

Water Pricing in South Africa – incorporating social and environmental elements

Sacramento Water Pricing Workshop, February 2016

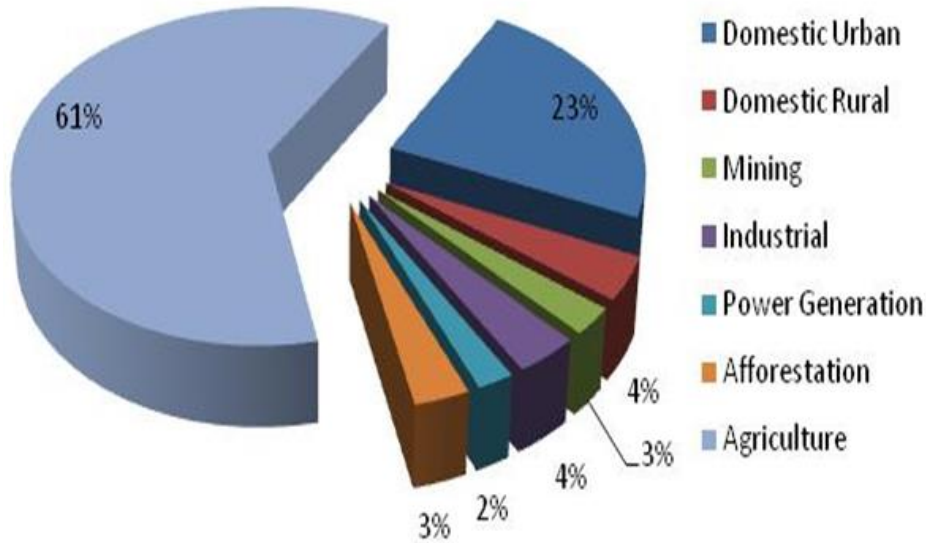
Barbara Schreiner

Background

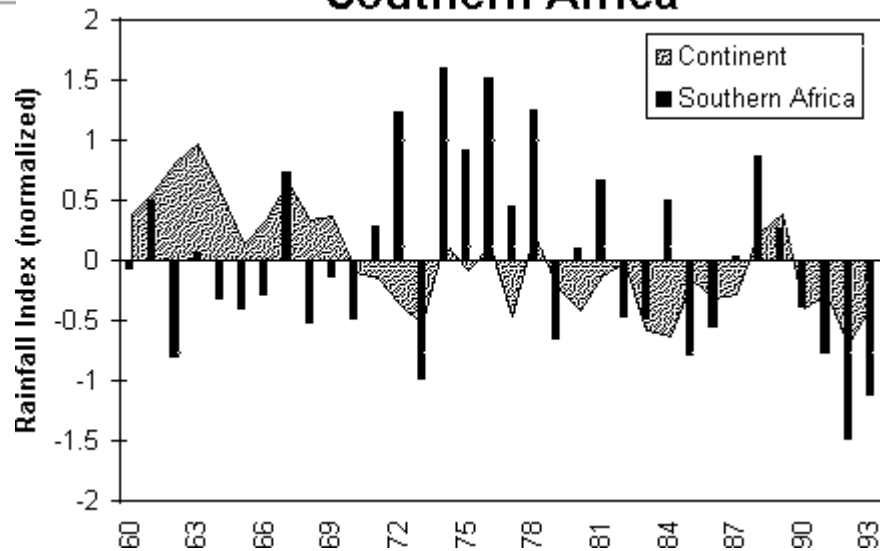
- Middle income country
- Extremely high Gini co-efficient
- 12 million go to bed hungry
- Water scarce country
 - +-1100 m³ per person per annum
 - Well developed WR infrastructure
 - WS infrastructure aging, poorly managed
- Water quality challenges
 - Mining
 - Industry
 - Sewage
 - Agriculture



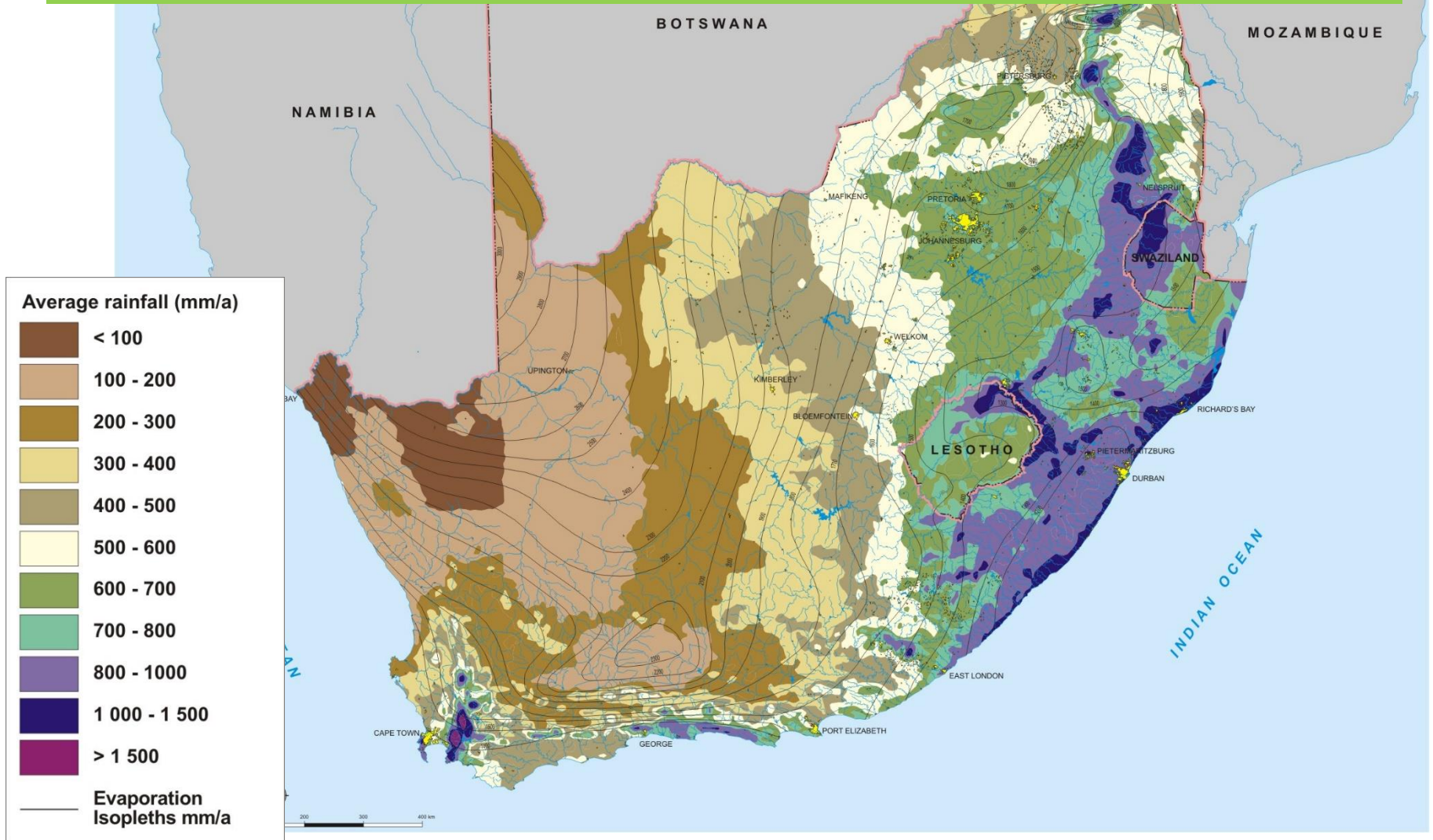
Water Usage in South Africa



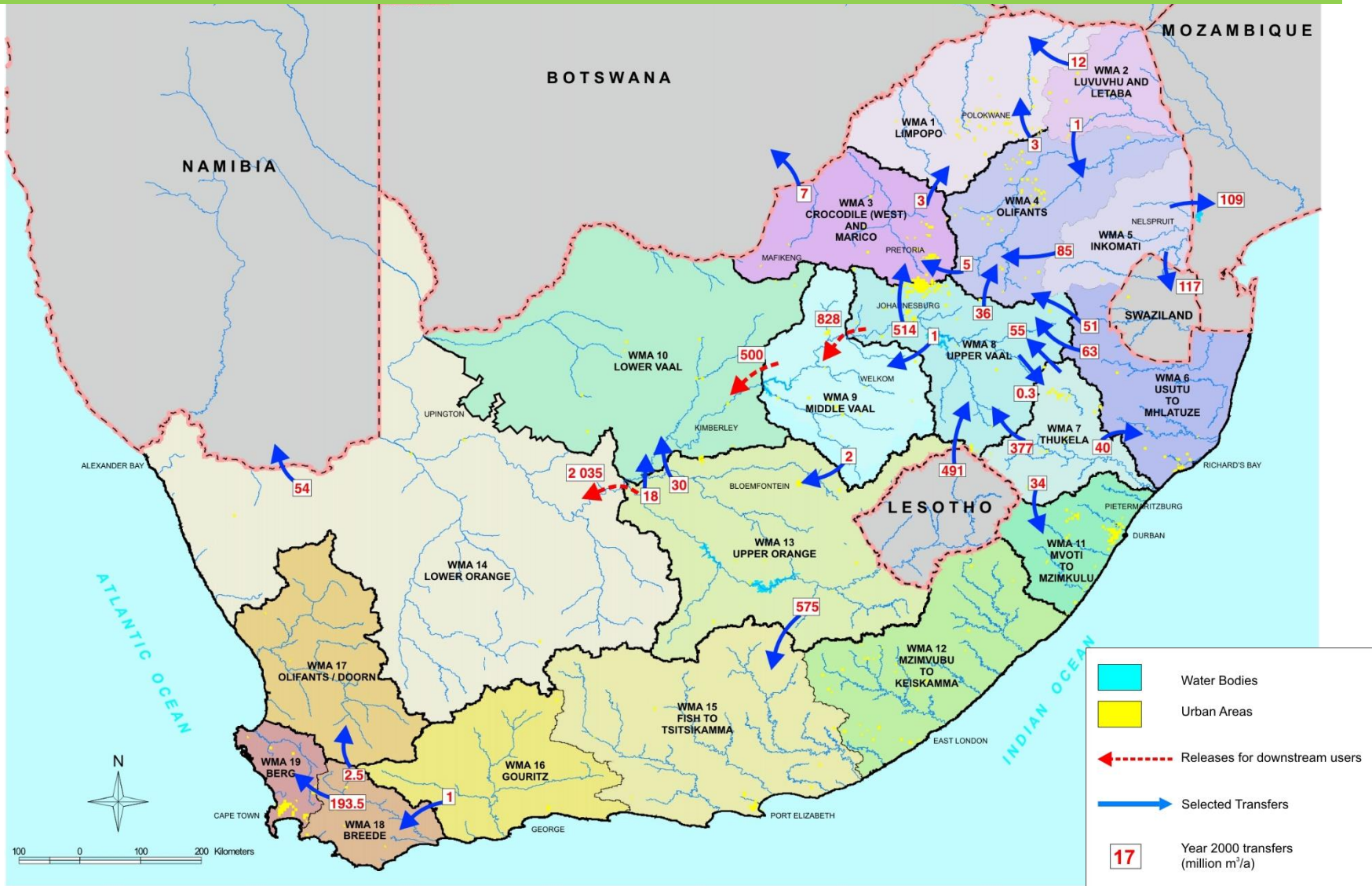
Southern Africa



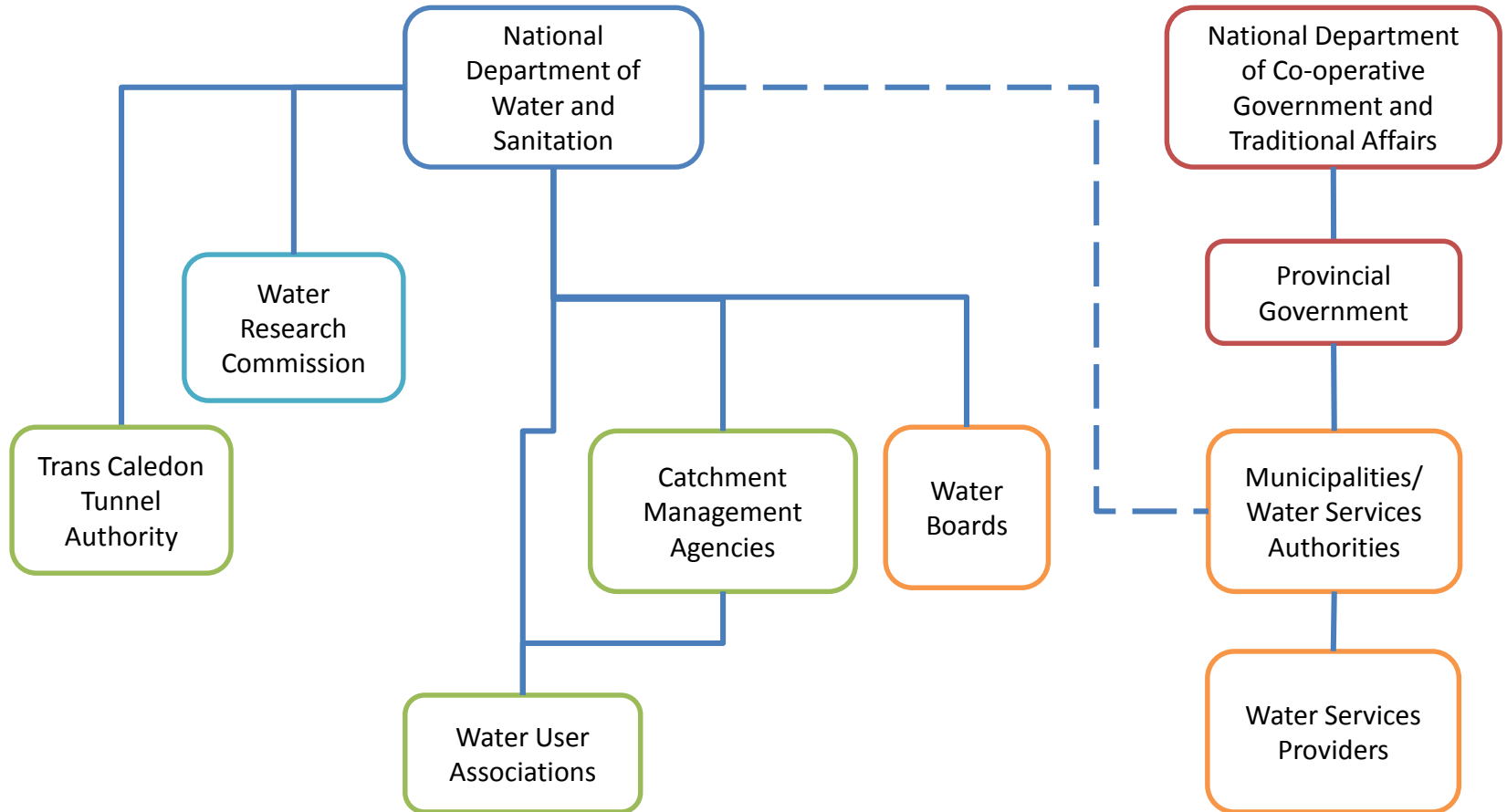
National Rainfall and Evaporation



Water Management Areas and Main Water Transfers



Institutional arrangements



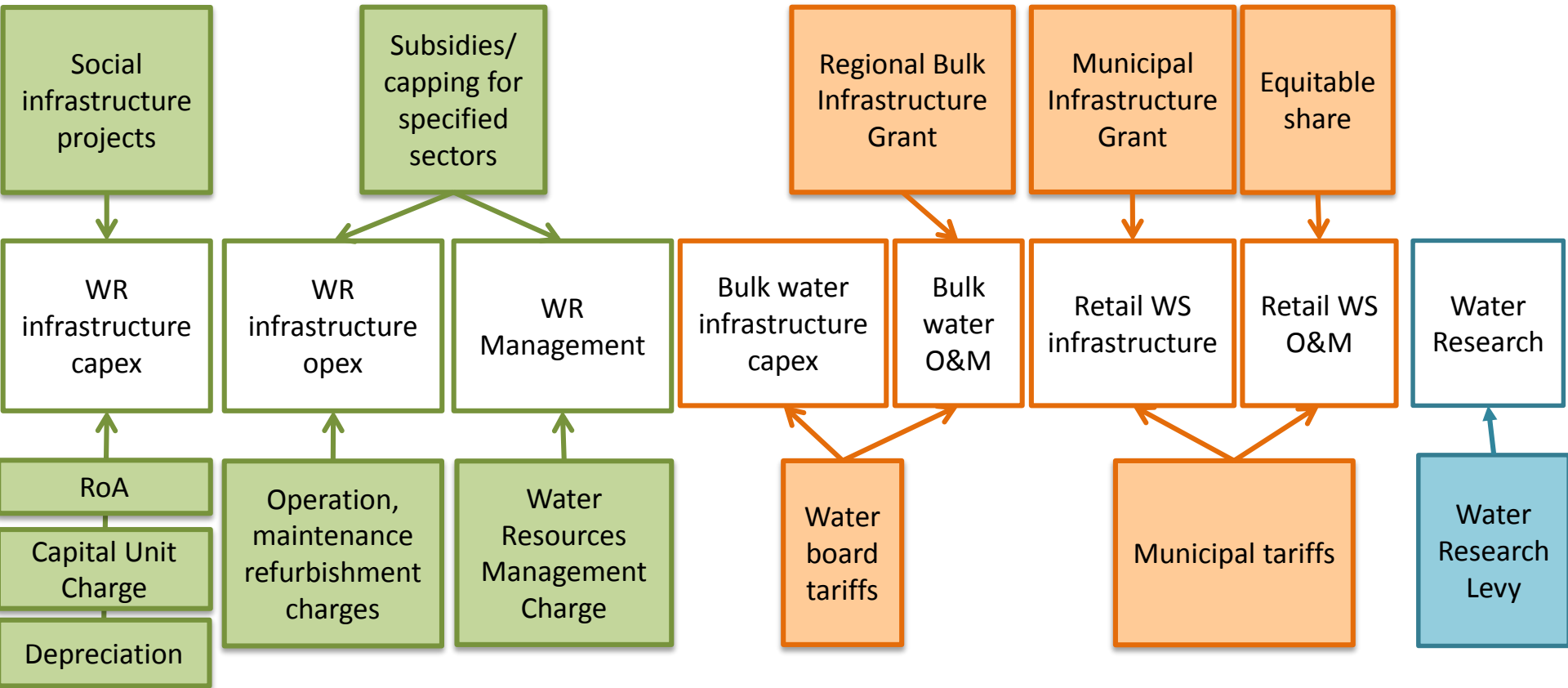
Policy and Legislation

- Major water policy and law reform after 1994
 - White Paper on a National Water Policy for South Africa (1997)
 - Strategic Framework on Water Services (2002)
 - National Water Act (1998)
 - Water Services Act (1997)
 - Revision of legislation currently underway

Social and Environmental Policy Objectives

- Bill of Rights: access to sufficient **water for basic human needs** – the right to water
- National Policy: Water is a **social and economic good**
- National Water Act: priority given to **water for basic human rights** and **ecological functioning**;
- **Redress of racial and gender inequality**: reallocation of water and supporting socio-economic development of historically disadvantaged groups

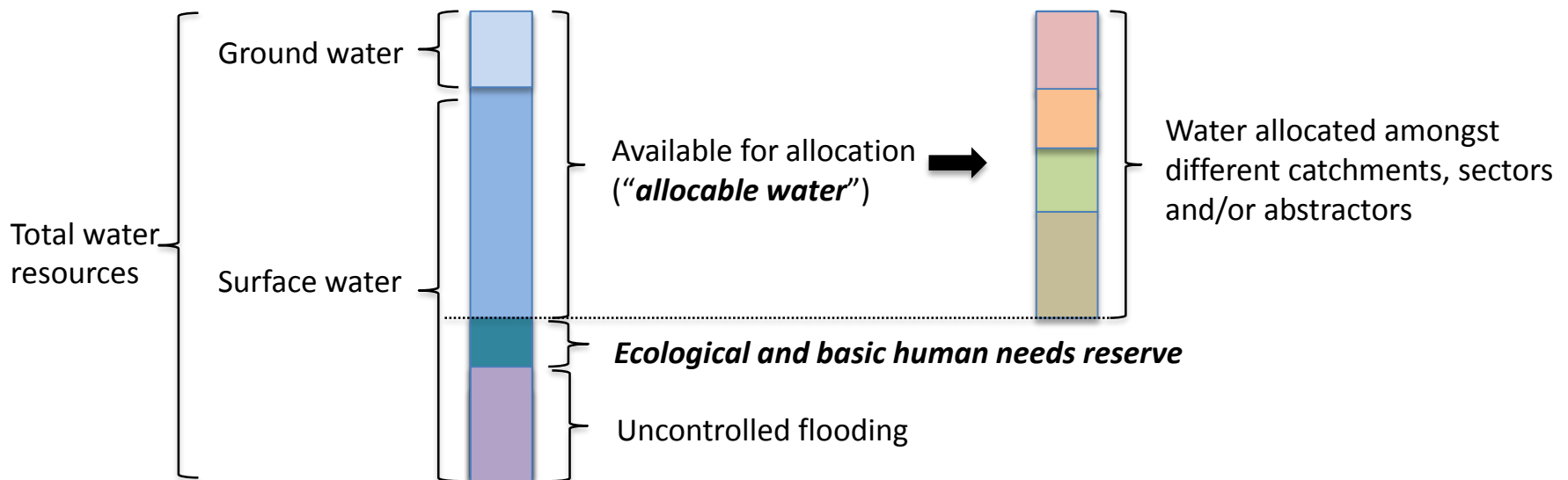
Funding from fiscus



Charges and tariffs

Ecological Protection: Administrative Processes

- Determination of ecological reserve
 - Must be taken into account in water use authorisation
- Classification of (significant) water resource
- Determination of resource quality objectives



Ecological Protection: Pricing Implications

- All significant raw water users pay a water resources management charge (WRMC) which includes costs of:
 - Determination of and management to achieve reserve
 - Determination of and management to achieve management class and resource quality objectives
 - Management of water weeds and invasive alien species
- WRMC varies per water management area (9)
 - Based on actual management costs
 - Consulted with users

Social Protection and Redress: Administrative Processes

- Provision of basic human needs supply
 - Infrastructure, management
- Water allocation reform
 - Compulsory licensing



Social protection and transformation: pricing issues

- Free basic water
 - 6 kl per household per month free of charge
 - Different approaches to implementation
 - Indigent register
 - All domestic users
 - Capex from own sources or municipal infrastructure grant
 - Opex funded from cross-subsidisation or equitable share of national fiscus
 - Challenges
 - Phiri courtcase
 - Durban approach

Social protection and transformation: pricing issues

- Funding WR infrastructure
 - Social portion paid from fiscus
 - Commercial portion funded off-budget
- Subsidy for resource poor farmers
 - 0% to 100% over 5 years
- Water Allocation Reform
 - Removal of water trading
 - Use it or lose it



Draft new raw water pricing

Waste Discharge Charges (mitigation)	
WRMC (capped: agric, forestry)	Increased targeted subsidies e.g. for redress, equitable economic growth, rural developm't
Operation & maintenance (capped)	
Depreciation (capped)	Capital Unit Charge on off-budget schemes
FIB (Future Infrastructure Build) charge	Water Resource Development Charge on off-budget schemes where loans are paid off
Ecological infrastructure included	

Waste Discharge Mitigation Charge

- Instrument for recovering costs of mitigation of discharge impacts
- Mitigate pollution and impacts in the resource through measures
- Cost recovery basis against a specific measure (under the pricing strategy)
- Applied in catchments where measures are practical and efficient
- Considers load from all sources

Waster Discharge Incentive Charge

- Designed to achieve resource water quality objectives (RWQO)
 - cumulative load reduction required
- Instrument to affect discharge behavior
 - focused intervention through disbursement
- Reduce pollution load at source
- Charge based on monitored load
 - $Charge (R) = charge\ rate (R/tonne) \times load (tonnes)$
- Polluter pays levy basis (requires Money Bill)
- Applied in catchments in which RWQO are exceeded or threatened

Water Research Levy

- Levy paid by all raw water users
- Paid to Water Research Commission
 - Statutory body
 - Commissions research including on social and environmental issues



Challenges

- Implementation of FBW
 - Inaccurate indigent lists
 - Lack of infrastructure for rural poor and informal settlements
 - Understanding of free basic water vs free water
- Poor revenue collection by DWS
 - 43% in 2013/4
 - Inaccurate records of water users
 - Poor billing and revenue collection systems
 - Little incentive to improve

Thank you



Municipal Tariffs

- Bills of Rights – guarantees human right to water
- Regulated under S10 of Water Services Act
- Tariffs must take into account need to –
 - Recover cost of
 - water purchases; overheads, operations and maintenance
 - capital not financed through grant, subsidy or donation;
 - Provide for
 - replacement, refurbishment and extension of water services works; and
 - Ensure that all households have access to basic water supply and basic sanitation.

Municipal tariffs

- Must be rising block tariffs, minimum of three blocks
 - First block provides for free basic water for indigent households – basic human right
 - 6 kl per household per month
 - Different approaches to implementation
 - Indigent register
 - All domestic users
 - Durban example
 - Number of households per yard
 - Top block to discourage excessive water use

Water Board Tariffs (bulk water)

- Prices set by water boards themselves
 - subject to **comments from National Treasury, tabling in Parliament, and Ministerial approval.**
- Set **inconsistently** by different WBs
- Charges generally **cost-plus**
 - **No formal economic regulation** of prices
 - No guidelines for allowed costs, rate of return etc.
- Increases should be **consistent with government inflation targets.**
 - **larger increases** must be justified in terms of contribution to key objectives (social equity, financial sustainability, water demand management, direct costs of augmentation) as well as the impact of changes on demand projections.

Raw water pricing

- Governed under National Water Act
 - Pricing strategy reviewed every five years
- for funding
 - water resource management,
 - water resource development and use of waterworks and
 - achieving the equitable and efficient allocation of water.

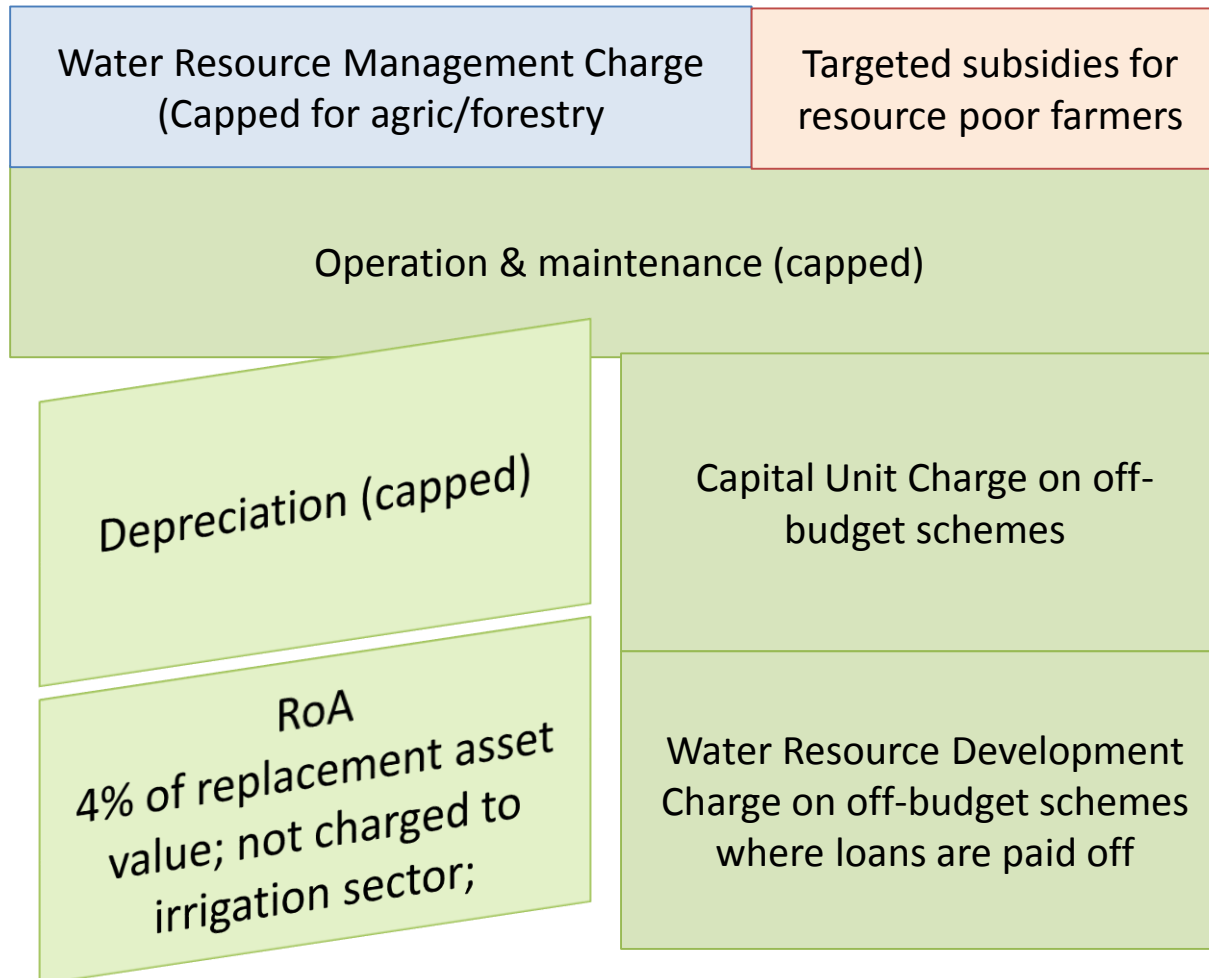
Raw water pricing

- The pricing strategy may **differentiate on an equitable basis** between -
 - different types of **geographic areas**;
 - different **categories of water use**; and
 - different **water users**;
-
- May provide for a differential rate for **waste discharges**

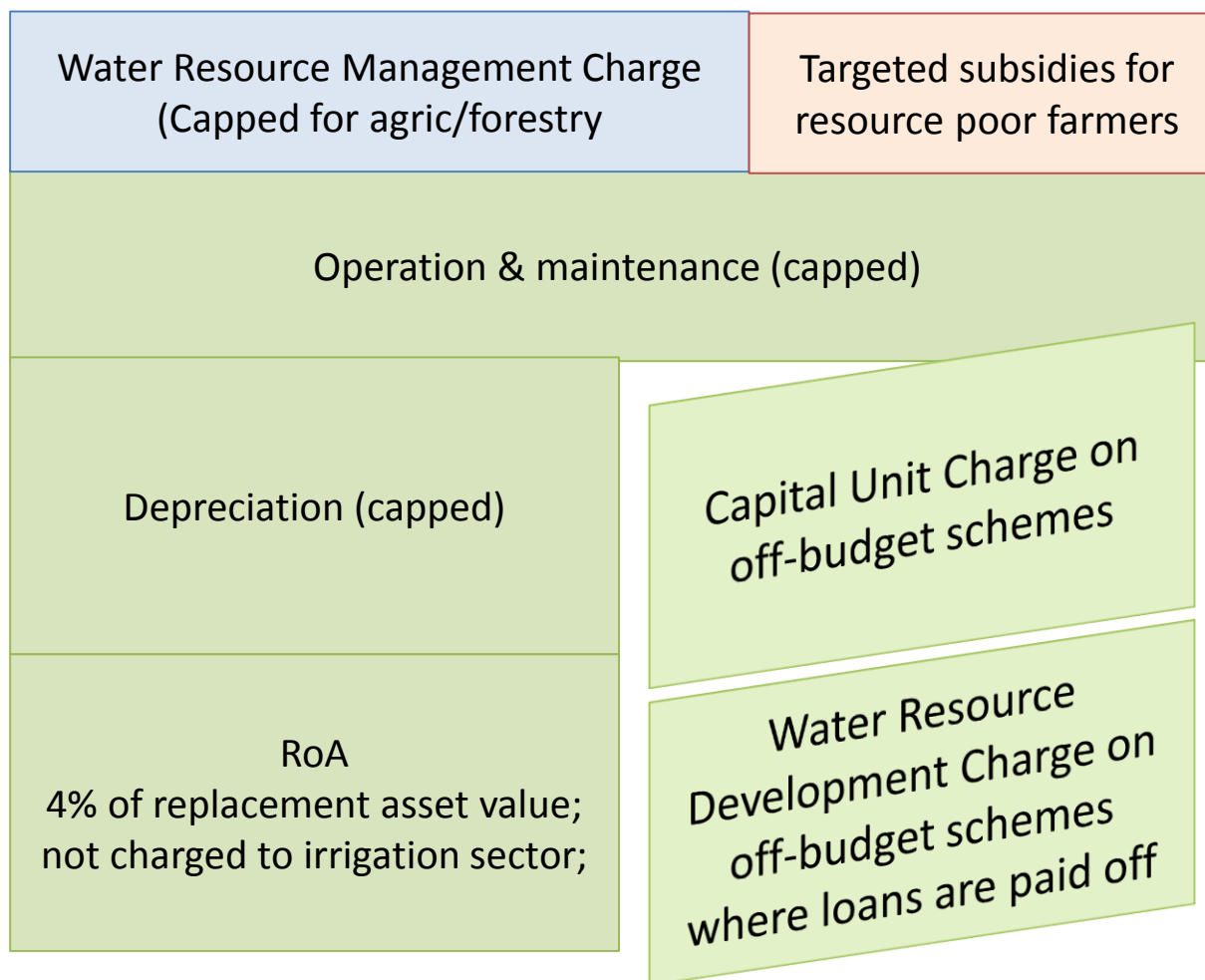
Elements of the raw water charges

Water Resource Management Charge (Capped for agric/forestry)	Targeted subsidies for resource poor farmers
Operation & maintenance (capped)	
Depreciation (capped)	Capital Unit Charge on off- budget schemes
RoA 4% of replacement asset value; not charged to irrigation sector;	Water Resource Development Charge on off-budget schemes where loans are paid off

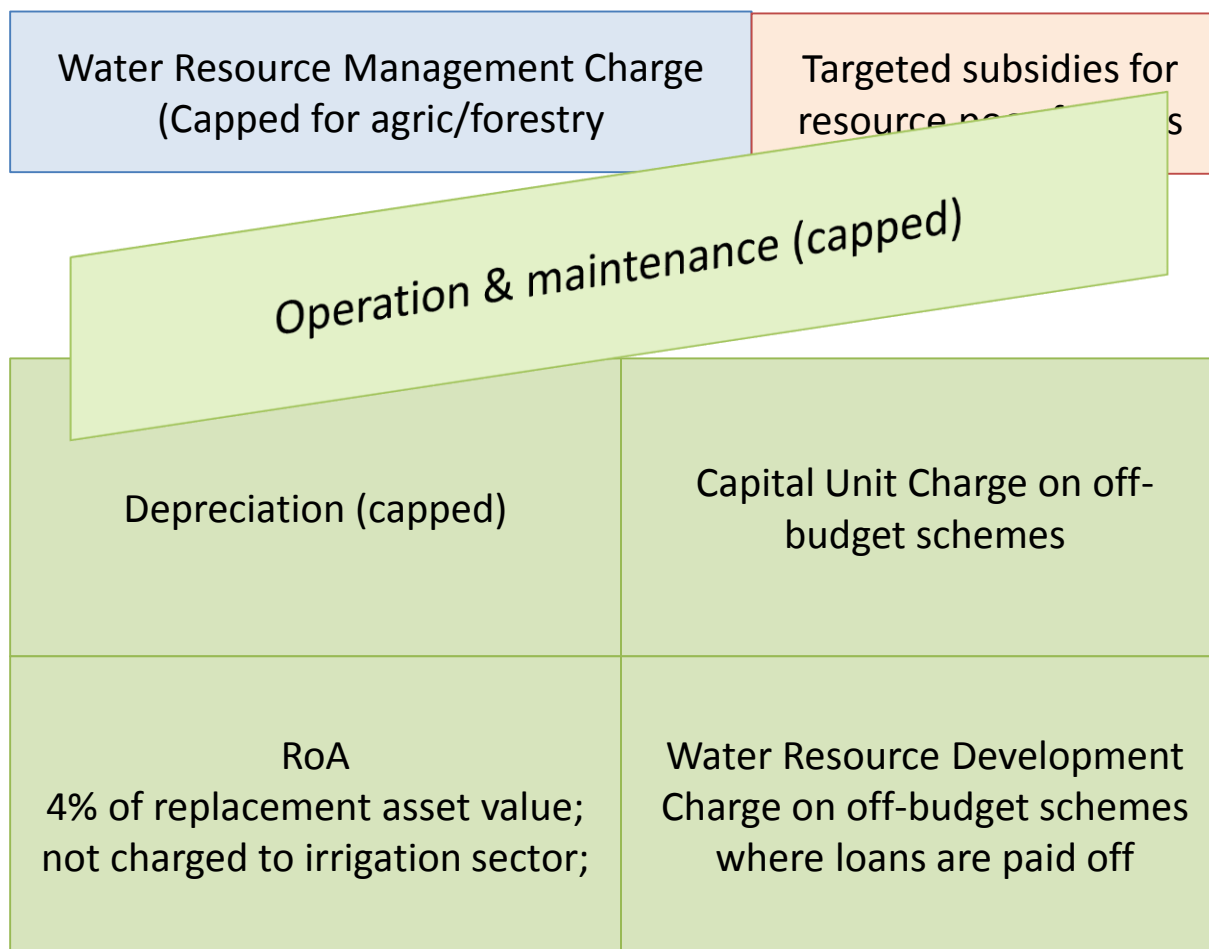
Elements of the raw water charges



Elements of the raw water charges



Elements of the raw water charges



Elements of the raw water charges

Water Resource Management Charge (Capped for agric/forestry)		Targeted subsidies for resource poor farmers
Operation & maintenance (capped)		
Depreciation (capped)	Capital Unit Charge on off- budget schemes	
RoA 4% of replacement asset value; not charged to irrigation sector;	Water Resource Development Charge on off-budget schemes where loans are paid off	

Elements of the raw water charges

<p>Water Resource Management Charge (Capped for agric/forestry)</p>		<p>Targeted subsidies for resource poor farmers</p>
<p>Operation & maintenance (capped)</p>		
<p>Depreciation (capped)</p>	<p>Capital Unit Charge on off-budget schemes</p>	
<p>RoA 4% of replacement asset value; not charged to irrigation sector;</p>	<p>Water Resource Development Charge on off-budget schemes where loans are paid off</p>	

Water Resource Management Charge (Capped for agric/forestry)

Function / Activities	Trading Account	
	Abstraction activities	Waste discharge activities
1. Catchment management strategy, water resources planning	Resource studies, investigations and integrated strategy development	
	Allocation plans	Water quality management plan
2. Resource directed measures	Implement programmes to monitor Resource Quality Objectives (RQOs); Implement source-directed controls to achieve resource quality objectives	
	Report on the water balance per catchment (i.e. water available for allocation after consideration of ecological requirements)	
3. Water use authorization	Registration of water use	
	Abstraction & stream flow reduction activities authorization	Waste discharge activities authorization
4. Control and enforcement of water use	Control Monitoring and enforcement of Water Use	
	Abstraction & stream flow reduction activities control	· Waste discharge control
	Dam safety control (private dams)	
5. Disaster management	Planning and management of disaster (Administration)	· Pollution incident planning and response (management)
6. Water resources management programmes	Integrated water resources management programmes	

Water Resource Management
Charge (Capped for agric/forestry)

Function / Activities	Trading Account	
	Abstraction activities	Waste discharge activities
7. Water related institutional development	Stakeholder participation, empowerment, institutional development & coordination of activities	
	Establishment and regulation of water management institutions (e.g. WUA's)	
	Stakeholder consultations	
	Capacity and Empowerment of stakeholders	
8. Water weed control	Aquatic Weeds Control	
9. Terrestrial Invasive Alien Plant (AIP)	Planning and 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.	
10. Geo-hydrology and hydrology	Groundwater and Surface water Monitorings	
	Compiling of maps and yield information	
	Extending and maintaining the hydrological database & compilation of information	
11. Administration & Overheads	Admin & overheads for regional office or CMA	