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Catchment Management Strategies

The Basics: An overview of principles, contents and roles and responsibilities for IWRM in South Africa



2.1 Introduction: What this chapter sets out to describe

As noted in Chapter 1, the Catchment Management Strategy is a transformation strategy for Integrated Water Resources Management (IWRM) in South Africa. However, this will not occur in a vacuum – Indeed, this change is supported by a range of principles and existing or planned initiatives. Moreover, true IWRM is a collaborative effort reflecting multiple role-players with various roles and responsibilities. It is these issues that are elaborated in this chapter.

2.2 The National Water Resource Strategy (NWRS), the Internal Strategic Perspectives (ISP) and the Catchment Management Strategies (CMS)

Two levels of strategic planning for water resources exist: the **National Water Resource Strategy** and the **Catchment Management Strategies**. Part 1 of the NWA of 1998 requires the progressive development, by the Minister, after consultation with civil society at large, of a National Water Resource Strategy (NWRS). The NWRS provides the framework for the protection, use, development, conservation, management and control of water resources for the country as a whole. It also provides the framework within which water will be managed at a regional or catchment level in defined water management areas (see Figure 1.1). The NWRS, which must be formally reviewed from time to time, is **binding** on all authorities and institutions exercising powers or performing duties under the NWA. The central objective of managing water resources is to ensure that water is used to support equitable and sustainable social and economic transformation and development. The first edition of the NWRS was published in 2004.

Essentially the NWRS provides the basis for the **Catchment Management Strategies** (CMS) and is thus a key source document for the Catchment Management Agencies (CMAs). Undoubtedly, more detailed and updated information will go into each CMS. Added to this is the information provided through the documents known as the ISPs or **Internal Strategic Perspectives**. In anticipation of the delegation of responsibilities to the CMAs, the Department recognised that it was important to capture and synthesise available information as well as their own understanding of the strategic needs and direction for each Water Management Area (WMA), so as to support the incumbent CMAs. The ISPs, developed for each of the WMAs were the product of such thinking. The studies, undertaken between 2003 and 2004, provided an up-to-date account of water resources and related issues from a departmental perspective (see Bibliography).

The key difference between an ISP and a CMS is that the CMS must be undertaken in consultation with stakeholders. Although the ISP is not a strategic plan in the same sense as the CMS, it can function as a guiding document in the absence of a CMS. The following points in this regard are noted: 1) until the CMS is in place, the ISP will be used by the proto-CMA (Department of Water And Forestry (DWAF)) as the guiding document for managing the water resources,

2) the CMA may also follow the ISP to perform certain delegated functions while the CMS is in preparation, and 3) the ISP will be a useful source document for the CMA for the development of their first CMS.

Alignment

The NWA states that the CMS must “not be in conflict with the National Water Resource Strategy (NWRS)” (S 9 (b)). However the challenge is greater than this in that the CMAs and DWAF will need to harmonise and align the development and review of the various catchment strategies with the NWRS. Both the NWRS and CMS (including the majority of water-use licences) are to be reviewed at least every 5 years. This means that the DWAF and the CMA should attempt to ensure that the review processes are harmonised and aligned. Furthermore, the appointment of CMA board members needs to be staggered in order to ensure continuity and to support the development of institutional memory.



2.3 Underlying principles of Integrated Water Resource Management in South Africa

2.3.1 Founding principles for transformation

In South Africa, the intentions of the National Water Policy for South Africa (1997) and the NWA are captured in the slogan **“some, for all, for ever, together”**. This summarises the intention of redress underscored by three key principles: **equity, sustainability** and **efficiency**. These principles (detailed in Box 2.1), and supporting principles, underlie all the subsequent sub-strategies that comprise the CMS and will not be repeated for each sub-strategy. They are also dealt with in the NWRS (2004).

Importantly, Chapter 1 of the NWA states: *“Sustainability and equity are identified as central guiding principles in the protection, use, development, conservation, management and control of water resources. These guiding principles recognise:*

- *the basic human needs of present and future generations;*
- *the need to protect water resources;*
- *the need to share water resources with other countries;*
- *the need to promote social and economic development through the use of water; and*
- *the need to establish suitable institutions in order to achieve the purpose of the Act”*.

National Government, acting through the Minister, is responsible for the achievement of these fundamental principles in accordance with the Constitutional mandate for water reform. Being empowered to act on behalf of the nation, the Minister has the ultimate responsibility to fulfil certain obligations relating to the use, allocation and protection of, and access to, water resources.

Founding principles for the CMS (NWRS, 2004)

Box 2.1

The founding principles that run throughout all policies and legislation associated with water resources management are outlined below

- **Sustainability:** Over the past few decades we have increasingly come to understand the interdependence between humans and ecosystems. Thus we now recognise that the more we compromise the quality and quantity of available water, the more we compromise our own livelihoods. Moreover, our obligation to protect the natural environment must take into account the needs of future generations as well. Thus, since ecological and socio-economic sustainability depend on water resources, this should be a guiding principle evident in all allocation decisions.
- **Equity:** Historically, meaningful access to water lay in the hands of a minority of South Africans. With democratisation, a cornerstone of transformation is the need to ensure that this situation is reversed so that all South Africans share in our water resources. Equally, the imperative to fair access is also true for neighbouring countries with which we share rivers. Thus allocation of water should address the issue of fair access to water resources. A special focus should be on those who have historically not benefited from water resources management, such as women and the poor.
- **Efficiency/optimal beneficial use:** With an average annual rainfall of little more than half of the world average, South Africa is a water-scarce country, vulnerable to floods and droughts. Despite this, water use efficiency was given little emphasis until recently. Given that our water resources are limited and limiting, it is essential that we use them efficiently and in the best interests of all our people. Thus, the allocation of water to users should be guided by the need to encourage and support efficient, optimal and beneficial use of water. The aim of this principle is to allocate water to a broad range of uses in a variety of sectors so that a diverse, robust and stable economy can be supported.

2.3.2 Supporting principles

Principle 1: Coherence between national and local water-resource related strategies and plans

The CMS is developed at a different scale and level of detail to the NWRS and the sectoral development plans such as the Water Service Development Plans. Alignment must be sought to achieve coherence between these instruments.

Principle 2: Collaboration with key institutions

The success of the CMS depends upon collaboration with its stake holders and beneficiaries. The vision and objectives set for the CMS should be inclusive, and should reflect the principles of IWRM.

Principle 3: Stake holder engagement and capacity building

Stake holder involvement should be seen not as a constraint in the development and implementation of the CMS but rather an opportunity, because:

- it ensures that alternative options are considered;
- stake holders can assist in gathering data and information, and can identify gaps;
- participation provides transparency, accountability and implementation;
- participation familiarizes stake holders with the difficult choices that have to be made and the trade-offs necessary to ensure sustainable water resource management of the WMA.

Principle 4: Transparency

Information and decisions should be open to public scrutiny so as to foster co-operation and support for decisions.

2.4 What must a CMS address?

Chapter 2 (S 9) of the NWA provides an outline of what the contents of the CMS should contain, Box 2.2.

Requirements for issues to be addressed

as set out by the NWA (1998) Chapter 2, Part 2 (S 9).

Box 2.2

A CMS must:

- a) take into account the class of water resources and resource quality objectives contemplated in Chapter 3, the requirements of the Reserve and, where applicable, international obligations;
- b) not be in conflict with the NWRS;
- c) set out the strategies, objectives, plans, guidelines and procedures of the CMA for the protection, use, development, conservation, management and control of water resources within its WMA;
- d) take into account the geology, demography, land use, climate, vegetation and waterworks within its WMA;
- e) contain water allocation plans which are subject to S 23, and which must set out principles for allocating water, taking into account the factors mentioned in S 27(1);
- f) take account of any relevant national or regional plans prepared in terms of any other law, including any development plan adopted in terms of the Water Services Act, 1997 (Act No. 108 of 1997);
- g) enable the public to participate in managing the water resources within its water management area;
- h) take into account the needs and expectations of existing and potential water users; and
- i) set out the institutions to be established.

A key approach to ensuring equity, sustainability and efficiency is through the regulation of water use. Notably, the NWA provides a broad definition of water use. Eleven water uses, listed in Box 2.3, are defined by the NWA.

Water uses as defined by the NWA (S 21 (a-k))

Box 2.3

The NWA defines 11 different water uses that will need to be authorised by the CMA. The entitlement to use water may or may not require a licence depending on the conditions set by the CMA.

Water use

For the purposes of the Act, water use includes:

- a) taking water from a water resource;
- b) storing water;
- c) impeding or diverting the flow of water in a watercourse;
- d) engaging in a stream flow reduction activity contemplated in section 36;
- e) engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);
- f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- g) disposing of waste in a manner which may detrimentally impact on a water resource;
- h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
- i) altering the bed, banks, course or characteristics of a watercourse;
- j) removing, discharging or disposing of water found underground if it is necessary or the efficient continuation of an activity or for the safety of people; and
- k) using water for recreational purposes.

2.5 How does the CMS deal with sustainability, equity and efficiency?

Stake holders frequently ask how the CMS can address, specifically, the three key goals of sustainability, equity, and efficiency. The answer lies not in one sub-strategy alone (see Chapter 6) but in the expression of these as cross-cutting themes throughout the CMS. Below is a summary of how and where these issues should be addressed in a CMS. This section needs to be read in conjunction with the framework presented in Chapter 3, (note: Abbreviation GL refers to the Guideline numbers in Chapter 6).

1. Sustainability

The issue of sustainability is addressed through resource protection and water-use regulation. This is most clearly captured in Resource Directed Measures (GL 6.5), together with Source Directed Controls (GL 6.6) which are measures to regulate water use so that the water resources are used sustainably. Additionally, the principle of sustainability is also given effect in the description and assessment of the WMA (GL 6.1 and 6.2), and in the vision (GL 6.4). In the former case, this is because the assessment clearly calls for a holistic approach, using sustainability criteria (amongst others). The vision is required to talk specifically to the issue of sustainability through the creation of a desired long term view for the water resource that captures the idea of sustainable development. Monitoring (GL 6.8) is an essential component for achieving this goal.

2. Equity

Various tools exist to address the commitment to redress and equity, mainly held by the CMS sub-strategies for water-use authorisation and licensing (GL 6.6). These tools, some of which are still being developed, include Schedule 1, General Authorisations, water allocation reform and compulsory licensing, as well as financial incentives/ subsidies for emerging farmers, and support for augmentation options (e.g. rainwater collection). The basis for equity is provided by the situation assessment and visioning (GL 6.2; 6.4). The former

requires an assessment based on criteria pertaining to equity; the latter requires a vision that talks to equity, redress and transformation. Additionally, the ideal of securing water for basic human needs is provided for by the Basic Human Needs Reserve that is part of Resource Directed Measures (GL 6.5). Multiple stake holder platforms and plans for engaging the public (GL 6.7) are also important means for addressing equity through democratic decision-making processes. Monitoring (GL 6.8) is again an essential component for assessing the achievement of this goal.

3. A focus on the poor and vulnerable

While the principle of equity aims to adjust the imbalances and inequities of decades of skewed water access it is unlikely to adequately emphasise the need to provide water for the most vulnerable groups in society. The CMA has a central role to play, essentially through the CMS, to ensure that special attention is given to water for vulnerable and poor members of society. These groups include rural and urban poor, landless/ homeless people, rural women, HIV/ AIDS affected, the disabled and pensioners. Working hand-in-hand with water services providers, NGOs and social welfare institutions can make a valuable contribution to ensure that water reaches the poor and the vulnerable.

4. Efficiency

The need to use water wisely will be captured in the CMS through the assessment (GL 6.1 and 6.2), reconciliation (GL 6.3) and visioning (GL 6.4) sub-strategies. Various instruments such as Water Conservation & Demand Management, Waste-Discharge Charge-System (GL 6.7) and conditions set out in licences are all important means to realise efficiency - as are financial mechanisms for reducing inefficiencies. Monitoring (GL 6.8) is an essential component for achieving this goal.

2.6 How does the CMS deal with the issue of scale?

It is important to note that different scales of planning may be needed for different circumstances. In the case where catchments within a WMA vary markedly, it will be essential to draft Catchment Management Plans that will address issues relevant to a specific catchment or sub-catchment. The Catchment Management Plans are then consolidated into a CMS for the WMA. The consolidation process should be based on seeking commonality whilst recognising catchment diversity. This situation applies where there are distinct river systems or rivers that drain directly into the sea, such as in the Usutu-Mhlatuze, Crocodile-West/ Marico, and Amatole-Kei and Gouritz WMAs.

2.7 Who is responsible for IWRM and the CMS?

A key aspect of IWRM transformation in South Africa is the progressive decentralisation of many of the responsibilities and authority for water resources management to CMAs (Figure 2.1) and assisted by, at a local level, Catchment Management Committees, Water User Associations and Catchment Management Forums. These responsibilities relate mainly to allocatable water within the WMA. Certain components of the CMS will remain national responsibilities although they will involve liaison between DWAF and the CMA (see Table 2.1; see also p.140 of the NWRS). In some cases, operational aspects will be taken on by the CMA. For example, although Reserve determinations are the responsibility of the national DWAF, the role of identifying needs, and ensuring monitoring and compliance rests with the CMA.

The drafting, approval, implementation and monitoring of the CMS is the joint responsibility of the Minister, DWAF national office, and the CMA together with the DWAF regional office. The Department's role however, will progressively change as regional and local water management institutions are established and the responsibility and authority for water resources management are delegated and assigned to them. The Department's eventual role will be mainly to provide the national policy and regulatory framework within which other institutions will directly manage water resources, and to maintain general oversight of the activities

and performance of these institutions. The Department will continue to manage South Africa's international relationships in water matters through institutions established with neighbouring countries. The delegation and assignment of duties and responsibilities will include the financial and administrative responsibilities of setting and collecting water use charges, the technical water resources management functions based on the CMS, and the functions related to the authorisation of water use. The timing of the delegations and assignments will depend on the capacity of the agency to undertake the functions.

Where Local Government already fulfils a number of IWRM functions, appropriate institutional arrangements need to be made to formalise the co-operation. It is not possible for Local Government to fully take over the role of IWRM from a CMA as it does not have the legal mandate to do so. It is important to note a number of points in this regard. Firstly, Local Government, albeit an extremely important role player, is a water user and one of a number of sectors that need to be regulated, together with mining and agriculture for example. For it to regulate would be to place it in the conflicting role of "*referee and player*." Secondly, its roles and function as either a Water Services Authority or Water Services Provider are clearly defined in the Water Services Act (WSA) of 1997. This function does not include authorisation of water use, or the wider aspects of IWRM, such as water resources protection. However, Local Government plays a very important role in regulating use within its allocation. Finally, issues of boundary mismatch between catchments and municipalities are likely to complicate the management of water on a catchment basis (see Pollard & du Toit, 2005).

As far as funding the **development** of the CMS is concerned, 'seed-funding' will be provided by DWAF with subsequent editions of the CMS being funded by the CMA or, in special cases, with funds from parliament.

Table 2.1 A summary of Integrated Water Resources Management Responsibilities

as set out in the NWA (1998) and NWRS (2004)

<p>Responsibilities of the Minister of Water Affairs and Forestry (NWRS 3.5.2.1)</p>	<p>The Minister, as the public trustee of water resources on behalf of the national government, has overall responsibility for all aspects of water resources management in South Africa. All water management institutions are subject to the Minister's authority. For practical reasons the Act allows the Minister to delegate most of her or his powers and duties to departmental officials or office holders, water management institutions (such as CMAs) as they progressively build capacity, advisory committees and water boards.</p> <p>The Minister will, however, retain the responsibility for:</p> <ol style="list-style-type: none"> 1) Determining the class of water resources in accordance with the prescribed classification system, and determining the Reserve in accordance with the class. 2) Specifying water requirements for international rights and obligations. 3) Specifying a "contingency" to meet projected future water needs. 4) Authorising any transfers of water between Water Management Areas. 5) Authorising other water uses of strategic importance. <p>It is the CMA's responsibility to ensure that these determinations and authorisations can be met, and that they are implemented and monitored.</p> <p>Four of the minister's responsibilities <u>may not be delegated</u> (see NWA S 63(2)). These include the responsibility to:</p> <ol style="list-style-type: none"> 1) make a regulation; 2) authorise a water management institution to expropriate property; 3) appoint a member of the governing board of a CMA; and 4) appoint a member of the Water Tribunal.
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Development of CMS	CMA, together with the stake holders, and supported by the regional and national DWAF office.
Approval of CMS	The Minister of DWAF.
Authorisation of water use	The Act's provisions for authorisation of a water use make it clear that only the Minister, or a CMA to which the appropriate powers and duties have been assigned, may authorise the use of water. Other water management institutions may not authorise water use. There are, however, limits to a CMA's power to authorise water use. The Minister retains responsibility for authorising certain uses at national level (see above) and a CMA may not issue a licence to itself without the Minister's consent (NWA, S27).
Clearing of alien vegetation (S 3.3.5 NWRS)	In future land owners, custodians and managers, both private and public, should take responsibility for the control of alien vegetation in their areas (NWRS, 2004). DWAF or a CMA will be able to control invasive alien plants in certain areas and recover the cost through the water resource charges. This may only be done in consultation with, and with the agreement of the affected stake holders. The activity is also listed in Table 6.2 of the proposed Pricing Strategy (in prep.; S 6.5.7) as an activity that could be taken into account for charge setting i.e. the " <i>control of invasive alien plants with acknowledged negative impacts on water resources; e.g. riparian zones, mountain catchment areas, wetlands and in areas where there could be an impact on aquifers</i> ".
Public consultation and participation (S 4.3 NWRS)	The CMAs must promote participation by water users and other stake holders in all aspects of water resources management in their areas of operation.
Monitoring and enforcement: RDM and SDC	Will be delegated to the CMA.
Monitoring and the National Information Management System (S 3.6WRS)	CMAs will be able to take an appropriate level of responsibility for managing information relevant to their water management areas and, where necessary and feasible, have access to information from adjacent areas with which there are links. Information systems in a WMA will nevertheless remain part of the national system so that coherency in available information exists. It is likely that the CMA will be remunerated for monitoring activities that form part of the national network.
Charges for funding water resource management (NWRS S 3.4.2.3) Note: The National Pricing Strategy still requires approval from Minister of Finance see S56(1) NWA	The charges will be based on the budgeted annual costs that include the following activities, which will eventually become the responsibility of CMAs: <ul style="list-style-type: none"> • The planning and implementation of CMS. • The monitoring and assessment of water resource availability and use, and resource quality. • The management of water allocation and utilisation. • Water quality management, including waste control and pollution control in respect of mines, industries, agriculture and dense settlements. • Dam safety control. • Water conservation and demand management, including the control of invasive alien vegetation, education and awareness creation.
Disaster management (S 3.7 NWRS)	The Department, in common with all other organs of State that hold disaster management responsibilities, will be required to prepare a disaster management plan within the National Disaster Management Framework (DPLG, 2004). The Department will also need to ensure that disaster management planning is included in the CMS and the business plans of Water User Associations. It will have to see to it that provisions for water-related disasters in respect of water services are incorporated into the WSDPs of Water Services Authorities and the business plans of Water Boards. At present all pollution incidents must be reported to the Department so that appropriate responses can be co-ordinated, in conjunction with the National Disaster Management Centre, with the relevant emergency services and disaster management centres. Ultimately this responsibility will be passed to the CMA.v
Operating and maintaining schemes	The responsibility for operating and maintaining schemes that are of local importance, or mainly serve one user sector, such as agriculture or a single municipality, are being transferred to the appropriate water user associations and water services institutions. Subject to the agreement of National Treasury, the schemes may eventually be transferred into the ownership of the operating institution. A CMA may only take on these responsibilities if their regulatory role is not prejudiced (NWRS, S 3.5.2.2).

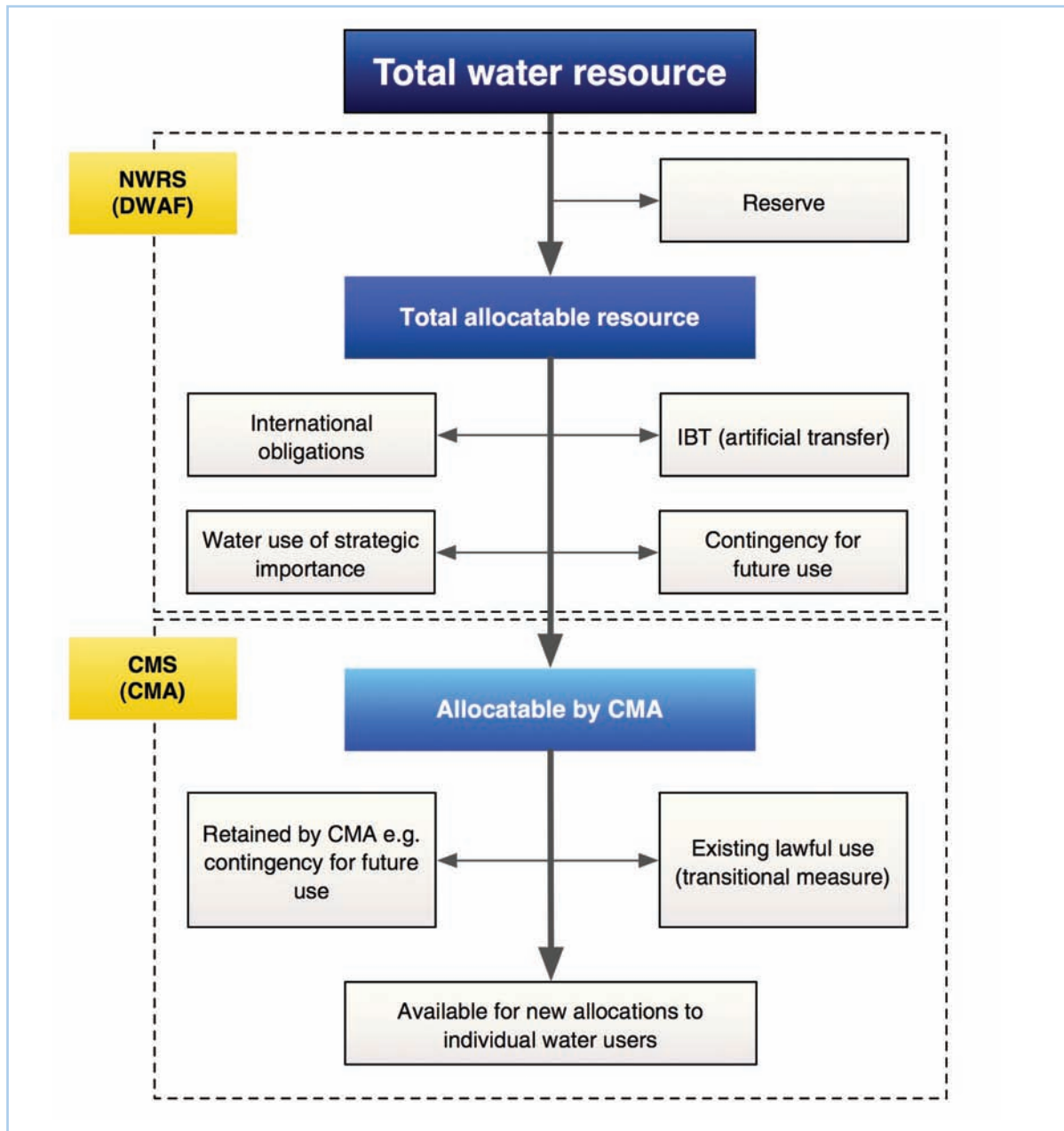


Figure 2.1

Overall water-use allocation responsibilities. The figure summarises strategies from which responsibilities derive and the institution responsible for exercising this responsibility (after DWAF 1999). Existing lawful use gives temporary entitlements until all users are licensed through compulsory licensing (see GL 6.6) [IBT = Interbasin Transfer].