the CMS guidelines, both of which have conceptualized IWRM into four categories.[74] A number of these deal specifically with the 'business' of IWRM whilst others facilitate IWRM. Figure 1 reflects the four illustrative strategic objectives: 1) foundational information; 2) water resource management actions; 3) facilitation actions; and 4) integration actions.

Foundation information provides the foundation for the other three key strategies. It recognizes that adequate planning cannot occur without an understanding of the context within a water management

[74] NWRS (n 8); ICMS (n 71).

area. Water resource management actions are comprised of the two strategic areas discussed above: Resource Directed Measures and Source Directed Controls. Facilitation actions can be thought of the 'oil' that keeps the 'engine' of IWRM going.[75] In other words, without strategic plans for stakeholder engagement, communication, information management and monitoring, and finances, the intentions of IWRM cannot be achieved. Finally, co-operative governance and institutional arrangements are an important tenet of achieving integration. Each of these objectives is inter-related and many of their sub-objectives overlap with or play a role in achieving other sub-objectives.

The four main categories of objectives presented above will have several layers of sub-objectives to be determined. These will need to be determined in a collaborative and iterative process involving a wide range of relevant regulatory actors and other stakeholders, and they will likely be different based on the requirements of each catchment.

Using enforcement against NWA violations as an example, this action would likely fall under the objective of water resource management actions and cooperative governance. This is because compliance monitoring and enforcement is necessary to ensure water use authorization conditions are being met, and it will require cooperative enforcement with other government departments, such as Environmental Affairs and the Department of Mineral Affairs, because of overlapping mandates.

c. Actions for sub-objectives

The regulator must determine actions to achieve sub-objectives (ultimately the strategic objectives and vision). Pollard and others have recommended the creation of these actions through an exploration, definition and analysis of the key drivers and components of the system.[76]

To use the enforcement example, the following actions could be allocated under compliance monitoring and enforcement:

- Establishing a dedicated compliance monitoring and enforcement unit
- Fostering cooperative governance
- Creating effective monitoring and information systems
- Creating systems and procedures to deal with trangressors
- Assigning functions to the CMA
- Establishing clear standards for violations

Each of these actions may have sub-actions. For example, establishing a dedicated compliance monitoring and enforcement unit may further require obtaining adequate financial resources, developing competence and hiring adequate and knowledgeable staff. This list also demonstrates that various requirements will cross-cut against other sub-objectives and cross-cut within the same sub-objective. For instance, monitoring and information systems will be linked to water use authorizations, another potential

[75] Pollard and du Toit, 'IWRM in complex systems' (n 5).

[76] Pollard and others (n 55) 107-10.

sub-objective. Or within the same sub-objective, establishing an enforcement unit might be linked to assigning functions to the CMA.

d. Setting, developing and testing indicators and benchmarks with appropriate time-frames

As Figure 1 illustrates, once the various actions are determined under each sub-objective, the process of developing indicators and benchmarks must begin. Indicators are the main evaluative tool within the framework to access whether a desired state of an objective, sub-objective or action has been achieved. Benchmarks should also be set in relation to each indicator. To use the example of enforcement again, potential indicators might include "the % of staff with more than three years experience" or "% of joint investigations with other governmental departments".[77]

Setting indicators should not occur in a vacuum, but should include clear time-frames for achieving those indicators; otherwise the relevant actions under the framework will give no meaning to the obligations of reasonableness and progressive realization, which require effective and expeditious progress towards implementing IWRM. For example, if it takes ten years to begin monitoring the Ecological Reserve after it has been determined, delivering the Reserve becomes jeopardized.

Setting appropriate time-frames is a difficult task. The process will probably initially depend in large part on "informed estimations" rather than experience, and there is no hard and fast guide or formula to draw upon. Nevertheless, we propose a series of exploratory questions that can help guide the process. These questions can be divided into three broad categories: 1) technical assessments; 2) contextual assessments; and 3) externalities.

As Box 1 indicates, **technical assessments** seek to understand, among other things, the level of expertise necessary to implement actions, the financial and non-financial resources required, whether the requirement requires the creation of new institutions, and whether there the requirement is an entirely new practice or one that builds on previous practice.

[77] See n 55 for an overview of various categories of human rights and sustainability indicators.

Box 1- example of technical assessments

- Is it an entirely new action?
- What resources (financial and non-financial) are required to implement it?
- What level of technical expertise is necessary to implement it?
- Does the implementation require the creation of new institutions?
- Which sphere(s) of government is responsible for implementation, and how much coordination is necessary between them?
- What administrative requirements must be met before it can be implemented, such as public participation or notice requirements?

Contextual assessments explore the status quo and can include the state of the resource (at a catchment level), both in terms of quality and quantity, financial and non-financial resources are reasonably available, the implementation actions already taken, and the different water uses and users in the catchment. Box 2 provides a list of questions.

Box 2- example of contextual assessments

- What is the state of the resource, both in terms of quality and quantity?
- How much resources (financial, staff, etc.) are reasonably available to implement the action?
- What are the different water uses and users?
- Is there equitable allocation?

Finally, **externalities** focus on the social, economic, and environmental costs of inaction. This may include understanding ecological tipping points, eco-system goods and services, and the effects of inaction on human health and well-being. Understanding these externalities may influence the urgency of action.

A matrix can also be created to give weight to each question, thus providing a formula for estimating time-frames. To take an example, time-frames will become more urgent if a catchment is water-stressed, there is inequitable access to water or if the administrative and/or technical requirements are minimal.

e. Evaluating and learning against vision, principles, and objectives

As discussed, using indicators and benchmarks play a significant role in learning, because they help answer the following important questions: Has the sub-objective and requirements materialized? Were the requirements appropriate? Was the outcome actually acceptable? To whom? Even if the outcomes are acceptable, are the objectives and vision being met? Thus, the most important aspect of the

indicators is that they represent and opportunity for self –evaluation and self-reflection. These questions are critical, as they direct a reflection of the entire hierarchy of the framework.

3. Assessing progressive realization and reasonableness through the framework

The proposed framework can be used to assess compliance with the concepts of reasonableness and progressive realization as defined in Section III.

With respect to progressive realization, the framework if applied correctly creates carefully thought out actions related to a hierarchy of objectives with associated indicators and time-frames. This hierarchy, which requires constant reflection and adaptation, will ideally facilitate the most effective path towards realizing IWRM. Placing carefully developed time frames on concrete actions will allow for expeditious forward movement toward the vision, perhaps the most important requirement of progressive realization. The framework also protects against deliberately retrogressive actions, which are contrary to progressive realization, as the application of the framework requires practitioners to constantly work toward achieving the vision. Finally, the framework can incorporate resource assessments into assessing time-frames and setting objectives. This is in line with progressive realization, which is itself subject to availability of resources.

The framework also facilitates compliance with the reasonableness standard developed by the Constitutional Court. First, the framework, like the reasonability test, recognizes that multiple institutions are involved in various aspects of IWRM and helps to facilitate planning and action in an integrated manner. Second the Constitutional Court has stated that a reasonable program must be flexible and balanced, and consider short, medium, and long term needs. The framework is flexible because it allows for reflection and adaptation; objectives, actions, and indicators can be revisited if they are not workable or appropriate. It also develops time-frames based on contextual factors, thus ensuring that short, medium, and long terms needs are addressed accordingly. Third, the framework, like the Court, recognizes that reasonableness must be determined on a case by case basis, and that context is at the centre of the enquiry. Each catchment should give different content to the framework, so there will not be one overarching framework for the country. The Court also provides that a considerable amount of deference should be given to the government in realizing constitutional rights. The proposed framework foresees that those responsible for implementing IWRM are in the best position to develop, with consultation, the content of the framework, thus also providing these administrators with considerable deference. Finally, the Court requires the government to constantly review its policies to determine reasonableness. The framework requires constant reflectivity.

Based on these many connections, we believe that if water managers use the proposed framework to access lags, they will be able to determine their compliance with the legal concepts of reasonableness and progressive realization.

V. Conclusion

Whilst the Constitutional Court provides a test to evaluate the realization of constitutional rights related to IWRM, we cannot continually look to the courts for rulings as they are often ill-equipped to adjudicate

such subjective and technical issues. Practitioners need to develop reflexive habits that allow them to assess their own progress against constitutional obligations.

The aim of developing a 'culture of achievement' needs to be focused and supportive of those who will ultimately be held accountable for delivering against national priorities and obligations. In supporting practitioners it is disingenuous to impose performance indicators that are unreasonable and over ambitious. We therefore suggest that in working towards particular goals, practitioners (or institutions) develop and apply a framework for themselves so that they can evaluate their own progress against legal obligations.

The framework discussed in this paper provides a vehicle for practitioners to do so. In particular, it allows practitioners, through the setting of a clear vision and hierarchy of objectives, actions, indicators, and associated time-frames to better evaluate IWRM implementation lags against the legal obligations of progressive realization and reasonableness.