

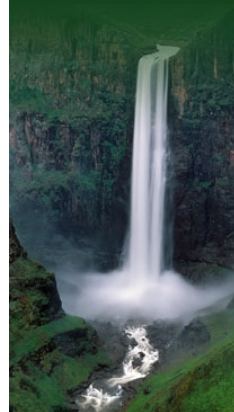

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Resource Management

→ The Value of Water: Economic Value: South Africa



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New principles were incorporated in the National Water act post 1994, to mandate water management practices more socially just, economically efficient, and environmentally sound than those of the past. A national water pricing strategy was established to enable full cost recovery, setting various charges to:

- Fund costs associated with managing the quality and quantity of water resource (that is, registration and licensing of users, reserve determination, controlling pollution and conservation management, and so on)
- Fund costs associated with development and operating of water supply schemes (dams, canals, tunnels, etc). (Lange and Hassan 2006).



The Orange-Senqu River from Vanderkloof Dam wall.

Source: Kruchem 2011
(click to enlarge)

Box: Water Use Charges

[...] Water use charges are to be used to fund the direct and related costs of water resource management, development and use, and may also be used to achieve an equitable and efficient allocation of water. In addition, they may also be used to ensure compliance with prescribed standards and water management practices according to the user-pays and polluter-pays principles. Water use charges will be used as a means of encouraging reduction in waste, and provision is made for incentives for effective and efficient water use. Non-payment of water use charges will attract penalties, including the possible restriction or suspension of water supply from a water-work or of an authorisation to use water.

Source: National Water Act 1998, Chapter 5, part 1.

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Free Basic Water

The National Water Act 1998 recognises water as a basic human right and water needed to meet basic human needs is therefore free in South Africa. The Free Basic Water (FBW) subsidy programme was implemented in 2001 to provide 6 000 L/month of water to every household (Metcalf-Wallach 2008). This FBW averages to 25 L/person/day in a household of 8 and costs the government about R30 million per year to subsidise. Households not connected to a water source are supposed to have access to a pump within 200 meters. Anything above and beyond the required amount to meet basic human needs has a cost associated with it.

Tariffs and Subsidies

Costs are determined on an Increasing Block Rate (IBR) tariff regime (Metcalf-Wallach 2008). The more water consumed the higher the rate. The IBR regime has had mixed results with one negative result being inelasticity in water consumption of the poor. The increased charge becomes a tax on water for the poor because they have no option to decrease their water consumption when rates increase, they must meet their basic needs (Metcalf-Wallach 2008).

On average, the share of water in total intermediate costs in 2001 was slightly more than 1 % of the national economy (Lange and Hassan 2006). Trade and services sectors paid the highest amount per unit of water at R12/m³, mining paid R3, 76/m³, manufacturing paid R1, 58/m³, domestic use paid R1, 19/m³ and agriculture paid only 2,3 cents/m³. Agriculture pays very little for water and yet it used 80 % of the total water consumed in 2000 and contributed only 3 % to the national income (Lange and Hassan 2006).

Water as a resource is highly subsidised in South Africa and consumers rarely pay the full cost of the resource they are consuming. "Under the NWA 1998, water tariffs were to be increased to reflect the full financial cost of providing water services and to reflect the benefit of water to society." The new system is based on the concepts of equity, efficiency and ecological and financial sustainability (Lange and Hassan 2006). As a component of ecological sustainability, the new system considers costs associated with the management and protection of water resources. This cost is assessed on a catchment level basis and as a result costs can be higher for water-scarce water management areas.

With the water acts principles put into action, direct subsidies dropped from 57 % of the total expenditure in bulk water supply programs in 1998 to 35 % in 2000 (Lange and Hassan 2006).

Monetary Accounts

Monetary accounts in South Africa have only been compiled for flow accounts, and at the national level because of a lack of corresponding data at individual WMA level. The table below gives a breakdown of charges placed on water for the different sectors and the subsidies in place in 2000.

Table: Cost and Subsidy of Water Supply

Raw water (2000) first tier	Agriculture			Domestic and industrial			Self-supply
	Irrigationboards	Livestock	Average/total	Water boards	Municipal	Average/total	

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Cost of water supply(cents/m ³)	20	20	20	20	20	20	
Average tarrif (cents/m ³)	2,7	1,1	2,7	37,9	8,8	10,5	
Estimated subsidy (cents/m ³)	17,3	18,9	17,4	-17,9	11,2	5,7	
Amount supplied (million m ³)	7 921	313	8 234	4 092	116	12442	
Total subsidy (R million)	1 370	59	1 429	-732	13	710	
Second tier	Bulk Use	Municipalities	Industrial	RuralAreas		Average	
From water boards (2002)							
Tariff (Rand/m ³)	1,16	1,44	2,4	3,9		1,4	
From irrigation boards (2002) in Rand/m ³	Central pivot	Sprinkler	Micro-dip	Flood Irrigation		Average	
Average tariff charged by Irrigation boards	0,06	0,07	0,28	0,33		0,19	0,09
Other costs to farmer in Rand/m ³	1,41	2,49	1,60	1,12		1,65	2,32
Total cost to farmer (R/m ³)	1,47	2,56	1,88	1,45		1,84	2,41
Third tier	Domestic	Industrial					
From municipalities (2002) in Rand/m ³	6,11	4,00					
Supply of water to mining (2002)							
Average tariff (Rand/m ³)	2,12						2,12
Cost of water supply(Rand/m ³)							1,36

Source: Lange and Hassan 2006 after DWAF 2001 and StatsSA 2005

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