

This country profile was compiled by the OECD Secretariat and reflects information available as of March 2015. Further information and analysis can be found in the publication: OECD (2015) [Water Resources Allocation: Sharing Risks and Opportunities](#), OECD Studies on Water, OECD Publishing. Country profiles for all of the 37 allocation regimes in 27 OECD and key partner countries surveyed for this project are available for download at: <http://www.oecd.org/fr/publications/water-resources-allocation-9789264229631-en.htm>.

SOUTH AFRICA

Overview and highlights

South Africa's Inkomati, Jan Dissels and Mhlatuse River Basins are complex water systems. Water allocations in these Basins are managed by a few institutions. The National Water Act of 1997 as well as the Water Allocation Reform Project have brought about reforms to allocation regimes. Reform of water abstraction regulation system is currently going on, seeking to improve the equity of water allocation in Inkomati and Jan Dissels.

Key characteristics of the prevailing allocation regimes in the Inkomati, Jan Dissels and Mhlatuse River Basins include:

- Ground water and surface water is publicly owned;
- Irrigation is the major water user (70% of mean annual inflow/recharge);
- Water resources are considered over-used, and measures are in place to engage with stakeholders to reduce water use at critical times;
- Water entitlements are unbundled from property titles;
- Before a new entitlement can be granted, an application to Catchment Management Agencies (CMA) is required that fulfills criteria related to equity, water availability, potential impacts of the new use, and beneficial use in the public interest;
- The trade, lease or transfer of water entitlements is possible. Trading is restricted in that water cannot be traded outside the basin. The price of traded water is decided by the agreement between the buyer and seller;
- Episodes of scarcity can trigger restrictions in water use restriction.

Legal and institutional setting for water allocation

Institution	Scale	Main Responsibilities
Department of Water Affairs (DWA)	National	Allocation between basins, environmental flows, and States
Catchment Management Agencies (CMA)	Basin	Allocation of water within basins

Legal context for water allocation: Roman/ Statutory Law.

Legal definition of ownership of water resources: Ground water and surface water are publicly owned.

Tracking water scarcity

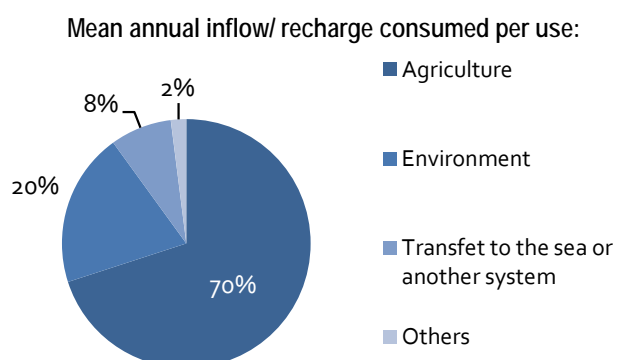
A mapping exercise has been undertaken to identify areas where the scarcity of ground water and surface water is becoming a problem: "[National Water Resources Strategy II – 2013](#)".

Allocation Regime Example: Inkomati, Jan Dissels and Mhlatuse River Basins

Physical features of the water resource

These water resources systems are highly complex systems, consisting of both surface and groundwater that are allocated to a range of water users. There are a number of dams, networks, gages, and canals/ pipelines.

Requirements for environmental flows are a **significant non-consumptive use**.



Defining the available resource pool

Are limits defined on consumptive use? Yes.

- There is a limit in the volume of water that can be abstracted, which is linked to the public planning document prepared by Inkomati CMA. It is a statutory instrument that must be followed. The rules set out in the plan can be used to vary the amount of water that each and every entitlement holder is allocated. The assurance of supply risk is based on reservoir operations and stochastic runoff predictions.

Are environmental flows clearly defined? Yes.

- There is an instream flow requirements for different parts of the water system for 'normal' and 'drought' conditions. The "Building Block Method" is used to define environmental flows.
- Both freshwater and terrestrial biodiversity are taken into account using a detailed scientific methodology.

Are there arrangements to deal with impacts of climate change? Yes.

- Constant improvement of methods in stochastic hydrological modelling.

What is the status of resource pool? Over-used.

- **Measures to address over-use:** Engagement with stakeholders to reduce use at critical times.

Factors taken into account in the definition of the available resource pool

Factor	Taken into account?	If taken into account, how?
Non-consumptive uses (e.g. navigation, hydroelectricity)	✓	Part of system operating rules to maintain flows
Base flow requirements		
Return flows (how much water should be returned to the resource pool, after use)	✓	Included in system models
Inter-annual and inter-seasonal variability	✓	Through stochastic hydrology
Connectivity with other water bodies	✓	Included in models (groundwater / surface water)
Climate change		

Entitlements to use water

Definition of entitlements	Characteristics of entitlements
<p>Are entitlements legally defined? Yes.</p> <p>Are private entitlements defined? n/a.</p> <p>Nature of entitlement: Water entitlements unbundled from property titles. Defined as the maximum volume that may be taken in a given period.</p> <p>Period granted for: n/a.</p> <p>Return flow obligations: It depends.</p>	<p>If the entitlement is not used in a given period, n/a.</p> <p>Are entitlements differentiated based on the level of security of supply (or risk of shortage)? Yes. Differentiated by type of user/use.</p> <p>Is there a possibility to trade, lease or transfer entitlements? Yes. The existing user relinquishes the entitlement to use, on the condition that the new applicant gets the water entitlement. The beneficiary of a transfer is treated in the same way as new license applicant. Price is decided by the agreement between the buyer and seller. There is an administrative cost related to new applications. Water cannot be traded outside the basin.</p>
<p>Type of users not required to hold a water entitlement to abstract water: Small-scale urban users and livestock watering.. Generally these water uses are considered to be a small fraction of total use. If these uses get too high, the other uses will be curtailed.</p> <p>Requirements to obtain a new entitlement or to increase the size of an existing entitlement: Application to CMA. Criteria include equity, water availability, potential impacts of increased water use, and beneficial use in the public interest.</p>	

Abstraction charges

User category	Abstraction charge?	Basis for charge	Reflects water scarcity?
Agriculture			
Domestic			
Industrial			
Energy production (not including hydro power)			
Hydro power			

Dealing with exceptional circumstances

Distinction between the allocation regimes used in “normal” and extreme/severe water shortage times? Yes.

How is the amount of water made available for allocation adjusted: A ‘drought’ can be declared and if so curtailments are put in place by the CMA.

Definition of “exceptional” circumstances: When stochastic predictions indicate an over use in the upcoming hydrological year.

Legal bodies declaring the onset of “exceptional” circumstances: CMA / DWA. Stakeholders may be part of the decision to curtail water use. The “exceptional” circumstances trigger water use restriction.

Pre-defined priority classes¹



Monitoring and enforcement

Responsible authority: CMA.

Monitoring mechanisms: Sometimes metered and tracked by the Water Users Association (WUA).

Sanctions: n/a.

Conflict resolution mechanisms? n/a.

¹ For further information, see: <http://www.dwa.gov.za/nwrs/LinkClick.aspx?fileticket=ClwWypztLRk%3D&tabid=91&mid=496>, p.47.