water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

NWRS
National Water Resource Strategy

Managing Water for an Equitable and Sustainable Future

Portfolio Committee Briefing

11 September 2012

Purpose of Presentation

- To obtain a shared understanding of the purpose of the Strategy and thus the product
- To present an overview of the strategy
- To highlight key facts, challenges and strategic issues
- To obtain input, partnership & support

Presentation Framework

- Setting the Scene: Overview of the strategy
- Consultation Process & Communication Strategy
- Highlighting specific issues & implications
- Core strategies & associated support and enabling strategies

Part 1. Setting the Scene: Overview of the strategy

Fred van Zyl

1. Motive and Drive :Purpose of Strategy

- Legal requirement

But also:

- Logical business principle
- Serious water challenges demanding intervention
- Complex environment demanding water sector leadership and coordination
- Need to respond to and align with national priorities and strategies
- Need to facilitate a “new” era of advanced and smart water management

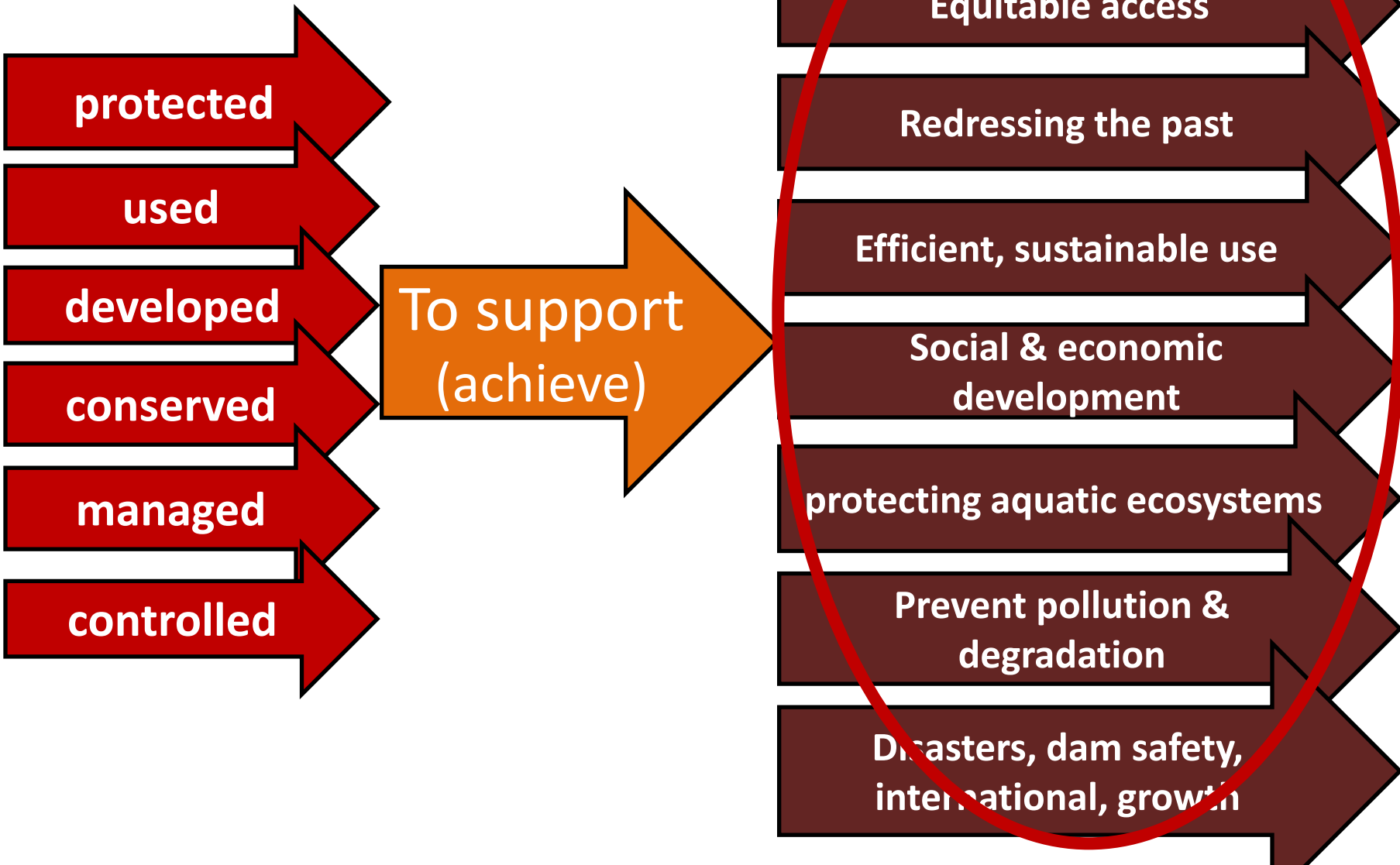
The NWRS 2 Legal Requirement

- The National Water Act (Act 36 of 1998) stipulates that the Minister must establish a National Water Resource Strategy (NWRS)
- "The water resources of the Republic must be protected, used, developed, conserved, managed and controlled in accordance with the NWRS". NWA section 5 (3)

Go “back to basic”: focus on purpose

(as per NW Act)

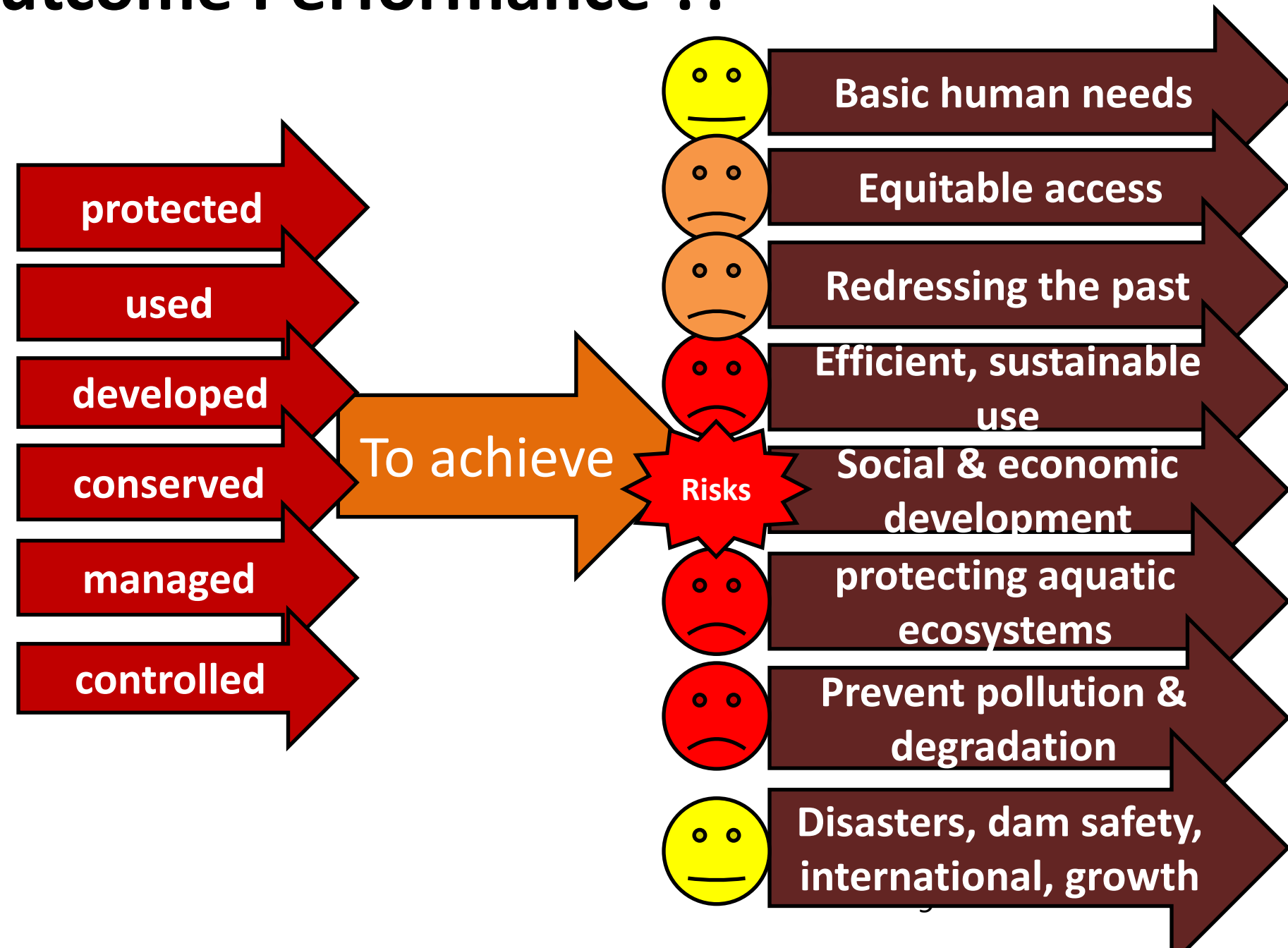
Water resources to be:



2. Water Concerns and Challenges

- The need to address social and equity obligations;
- Water security for growth and development;
- Water resource pollution;
- Degradation of physical habitats and ecosystems;
- Disaster management/impact of climate change;
- Condition and functionality of infrastructure;
- Need for improved governance and regulation;
- Inadequate knowledge, research and skills; and
- Inadequate financing and resources;
- Implementation challenge.

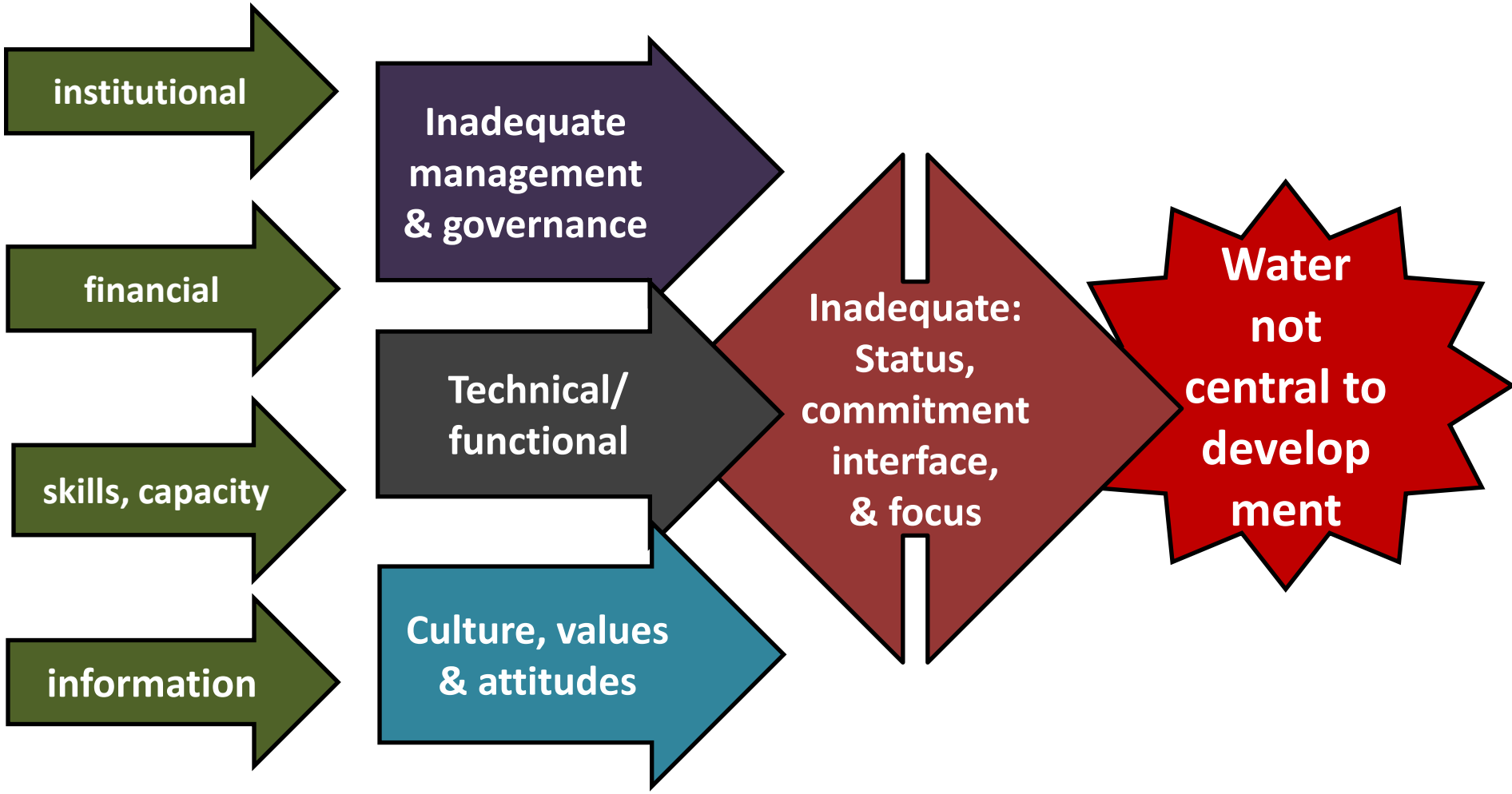
Outcome Performance ?:



NB! NB! NB!
Governance

The Minister, the Director-General, an organ of state and a water management institution must give effect to the national water resources strategy when exercising any power or performing any duty in terms of the NW Act (s. 7)

3. Strategic assessment



3 b. Strategic Assessment

- **Failure to implement**
  - Lack of ownership : < 4% awareness
  - Product v/s "live strategy" approach
  - Commitment, will, leadership
- **Why water concerns:**
  - Status of water: water not valued, poor culture and attitude
  - Incomplete governance and management approach/ model ("smart thinking")
  - Inadequate leadership and commitment
  - Inadequate integrated governance, planning & alignment
  - Lack of sector ownership and accountability
- **Specific concerns:**
  - Skills, capacity
  - Funding
  - Business model
  - Information, knowledge & insight

WWF, Rio+20, UK water security Workshop: Strategic Outcome

Threats	Reasons	Intervention
Water quality	Ineffectual leadership	**Central role of water**
Fresh water security	Financial resources	**Align with social, economic goals**
State risks **Stability, development**	Technical ability	**Smart , holistic management & culture**
Ecosystems	Management ability	**Collective sector effort**
	Historical experience insufficient	**Water footprint**
		Funding

Key principles & NWRS2 approach

- Legal requirement and status!!
- Implementation focus !!!
- " THE" water management mechanism
- Focus on outcome and impact - must achieve objectives
- Integration, alignment with & response to macro & developmental strategies
- Country strategy – not only DWA : includes total water related sector, Provinces & Municipalities
- Demands sector & political ownership, accountability and participatory management

Key principles & NWRS2 approach 2

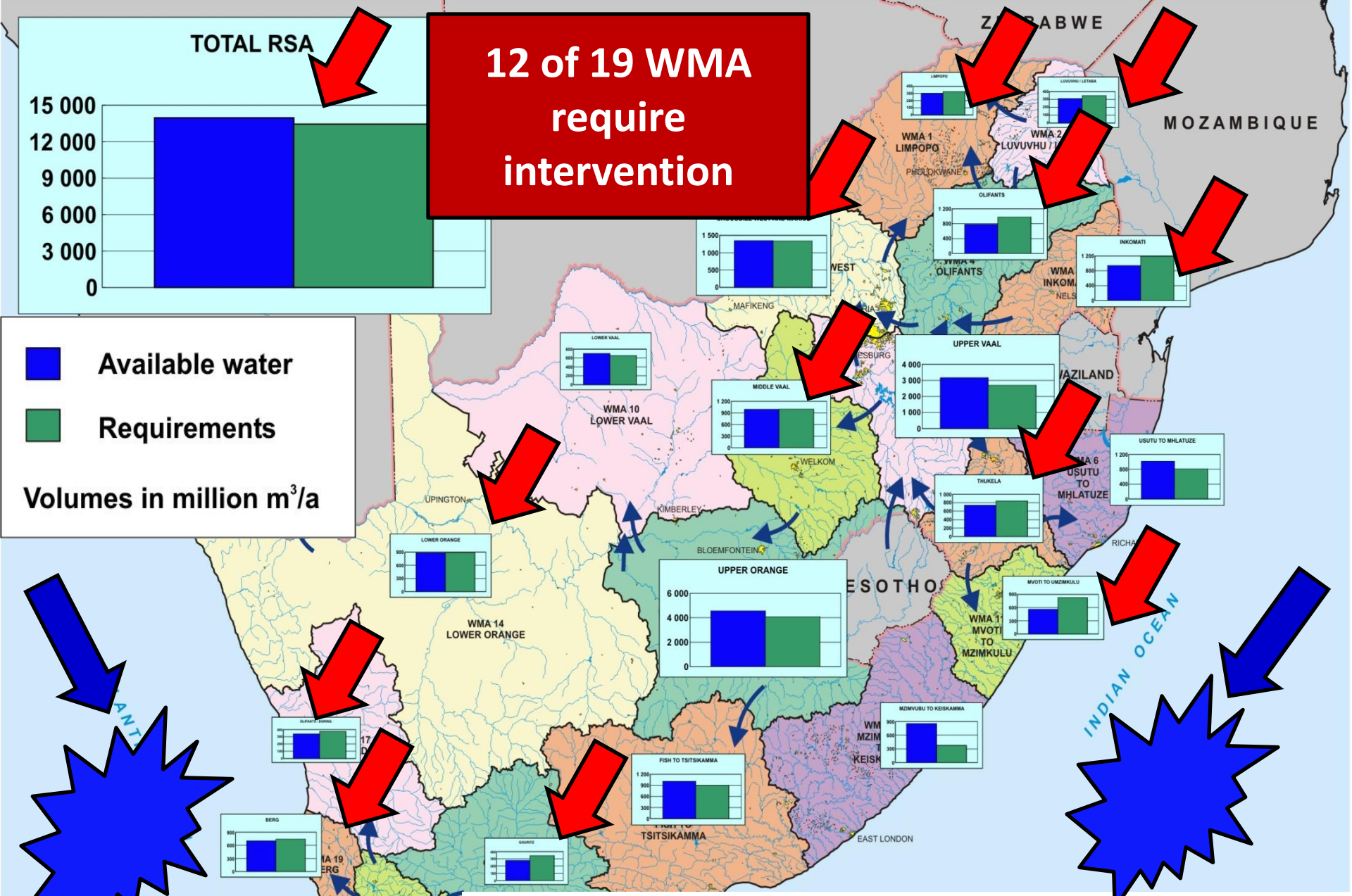
- Introduction of core strategies
  - Role, value & position of water
  - Rethink water governance model
  - Apply business management principles and approach
  - Apply life cycle and value chain management
  - Address enabling aspects: leadership, investment framework, skills, information
  - “smart thinking” and solutions

Implications and approach

- Need to extend present water management approach – from resource development (infrastructure) to improved governance, new technology plus use sector involvement and accountability
- Need to invest in knowledge, research, skills and capacity
- Critical need for integrated planning and governance with associated leadership
- Need for creative and creative, innovative and appropriate solutions
- Financial investment implications

4. The SA Water Situation & Message

- SA is the 30th driest country;
- High run-off variability in space and time (risks);
- Well developed infrastructure in specific areas;
- Major social development & growth demands;
- Fresh water and its development at its limit;
- Sufficient alternative potential water available:
  - Improve efficiency, re-use, local resource optimisation, control, resource protection, desalination, systems optimisation;
- However, accessibility is conditional and at a cost;
  - Use sector viability & spatial challenges.
- Water quality a major concern;
- Need to stretch water, funding and infrastructure;
- Major social, economic, environmental risks .



Is there enough where we need it?

Water reconciliation scenarios

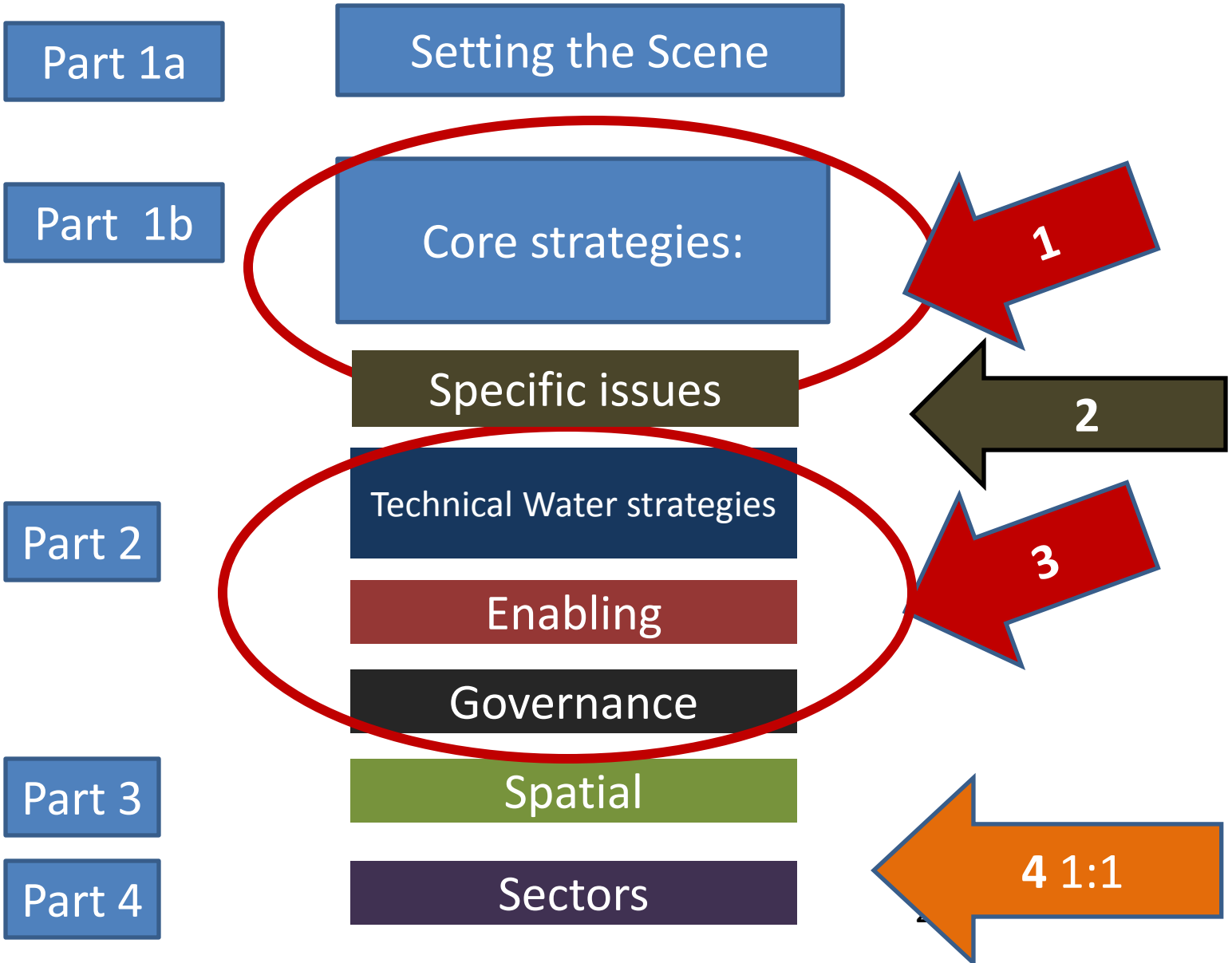
Water Security = Risks =

- Planning issue;
- Appropriate solutions issue;
- Timeous implementation of programs & infrastructure;
- Successful implementation;
- Effective & sustainable management;
- Skills, capacity ,competency;
- Sector/scheme viability, affordability;
- Financial management and funding;
- Effective governance;
- Leadership, will & drive.

Design and Approach

- Strategic Intervention Levels
  - Macro:
  - Management.
  - Operational.
- Definition of Strategy: detail
- Align with:
  - national strategies (format of national strategies)
  - Operational and implementation strategies and plans
- User friendliness
- Need for debate
- Serious challenges requires complex solutions
- Ambitiousness v/s challenge
- Scope of challenge

5. Product Framework



6. Overarching/Core Strategies

You've got to think about "big things" while you're doing small things, so that all the small things go in the right direction.

A Toffler

Core Strategies (CS) (1)

Outcome & strategic:

- CS 1: Implementation of Equity Policy;
- CS 2: Water at the centre of integrated development, planning and decision-making;
- CS 3: Ensuring water for equitable growth and development;
- CS 4: Contributing to a just and equitable SA;
- CS 5: Protecting & managing water ecosystems;

Core Strategies (2)

Functional:

- CS 6: Implementing water use efficiency, conservation and demand management;
- CS 7: Optimizing and stretching our water resources;

Management & Governance:

- CS 8: Achieving effective water governance and developmental water management;
- CS 9: Embedding sustainable business principles and practices in water management;
- CS 10: Implementing a water sector investment framework;
- CS 11: Engaging (mobilizing) the private and water use sectors.

Scope and Issues of Selected Core Strategies

CS 2: Centrality of Water

- Need to address status & position of water
- Role of water in social & economic development to be centralised
- Water dependency and value to be appreciated
- Need to extend and embed values of water: social, life, environmental, economic, developmental, risks
- Poor water culture to be addressed on all levels including water awareness
- Embed centrality of water in all aspects of water management (planning, decision making, operations...)

CS 3: Water for Growth and Development

- Key purpose of water management (NWA)
- Role & positioning of water to be re-established
- Implications for sectors and development (alignment and response: NDP, IPAPs, Sector Strategies, e.g. Food Security, Electricity, Sustainability, Job Creation....)
- Spatial and conditional implications
- Role of sectors to be extended: accountability, sector water plans an strategies, partnerships
- Integrated planning and management
- Developmental state
- Developmental criteria (water footprint)

CS 8: Smarter Water Governance

- Fundamental to ensure water security
- “Back to basics”
- DWA sector leadership, capacity, and “will” (structure and approach implications)
- Improved governance: planning, organizing (institutional, regulation, policies)
- Improved inter–departmental and sectoral planning and governance (incl. policy)
- Decentralization and sector involvement plus accountability
- Sector mobilization & participatory management
- Institutional arrangement

CS 9: Improved Management & Sustainability

- Promoting sustainable resource management:
  - Water generating ability and areas
  - Habitat (wetlands)
  - Social use of resource
  - Resource as an economic good
- Embed and enforce infrastructure asset management
- Apply sustainable life cycle approach (operations and maintenance, business & financial management, customer service)

CS 10: Investment Framework

- Key for successful implementation
- Includes infrastructure **plus** financial **plus** people, water management and governance
- Value chain (source to tap – tap to source)
- Applicable to all related development and sectors
- Financial model (social & economic funding)
- Development criteria
- Prioritization and strategy (stretching, economic climate, appropriate solutions
- Investment planning and negotiations

7. Support Strategies (Technical)

- Water infrastructure and development;
- Climate change;
- Disaster management (floods, droughts, extreme incidents);
- Groundwater development and management
- Re-use;
- Desalination; and
- Water systems management.

Support Strategies (Enabling)

- Monitoring and information;
- Funding and financial management;
- Capacity and skills development;
- Research and innovation.

Support Strategies (Governance)

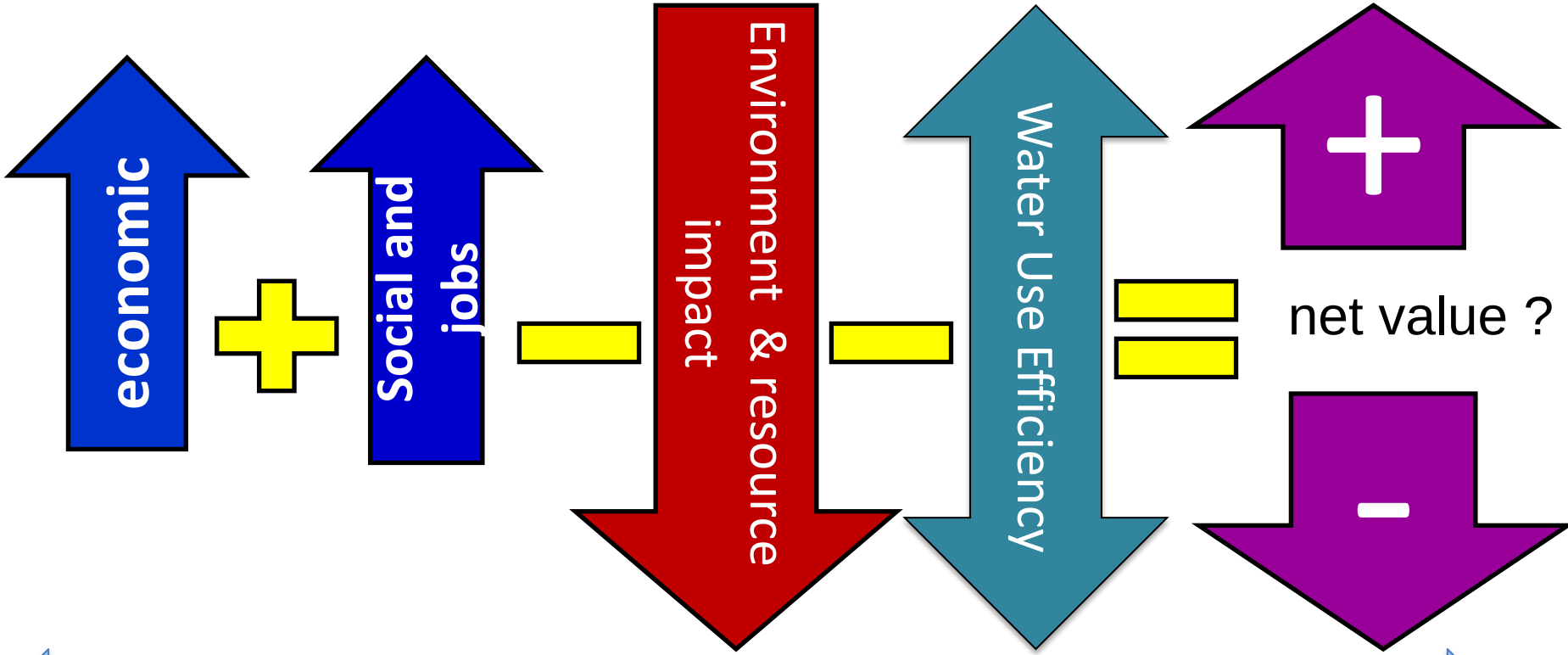
- Water allocation reform;
- Institutional arrangements;
- Water regulation;
- International water management and cooperation.

8. In the “Spotlight”

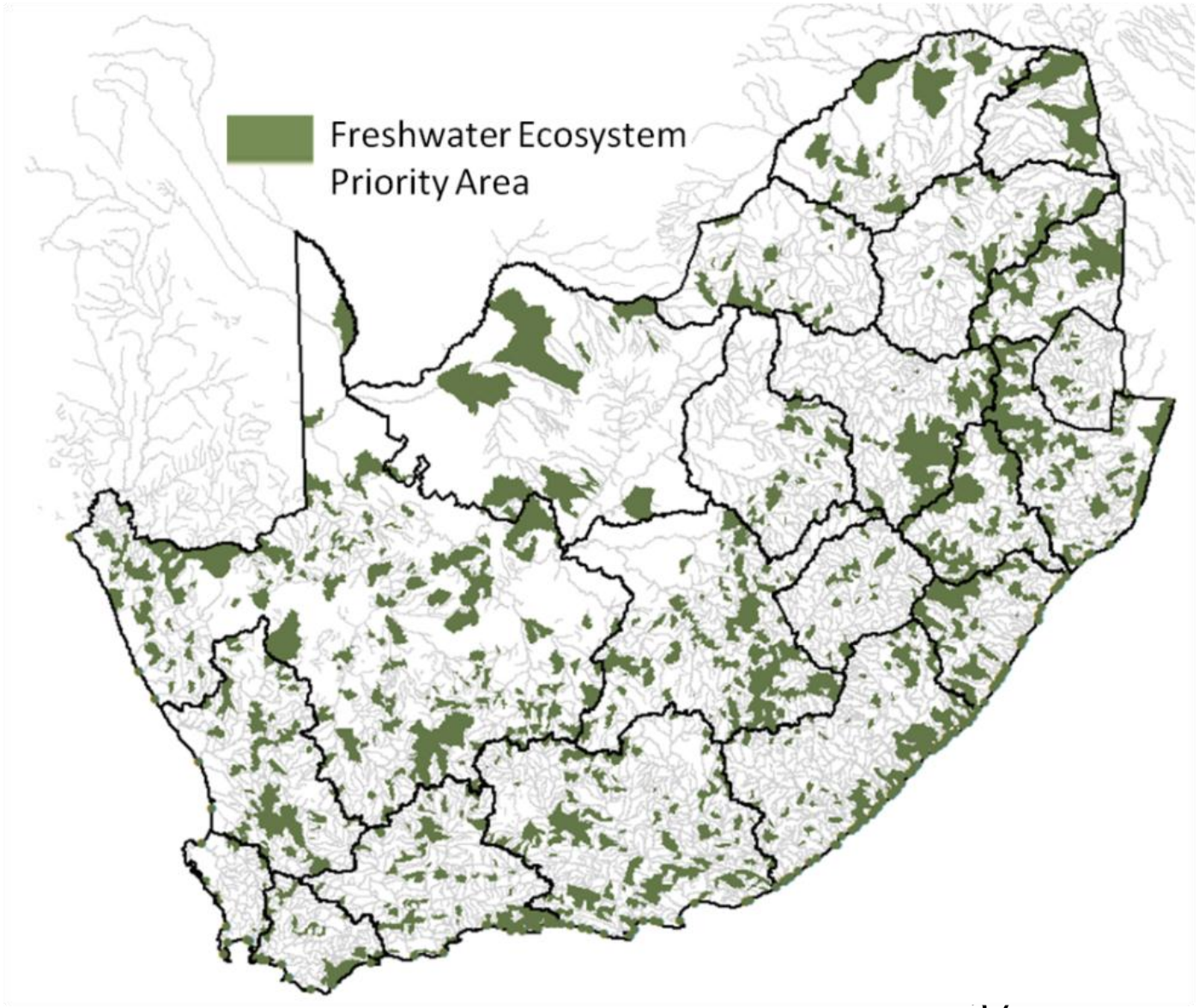
- The water situation in South Africa: reality and urgency
- External and impacting environment: need to stretch money, water, infrastructure....
- Alignment with Macro strategies and Outcomes: need to respond & influence
- Critical role of the strategy to establish new era of “smart” water management and to facilitate “outcome”
- Skills & capacity
- Water “footprint”
- Information, knowledge gap
- Protected areas

“Water Footprint”

Total value footprint and management implications (mining ?)



Fresh Water Ecosystem Protected Areas Areas



More Specific Issues 2

- **Value driven water management**
  - Equity, human dignity and social justice
  - Human needs and rights approach
- **Democratising water management**
  - Citizens' voice, participation, partnerships
  - Sector-wide approach
- **Developmental water management**
  - Integrating water -strategies and planning
  - Enabling development
- **Paradigm shift**
  - From technical driven approach to value driven approach
  - From resource development to improved governance, new technology

9. Way forward

- **Cabinet approval for consultation ✓**
- **1st gazetting**
- Minimum 90 days consultation period (National, provincial, targeted workshops with marginalised groups, sector work sessions, media campaign, dynamic website;
- **Final Product Development;**
- Sector ownership/partnerships;
- Implementation plan and readiness;
- **2nd gazetting;**
- Implementation and execution !!!
- NPC: national water security plan !!!! (President)

90 days actions & deliverables

1. Sector ownership & understanding
2. Input process & consolidation;
3. Drafting of final NWRS 2. NB: Sector strategy
4. Obtaining sector ownership, commitment, partnerships:
   - Macro strategies and governance alignment
   - Sector water strategies
   - Sector water footprints
   - MOUs
5. Water Security Strategy, (Presidential announcement)
6. Implementation plan
7. NWRS 2 Governance framework & structure
8. DWA leadership, framework & capacity
9. Communication strategy & action

Sector engagement process

- National workshops
- Political engagements (Portfolio Committee including public hearings, clusters, etc.)
- Provincial & spatial
- High level and strategic (NPC, Economic development, etc.)
- Support strategies
- Sector engagement
- Communities and Civil Society

Process & format

- Workshops
- 1:1 Engagements
- Web based communication
- Submitted input
- Communication and media strategy
- Formal forums

NWRS
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Managing Water for an Equitable and Sustainable Future

Media Centre

STATEMENT BY MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS MRS EDNA MOLEWA AT THE ANNOUNCEMENT OF THE GAZETTING OF THE SECOND DRAFT NATIONAL WATER RESOURCES STRATEGY

Media Statement - final NWRS-2 August 2012 LP.docx

NWRS in the Media

NWRS
National Water Resource Strategy
Managing Water for an Equitable and Sustainable Future

NWRS
National Water Resource Strategy

WHAT IS NWRS

The water sector has been in a state of major change since 1994, with substantial new policy and legislation which defines the framework for water management in the country.

While the policy and legislation have been globally recognised for their progressive response to water management, implementation has been slow, for a number of reasons. One of the key areas where the aims of the policy and the NWRS-1 have not been effectively achieved is in relation to equity and redress in access to water. While the provision of safe domestic water supplies has reached 95% of the population, showing remarkable strides since 1994, the allocation and reallocation of raw water to historically disadvantaged communities for productive purposes has not progressed as it should.

NWRS Forum

Search Home

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View latest 6, 12, 24, 48 hours

FORUMS	THREADS	POSTS	LAST POST
NWRS: 2012			
General Discuss all General issues around the new National Water Resources Strategy here.	2	5	Discussion topi... 8/29/2012 3:12 AM by Kobus
Chapter 1: Introduction This document presents a summary of the second edition of the National Water Resources Strategy (NWRS-2), as required under the National Water Act (Act 36 of 1998). The first edition of the (NWRS-1) was published in 2004 and set out the 'blueprint' for This document presents a summary of the second edition of the National Water Resources Strategy (NWRS-2), as required under the National Water Act (Act 36 of 1998). The first edition of the (NWRS-1) was published in 2004 and set out the 'blueprint' for water resources management in the country for the first time.	1	0	Discussion 8/24/2012 12:35 AM by John
Chapter 2: Understanding Water Resources Effective water resources management is dependent on all water users and water managers playing their part. Government alone cannot do it.	1	0	Discussion 8/24/2012 12:37 AM by SuperUser van Blerk
Chapter 3: Water Management Issues Apart from the quantitative and qualitative pressures on its physical dimensions, water demand is also growing due to the broadening perspective of water and its ecological, ethical, and cultural roles.	1	0	None
Chapter 4: Contribution of Water to the South African Economy The reliable supply of water in sufficient quantities and required quality is a crucial input to economic growth and job creation.	1	0	None
Chapter 5: There is potentially sufficient water available for			

National Water Resource Strategy - Summary: 2012

Title	Owner	Category	Size	Clicks	
Complete Summary (August 2012)	Jaco van Blerk	Complete Summary	2.10 MB	63	Download
Chapter 1: Introduction	Jaco van Blerk	Summary	48.81 KB	137	Download
Chapter 2: Understanding Water Resources	Jaco van Blerk	Summary	303.63 KB	137	Download
Chapter 3: Water Management Issues	Jaco van Blerk	Summary	43.43 KB	111	Download
Chapter 4: Contribution of Water to the South African Economy	Jaco van Blerk	Summary	188.44 KB	107	Download
Chapter 5: There is potentially sufficient water available for development	Jaco van Blerk	Summary	38.49 KB	101	Download
Chapter 6: Water Economics and Allocation Priorities	Jaco van Blerk	Summary	41.65 KB	86	Download
Chapter 7: Enhanced Water Governance and Developmental Water Management	Jaco van Blerk	Summary	88.87 KB	117	Download
Chapter 8: Making it happen - The Core Water Strategies	Jaco van Blerk	Summary	154.06 KB	112	Download
Chapter 9: Key Strategic Actions	Jaco van Blerk	Summary	79.69 KB	118	Download
Chapter 10: Revising the Water Management Area Boundaries	Jaco van Blerk	Summary	111.25 KB	105	Download
Chapter 11: Water Resource Information	Jaco van Blerk	Summary	35.60 KB	106	Download
Chapter 12: Implementing the NWRS-2	Jaco van Blerk	Summary	29.44 KB	105	Download
Chapter 13: The New Paradigm - Key Elements	Jaco van Blerk	Summary	50.05 KB	120	Download
Chapter 14: Support Strategies	Jaco van Blerk	Summary	108.08 KB	124	Download

Though leadership may be hard to define,
the one characteristic common to all good leaders is the ability to make things happen.

Ted W Engstrom

Part 2. Communication Strategy

Mava Scott

NWRS COMMUNICATIONS

- **STAKEHOLDER/COMMUNITY**
  - **Countrywide workshops – all provinces {schedule attached}**
  - **Awareness Road-shows – activations**
  - **Multi purpose centres – information sessions**
  - **Business and Community For a – engagements and presentations**
  - **Consumer Forums – partnership with National Consumer Forum**
- **MEDIA**
  - **Press Briefing – first announcement**
  - **Provincial media workshops**
  - **Media Partnerships – Independent Group {Star, P/News, Argus. Isolezwe}**
  - **Think/Opinion Pieces – water experts**
  - **Press Club Engagements**
  - **Radio Campaign – Commercial and Community platforms**

NWRS COMMUNICATIONS CONTINUED

- **MARKETING AND ADVERTISEMENT**
  - NWRS Webpage – hosted by our website – all functionalities
  - Advertorials – Independent Newspapers
  - Sector Exhibitions – seminars and conferences
  - Knock and drop – leaflets and brochures
  - Billboards – highways and other strategic areas
  - Murals – wall paintings at strategic areas
- **INTERNAL COMMUNICATIONS**
  - Intranet page – updated NWRS information
  - Information Kiosk – Customer Service Centre
  - Newsflashes and Blue Screen messages
  - Voice automation – DG on NWRS process – all staff
  - Lift News and Notice Boards

water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

NWRS

National Water Resource Strategy

OUR BLUEPRINT FOR SURVIVAL

CONSULTATION PROCESS FRAMEWORK- SEPT 2012

1. Purpose:

- Obtain buy- in & support into the process
- Obtain stakeholder commitment and ownership
- Obtain inputs towards finalising the strategy
- Develop a **JOINT IMPLEMENTATION PLAN**

2. Principles:

- Participatory process
- Transparent
- Responsive
- Consensus oriented
- Accountability

3. Methodology & approach:

- Driven in two ways:

(i) ***Existing sector engagement platforms***: the aim would be to get the buy- in & support into the process of developing & finalising the strategy.

(ii) ***Intensified planned workshops***: the aim would be to interrogate the content of the strategy (talks to key water sector challenges and how they will be addressed).

4. Stakeholders/ target audience:

- Key sector departments (***DHS, DAFF, DMR, DEA, DoE, DCOG, DRD&LR etc.)***
- Water sector institutions **(*CMAs, WUAs & Water Boards)***
- Organised Civil Society groups ***(church groups, social societies/ clubs, community members, NGOs etc.)***
- Academic & Research institutions ***(universities, WRC, ARC, HSRC, CSIR etc.)***
- Organised business and labour ***(Chamber of mines, business, commerce, Agri-SA etc.)***
- Water Professional bodies ***(WISA, SAAWU etc.)***
- ***SALGA***

5. Platforms of engagement:

- Political Stream (MinMec,Mintechs & PCF's)
- Provincial IGR Sector forums (relevant sector stakeholders)
- Bilateral sessions (Government departments and all key stakeholders)
- National & Provincial workshops
- National & Provincial Clusters

Part 3.
Highlighting specific issues & implications

Helgard Muller

The Developmental State

1. "A state that is active in pursuing its socio-economic developmental agenda, working with social partners, and has the capacity and is appropriately organised for its pre-determined developmental objectives" *(V.Gumede)*
2. Must have broad legitimacy in the eyes of the public
3. Must be efficient, effective and be staffed with skilled and competent employees

Water, Development & Equity

- Access to reliable water supplies and sanitation is critical for:
  - Human health, dignity and well-being
  - Creating and supporting economic growth and job creation
  - Rural livelihoods
- Water management must support critical ***national development objectives*** that:
  - meet ***basic human rights*** w.r.t water and sanitation,
  - ***reduce inequality***, ***create jobs*** and ***eliminate poverty***

Institutional Reforms and Re-Alignment

Equity principles in NWRS-2 page 22-23

- Equity in access to water services
- Equity in access to water resources
- Equity in access to the benefits from a water resource

(White Paper on a National Water Policy for South Africa 1997)

Equity in access to water services

- Constitution- " access to sufficient water"
- WS Act (act 108 of 1997) and Regulations in terms of section 9 – defined quantity, quality and assurance of supply etc.
- Impressive progress on national scale
- Backlogs in remote rural, informal settlements and poor O&M
- Sustainable water resources are needed to ensure equity in access to WS

Equity in access to water resources

- Concept of water of direct access to water for productive uses such as water for irrigation, business or an industry
- Must address equity in water allocation- to address job creation, contribute to poverty eradication.
- Not practical or possible to divide SA water resources to give every South African an equal amount of raw water

Equity in access to the benefits from the use of water resources

- Concept of public sharing in the benefits of water being used by others such as e.g the energy sector – Energy sector use only 2% of water but contributes 15% of the GDP
- Poor sharing in benefits e.g. from social grants paid through taxes

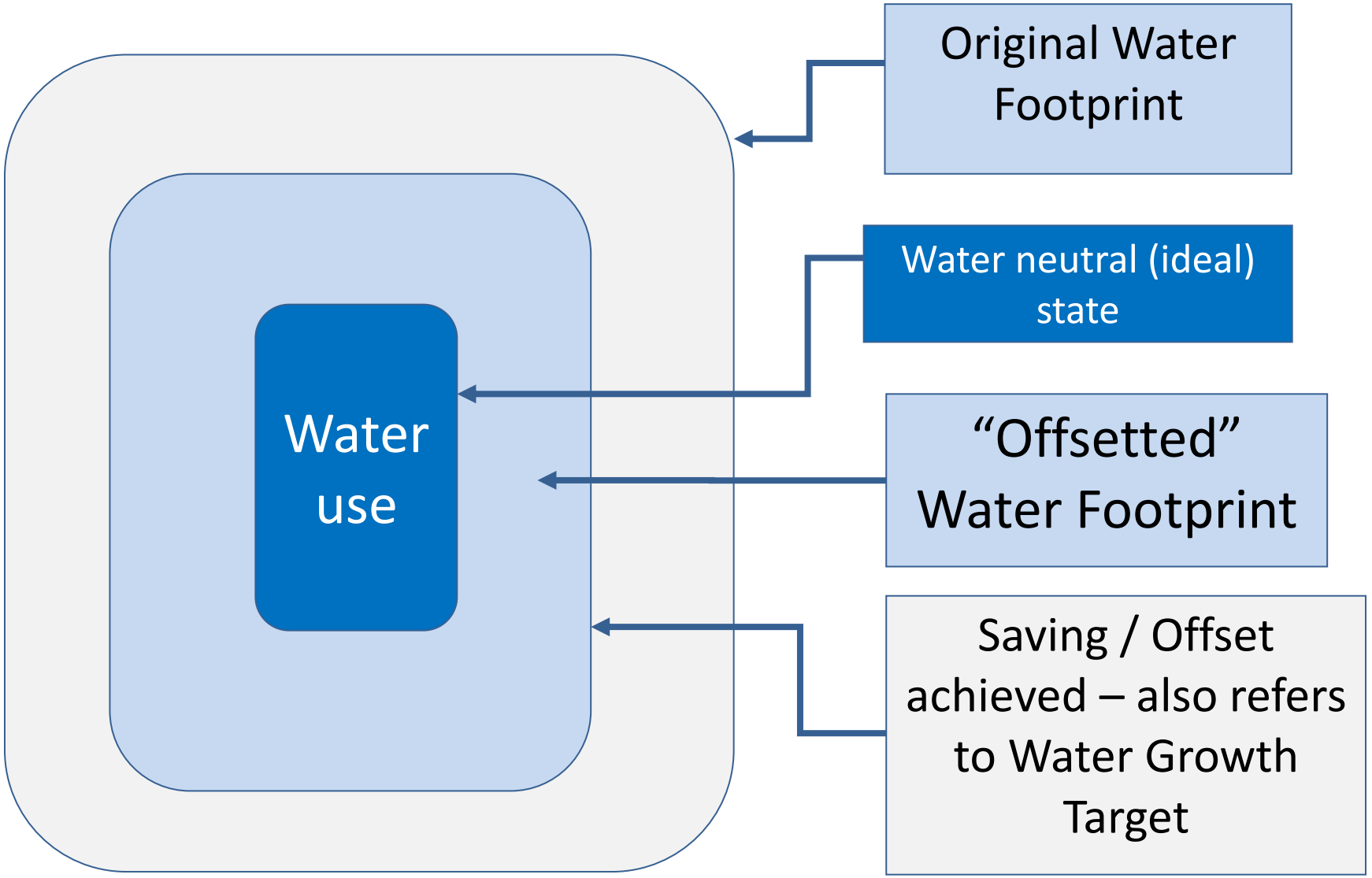
Water footprint and water offsetting

1. Reserve- Basic Human + Environment
2. Shared River basins- honour international agreements
3. Water for poverty eradication
4. Water for strategic water use
5. Water for the rest

Water Neutral Footprint:

- Concept of "*water neutral footprint*" is receiving attention locally & internationally
- Concept *does not mean* that no water is used by a water user
  - but rather that water consumed is done so as efficiently as possible and
- where further water efficiency gains cannot be achieved due to the nature of the water use, the negative impact (ecological/ social) of such use is offset by that user mitigating other water users' inefficiencies

Water Neutral Footprint:



Water Neutral Footprint:

- Thus , 2 two key activities in achieving a water neutral footprint:
  - **Saving** – reducing the impact of water-consuming activities; and also
  - **Offsetting** – investment in water conservation or other measures to offset the adverse environmental and social consequences of residual consumption that cannot be reduced further.

Allocation priorities of water resources page 29

1. Reserve- Basic Human + Environment
2. Shared River basins- honour international agreements
3. Water for poverty eradication
4. Water for strategic water use
5. Water for the rest

Part 4. Unpacking Selected Core Strategies & Associated Support/ Enabling Strategies

Part 4.1 Water security

NWRS
National Water Resource Strategy
OUR BLUEPRINT FOR SURVIVAL

Water security

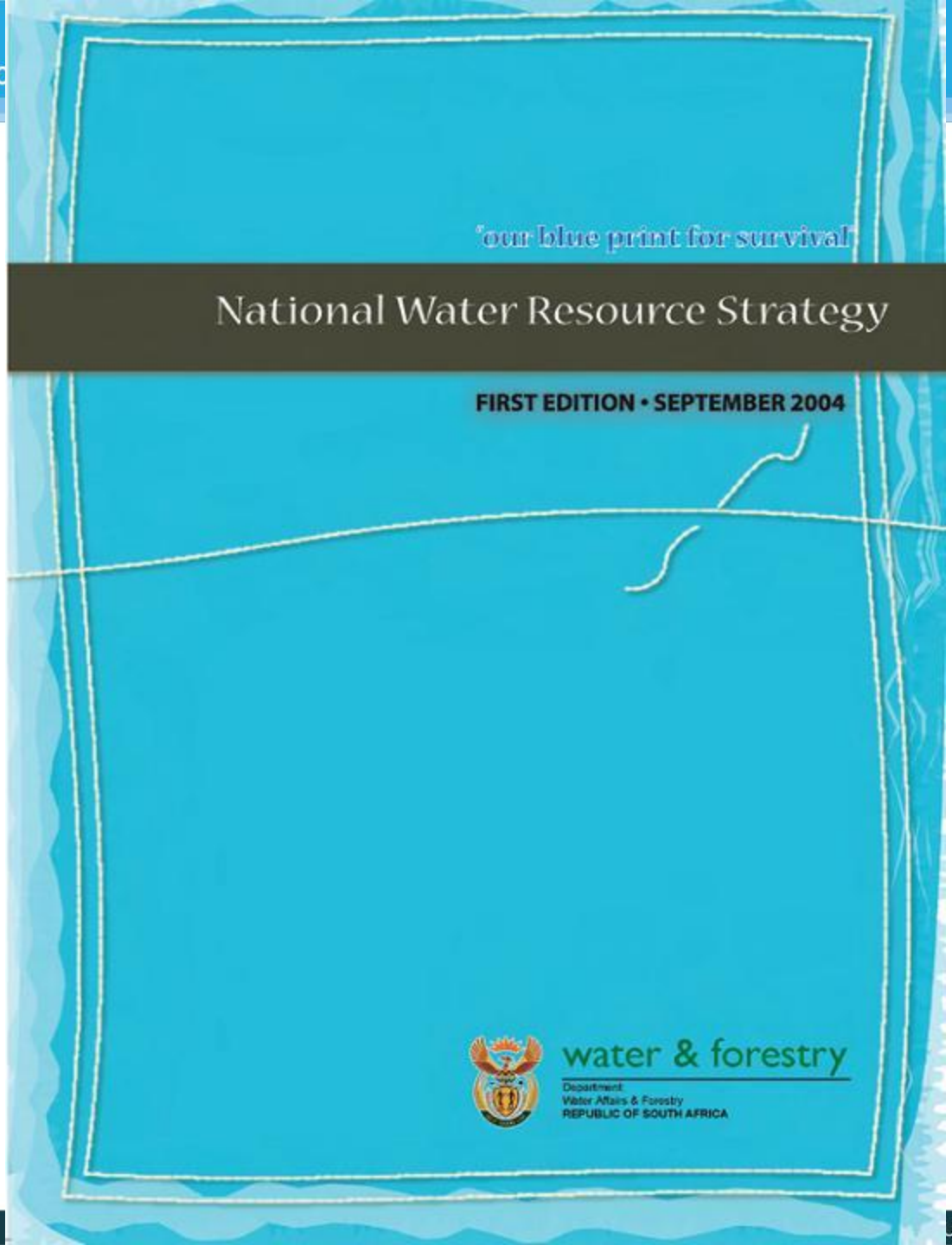
Portfolio Committee

11 September 2012

Johan van Rooyen
Director: National Water Resource Planning

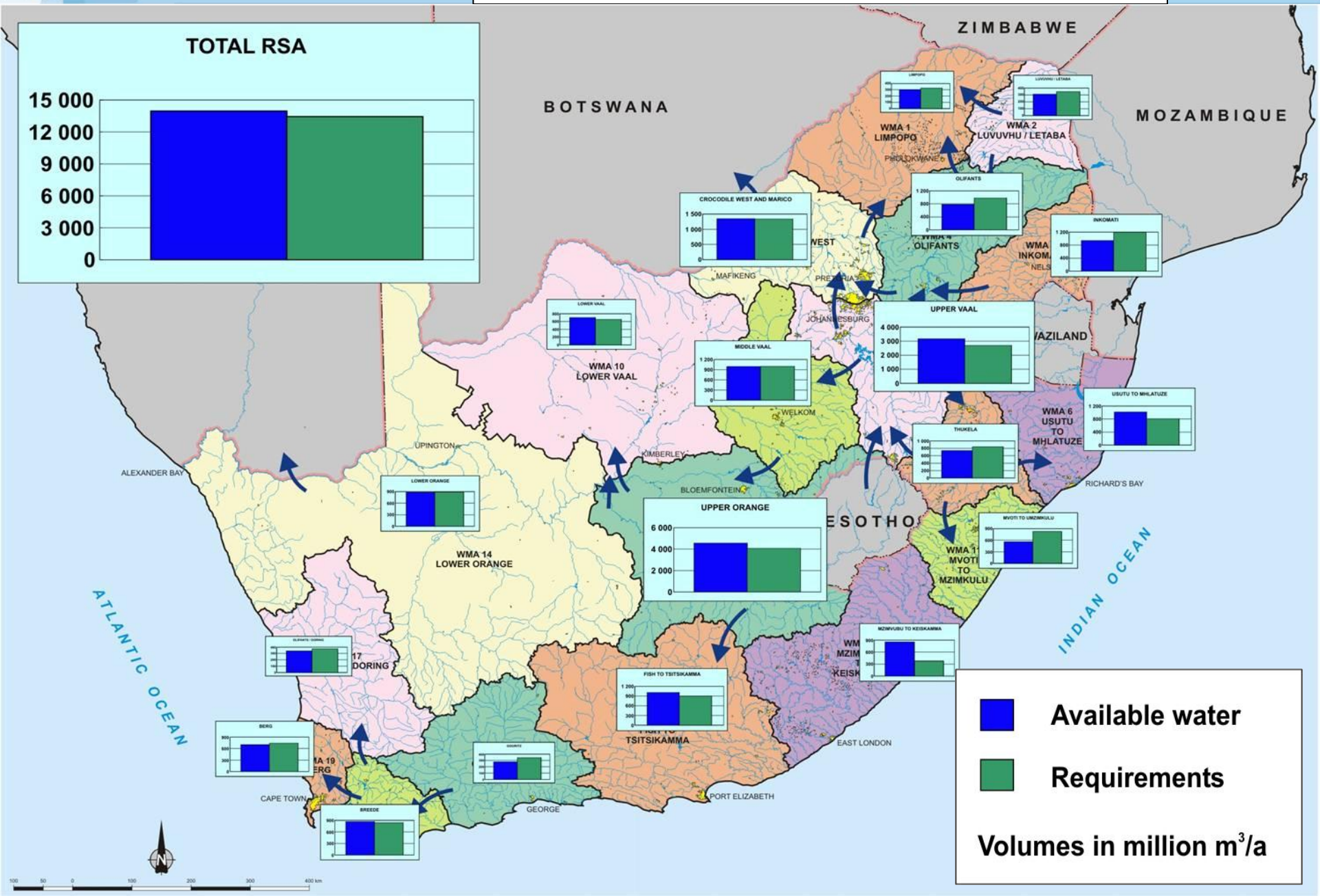
Building on NWRS 1 (2004)

- NWRS 1 provided very important overview statistics on demand and availability and water balances
- Provided strategies to reconcile the requirements and available resources


"our blue print for survival"
National Water Resource Strategy
FIRST EDITION • SEPTEMBER 2004
water & forestry
Department
Water Affairs & Forestry
REPUBLIC OF SOUTH AFRICA

International Rivers shared by South Africa

Water reconciliation (year 2000)



Water Quality

- Essential that water be of appropriate quality for intended uses
- Deteriorating water quality potential major threat in SA
  - can render water unfit for use
- Main sources of impact on water quality are:
  - discharge of urban and industrial effluent to rivers
  - high salinity irrigation return flows
  - wash-off and leachate from mining operations
  - wash-off from areas with insufficient sanitation
- Water quality fundamental element to water resource management
- Most problems could be solved at source

NWRS 1 (2004)

- Chapter 2 and Appendix D summarised water resource situation
- Addressed the scarcity of fresh water in SA
- Fresh water is limited and unevenly distributed
- Situation varies from area to area

NWRS 1 Reconciliation Strategies

- Water demand management and conservation
- Surface water resource management (operation of dams) and conservation
- Managing and use of groundwater
- Re-use of water
- Eradication of invading alien vegetation
- Re-allocation of water
- Development of surface water resources (e.g. dams)
- Transfer of water
- Desalination mentioned in NWRS but not summarised as one of the strategies

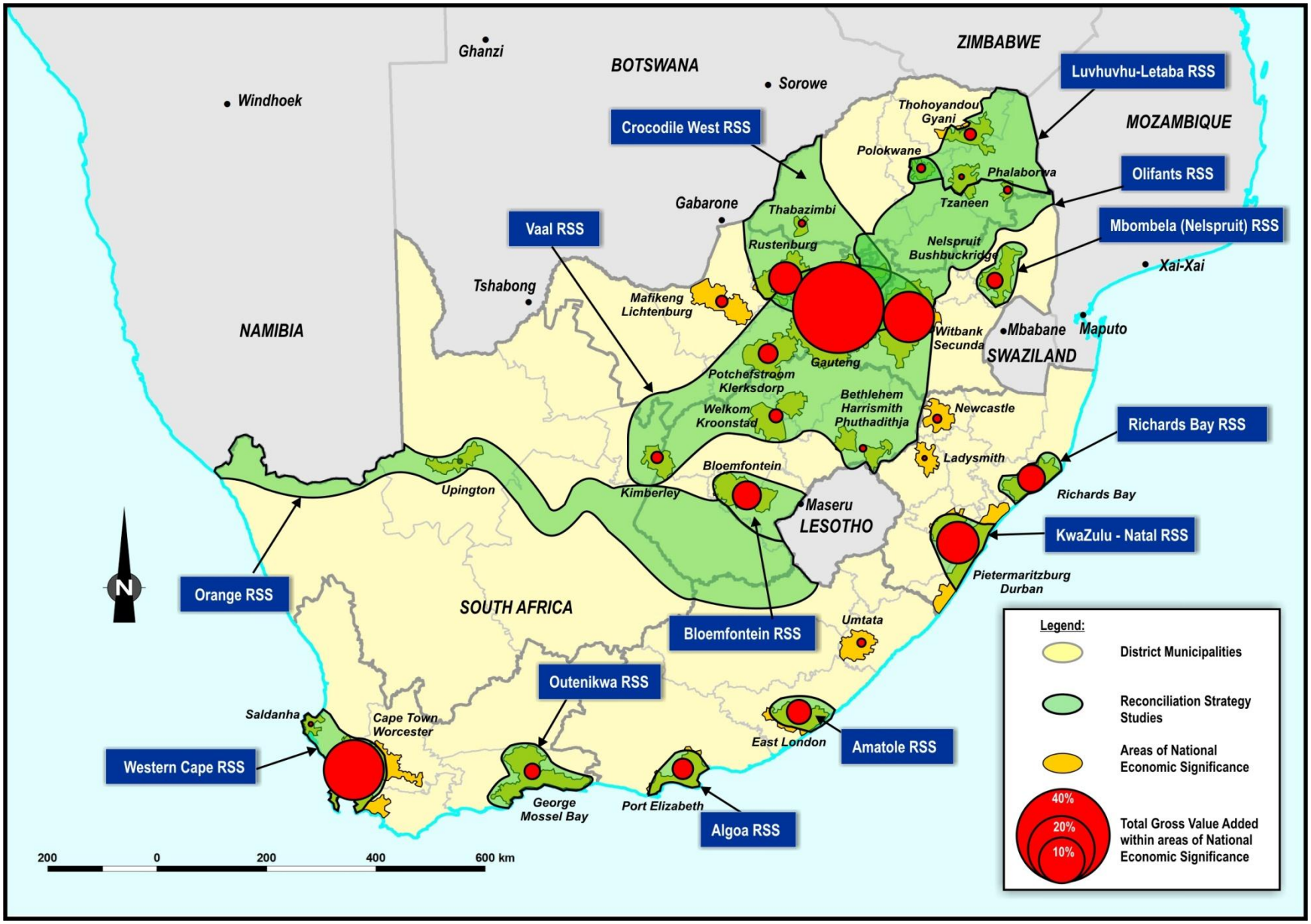
Building on NWRS 1

- NWRS statistics on broad overview level
- Can for instance not be used to build infrastructure
- More detail required
- ISPs – CMS, but still not detailed enough
- Reconciliation Strategies
  - Large systems supplying areas of large economic importance
  - Rest of towns covered in “All Town Strategies”

Large System Reconciliation Strategy Studies

- Develop future water requirement scenarios in consultation with users
- Investigate all possible water resources and other interventions
- Investigate all possible methods for reconciling the requirements with the available resources
- Make recommendations for development and implementation of interventions

NSDP: Key demand centres



Assumptions and principles

- Planning based on high future requirement scenarios
  - Final implementation could be delayed if necessary
  - Very difficult to bring forward
- Availability determined taking account of normal huge variability in SA's climate, but also climate change
- Monitoring and adjustment is crucial

Implementation of strategies

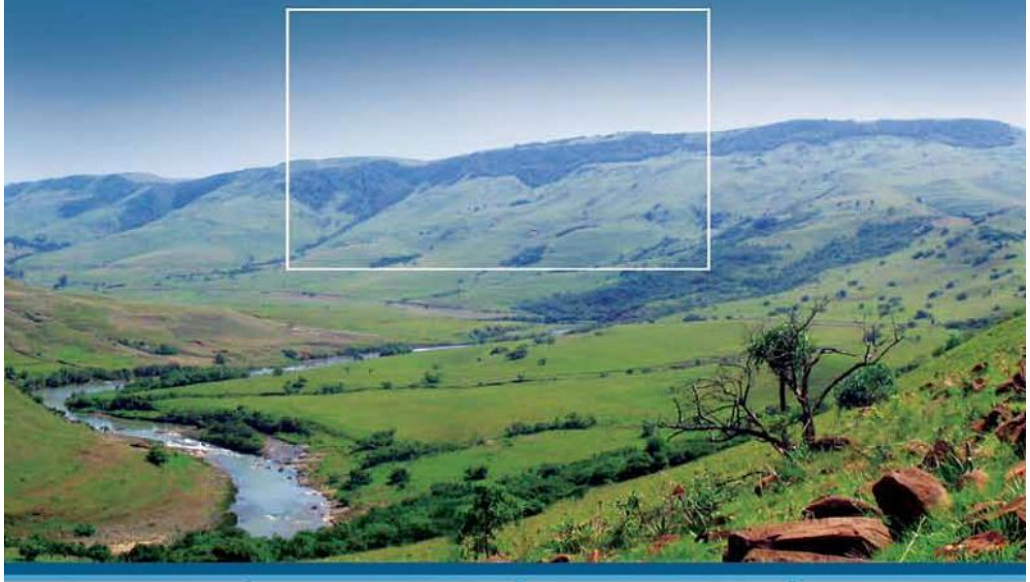
- Strategy Steering Committee for each area
  - Monitor implementation
  - Update strategies
  - Communicate
- Members
  - DWA, Province(s), Municipalities
  - CMAs, Water Boards, Water user associations
  - User groups
- Co-operative government in action
- Information from strategies supplied to Water Sector Infrastructure Investment Framework

Progress

- Completed
  1. Western Cape
  2. Amatole system
  3. Vaal River system
  4. Crocodile (West) system
  5. KZN Coastal Metropolitan areas
  6. Algoa system
  7. Bloemfontein area
  8. Olifants system
- Current
  9. Luvuvhu-Letaba system
  10. Orange River system
  11. Mbombela area
  12. Richards Bay area
- Information on DWA website – will be linked to NWRS web page

Integrated Water Resource Planning FOR SOUTH AFRICA

A SYNOPSIS OF THE SITUATION FOR KEY SYSTEMS: 2010



INFORMATION BOOKLET OCTOBER 2010

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Integrated Water Resource Planning for South Africa

A Situation Analysis 2010

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Report No P RSA 000/00/12910

Next level – all other towns

- Studies started in 2009
- Three year programme to cover all towns
- Enormous and complex task
- Divided into four projects to do a total of 814 strategies for towns and villages (some clustered)
- Completed March 2012
- Available on DWA website

Strategy Web-Portal

Available Strategies

Statistics and links to all available strategies are displayed for the selected area

Portal allows for searching on a Provincial, District and Local municipality level

Interactive map allows for the selection of a specific area

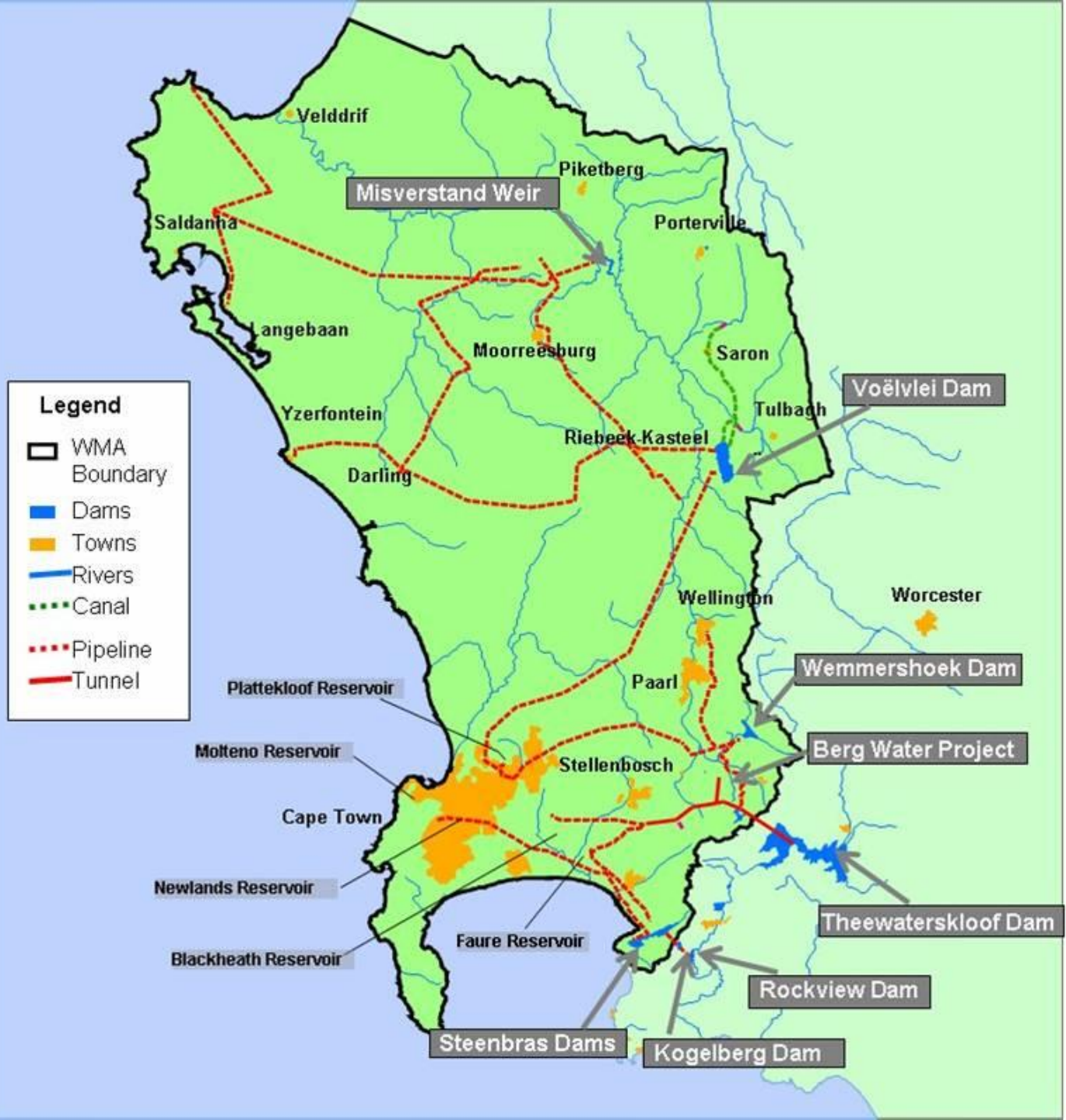
Strategies	Value
Total	146.00
Final version	40.00
% Final version	27.40 %
Draft version	54.00
% Draft version	36.99 %

Province	District Municipality	Local Municipality	Town
Western Cape	Cape Winelands	Breede Valley	DeDoorns & Orchard
Western Cape	Cape Winelands	Breede Valley	Rawsonville
Western Cape	Cape Winelands	Breede Valley	Sandhills
Western Cape	Cape Winelands	Breede Valley	Touwsrivier
Western Cape	Cape Winelands	Breede Valley	Worcester
Western Cape	Cape Winelands	Drakenstein	Gouda
Western Cape	Cape Winelands	Drakenstein	Hermon
Western Cape	Cape Winelands	Drakenstein	Paarl
Western Cape	Cape Winelands	Drakenstein	Saron
Western Cape	Cape Winelands	Drakenstein	Wellington
Western Cape	Cape Winelands	Langeberg	Ashton

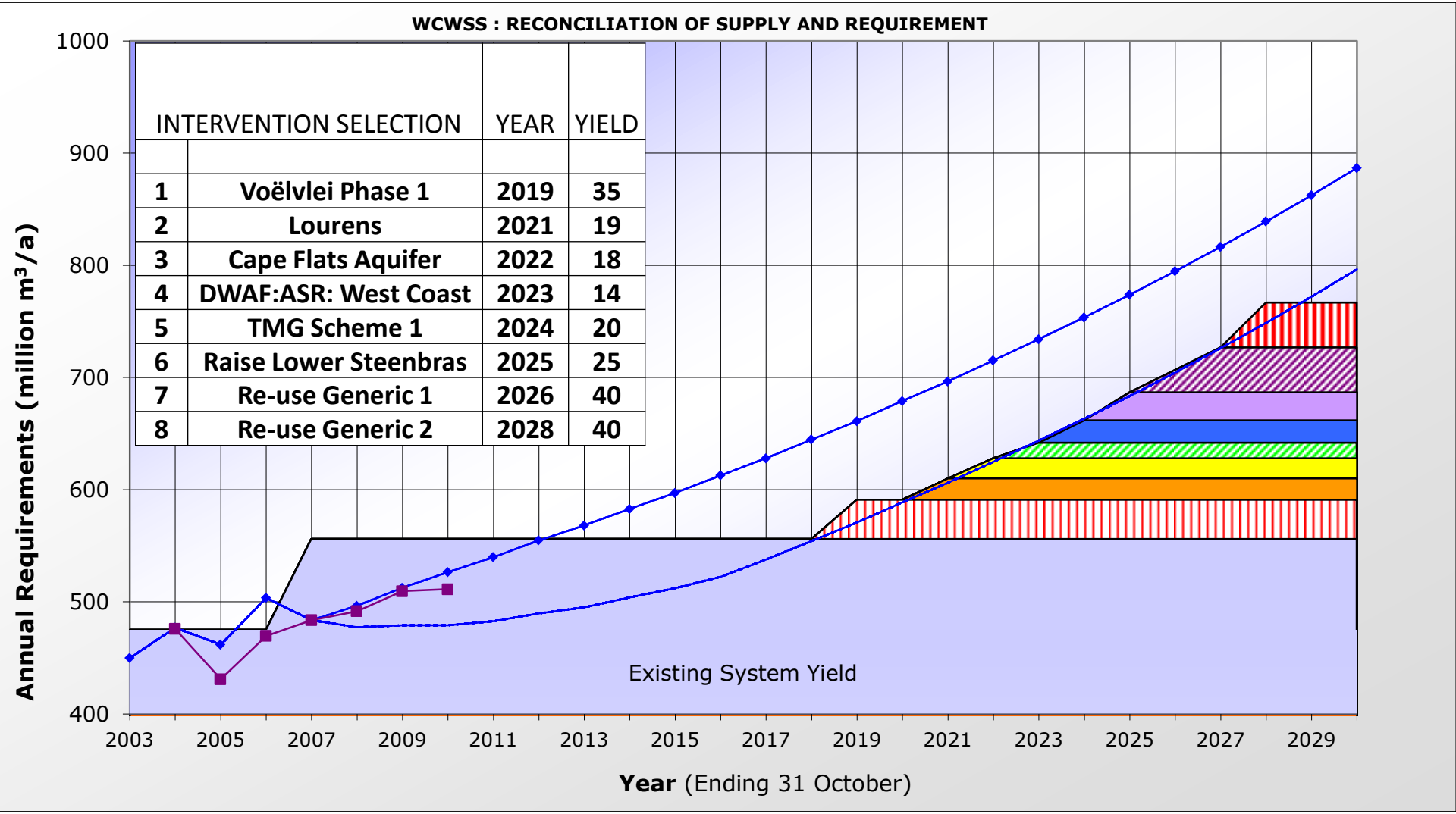
Example of Large System Reconciliation Strategies

- Western Cape Water Supply System
- Vaal River System
- Olifants River System

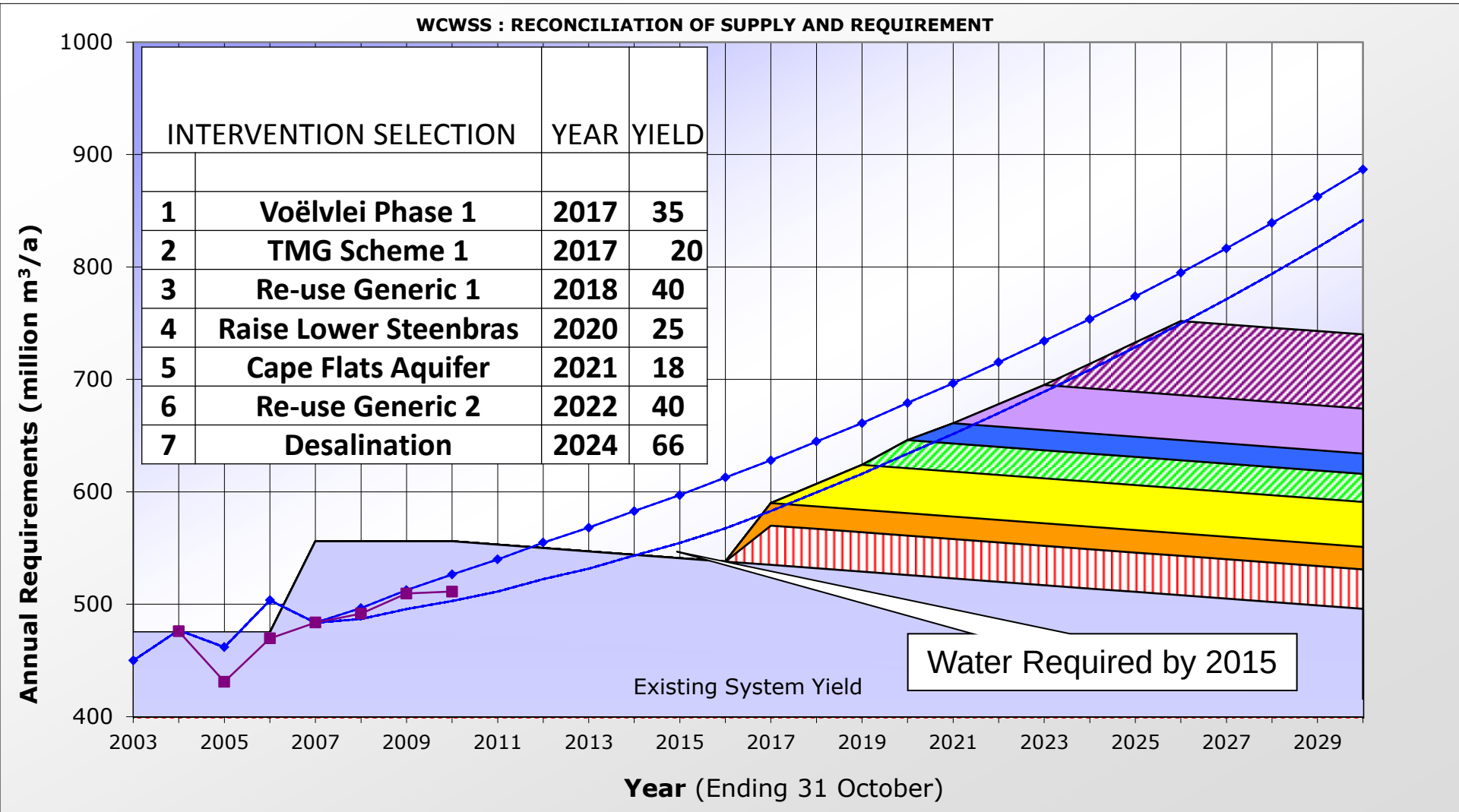
Western Cape Water Supply System



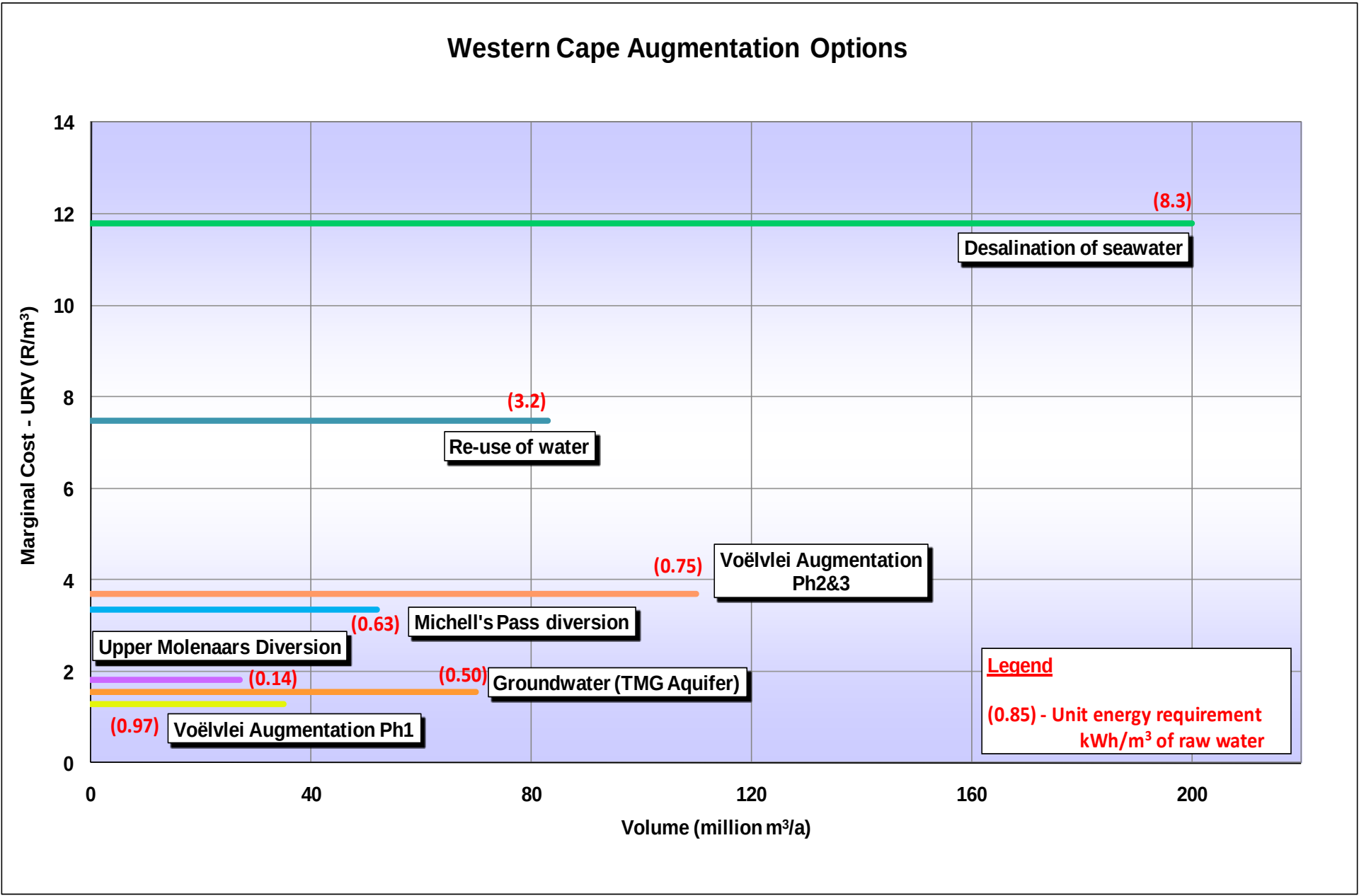
2010 Reference Scenario (lowest URV)

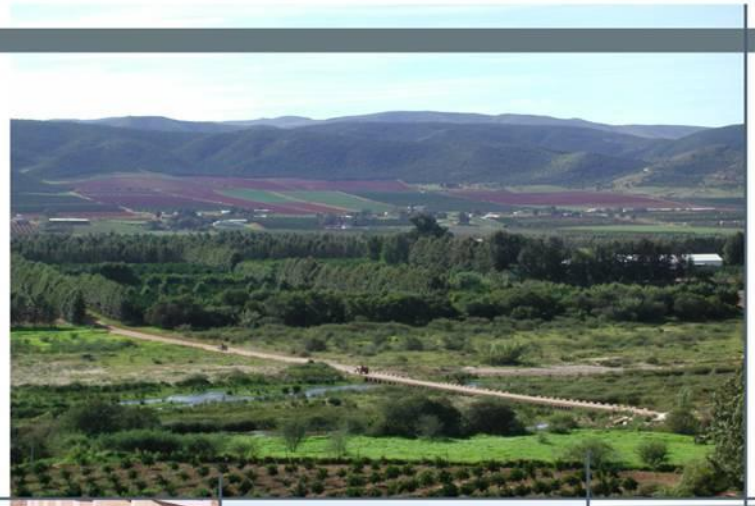


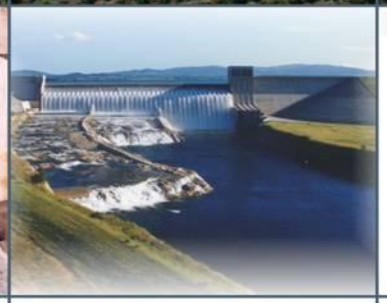
Climate Change and WC/WDM 50% Successful



Western Cape water supply system







water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

REPORT NO: P RSA 000/00/12610

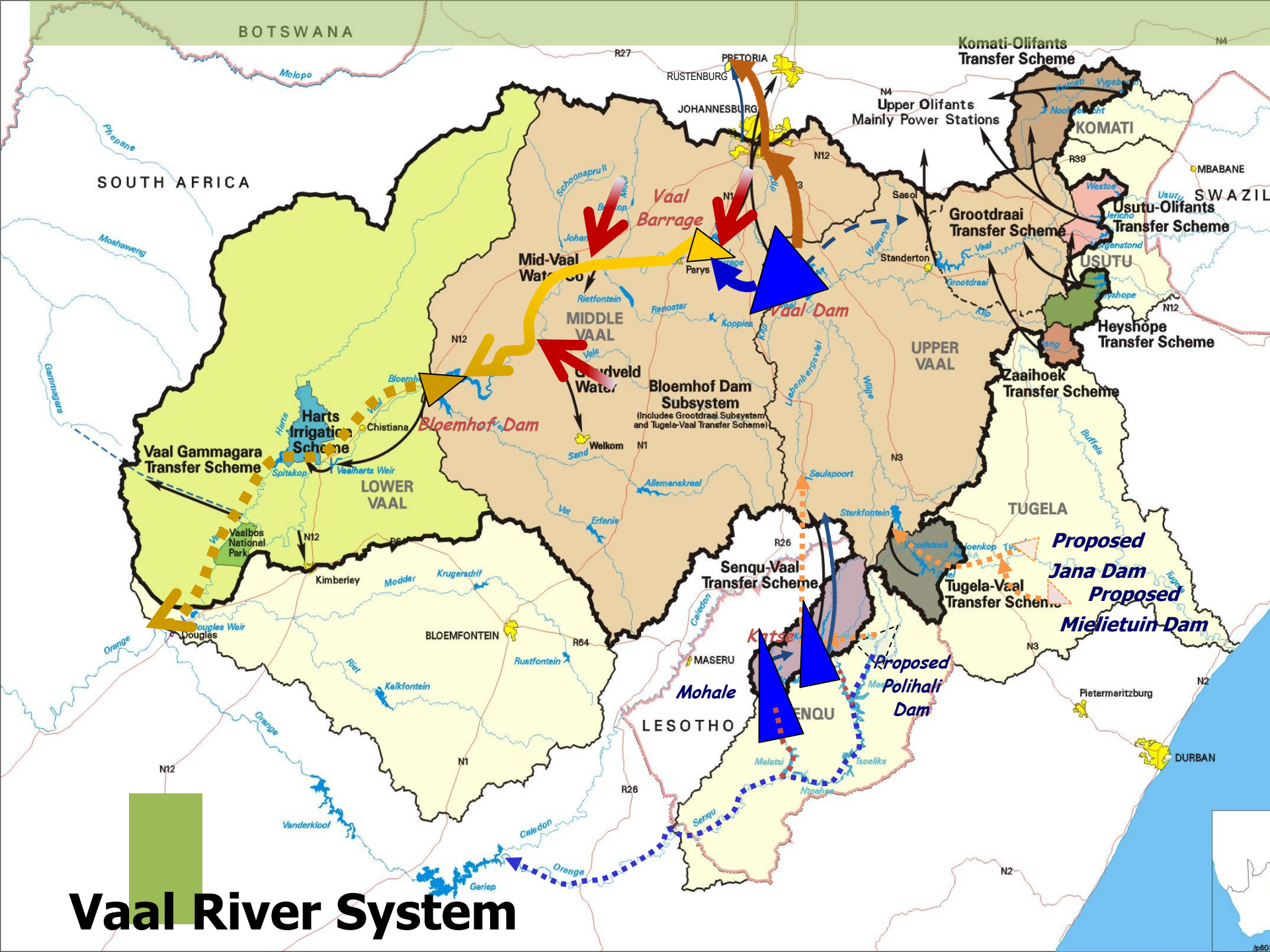
Assessment of the Ultimate Potential and Future Marginal Cost of Water Resources in South Africa

SEPTEMBER 2010

W41_2010/J00105

W Cape strategy

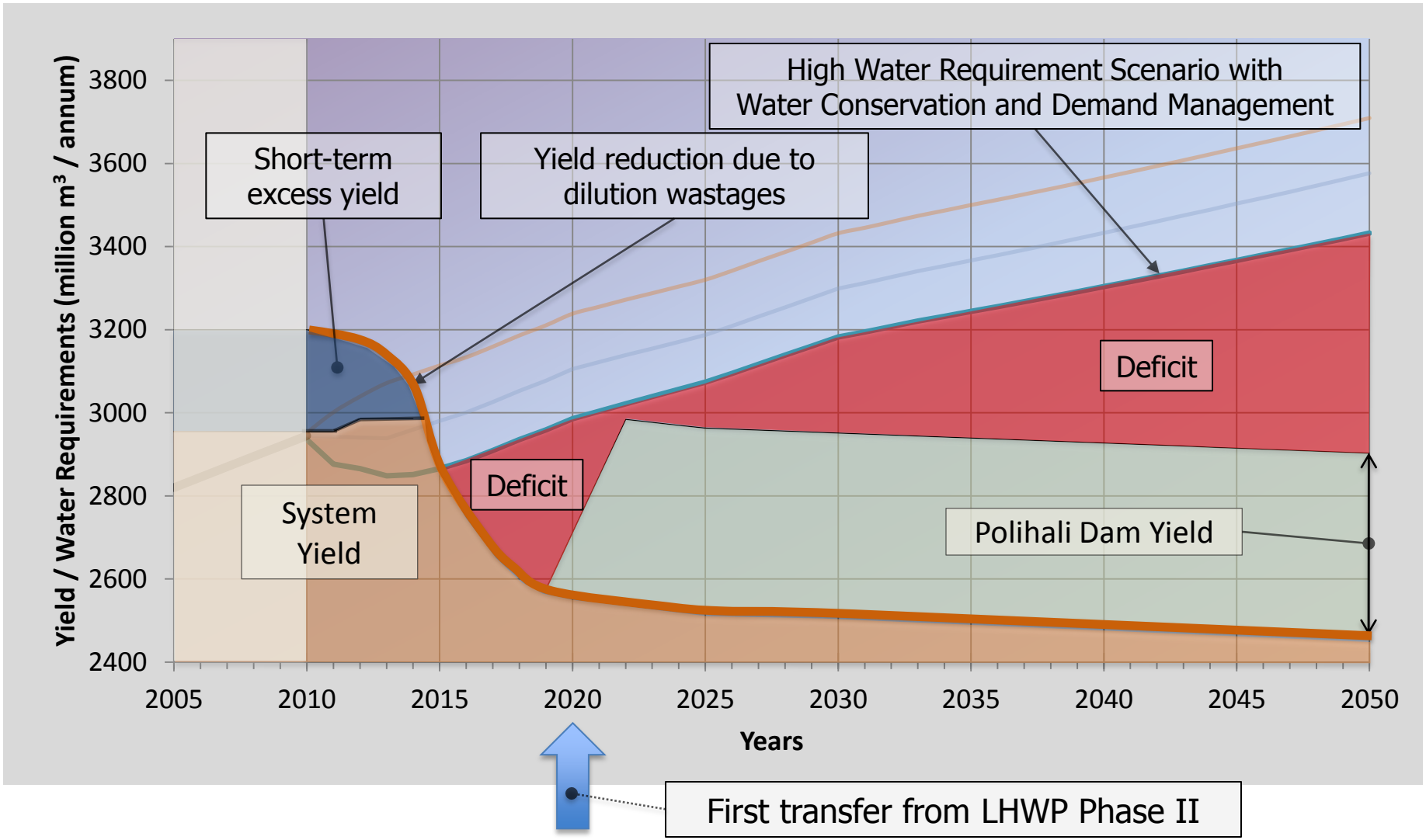
- Implement WC/WDM
- Complete feasibility studies for three options
  - Surface water
  - Re-use
  - Desalination of seawater
- Strategy Steering Committee to recommend the next augmentation by Mid 2013
- To supply water by 2019



Vaal River System

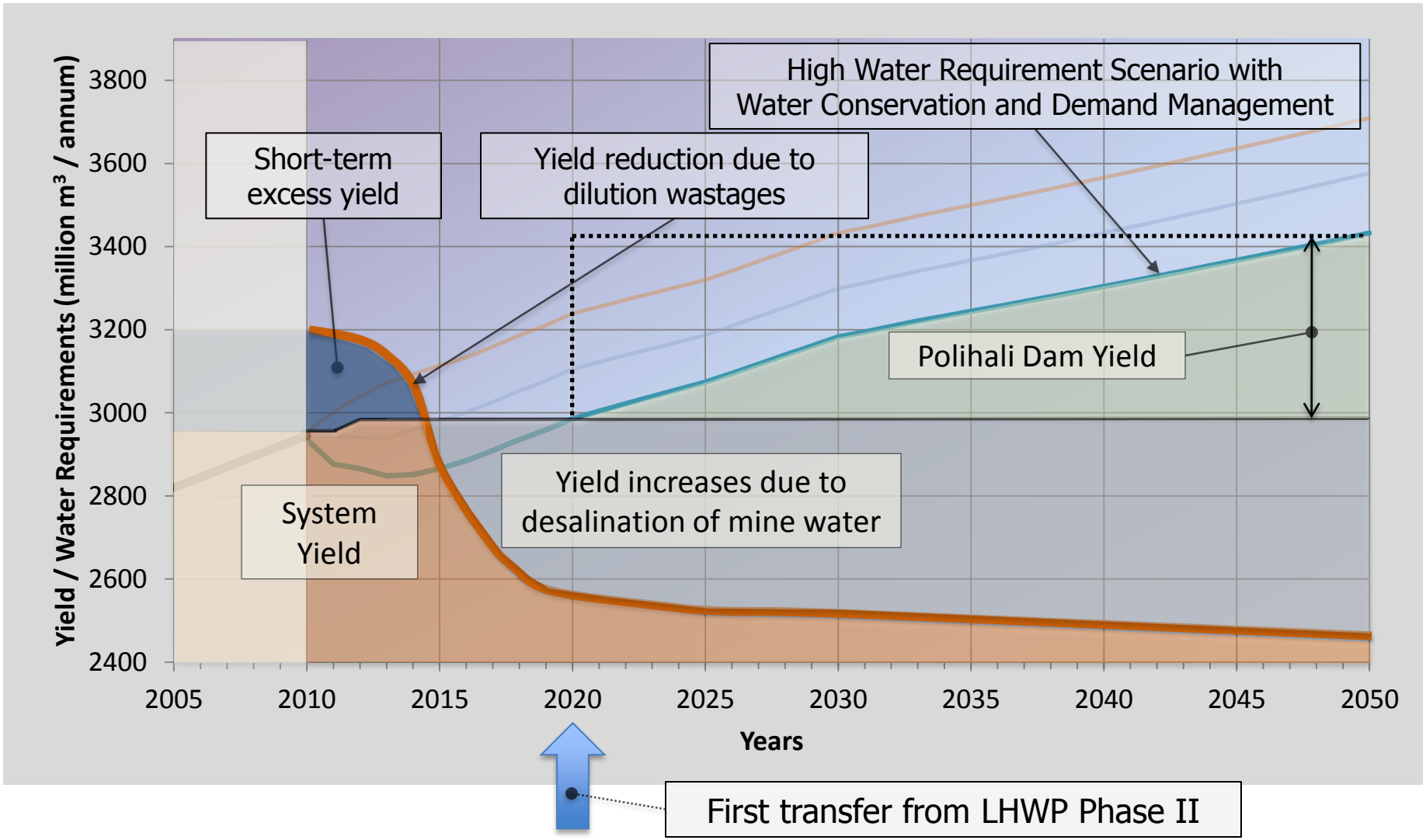
Vaal System Reconciliation Scenario

High with target WC/WDM	Neutralisation and discharge	Unlawful removed

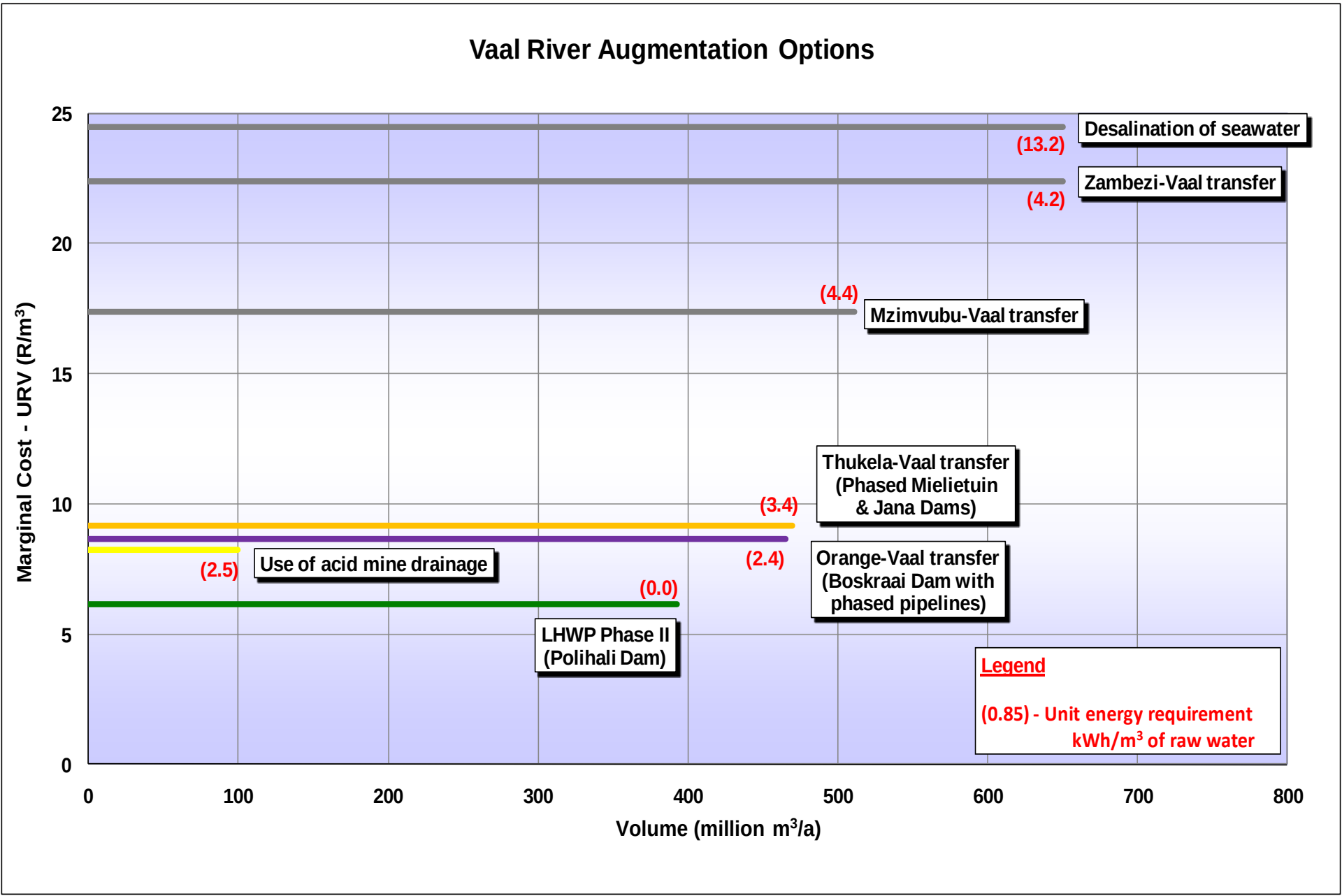


Reconciliation Scenario

High with target WC/WDM	Desalination for urban use	Unlawful removed



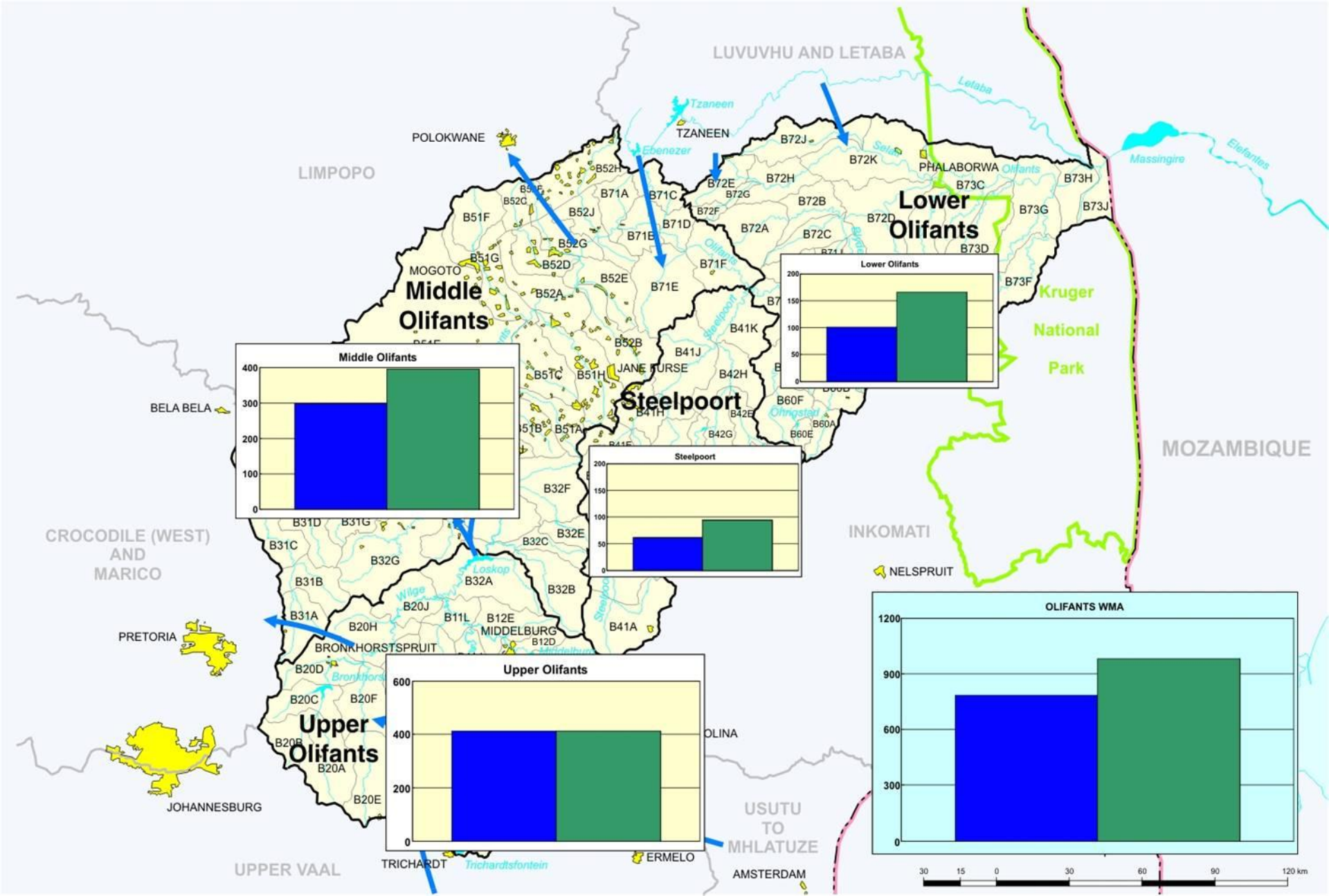
Vaal River system



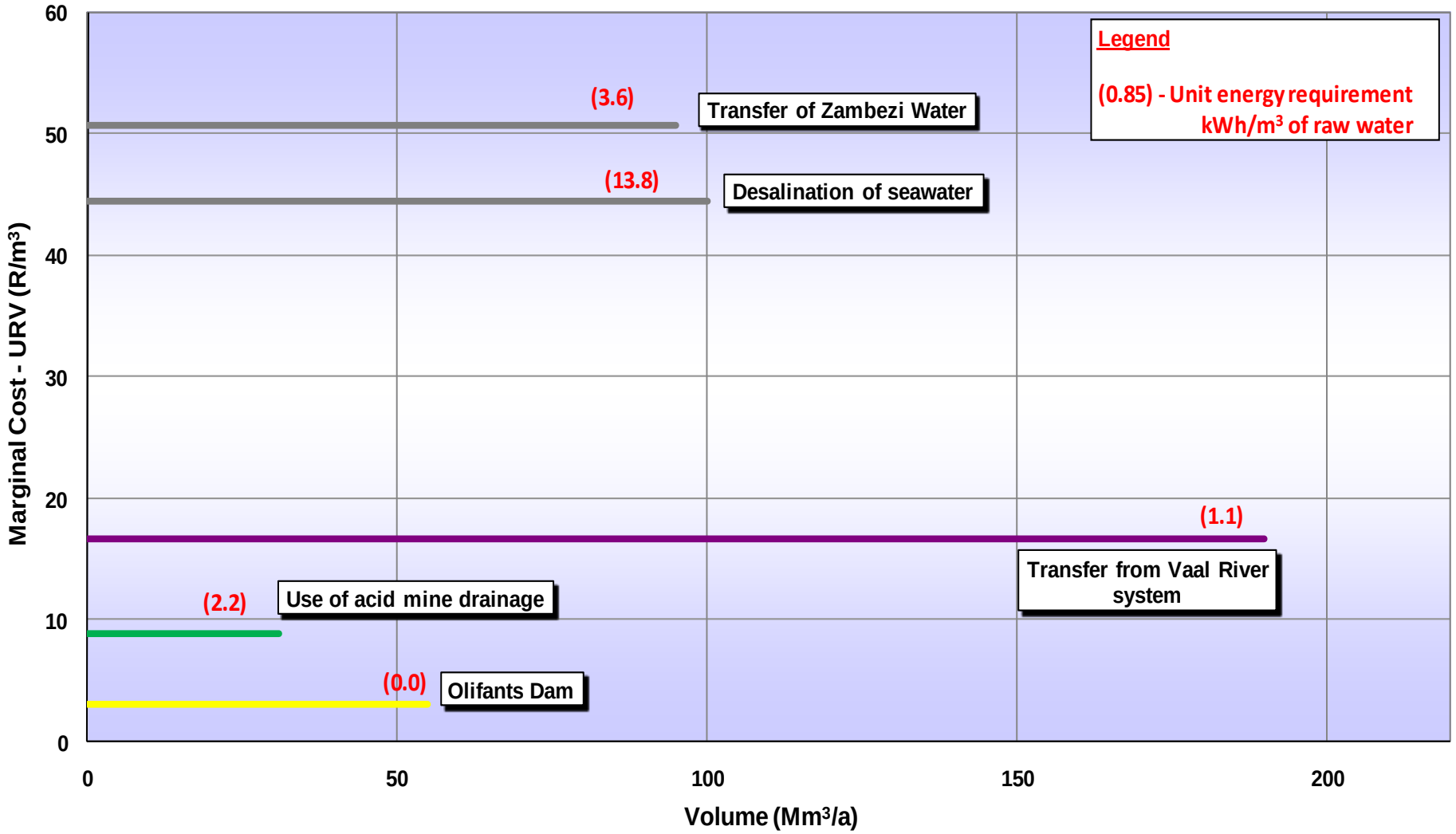
Vaal System Strategies

- Eradicate large unlawful irrigation use by 2013
- Implement WCWDM programme to save 15% by 2014
- Treat and use mine effluent by 2015
- Prepare for implementation of LHWP 2 to deliver water by 2020
- Investigate re-use of urban return flows
- Implement WQ management measures

Olifants system

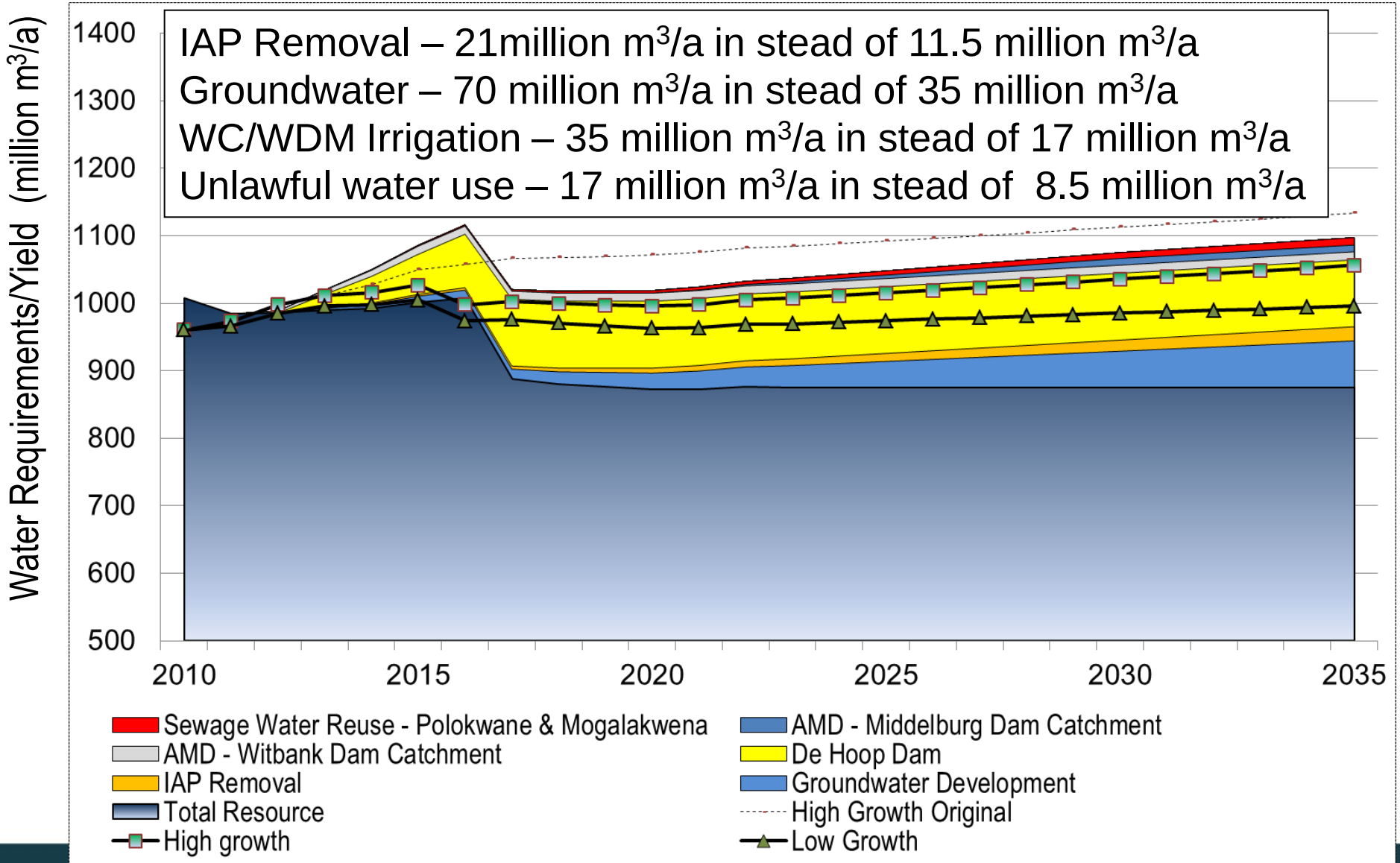


Olifants River system



Reconciliation options 100% successful

IAP Removal – 21million m^3/a in stead of 11.5 million m^3/a
Groundwater – 70 million m^3/a in stead of 35 million m^3/a
WC/WDM Irrigation – 35 million m^3/a in stead of 17 million m^3/a
Unlawful water use – 17 million m^3/a in stead of 8.5 million m^3/a



Olifants Reconciliation Strategy in a Nutshell

- Operationalise the Reserve as soon as practical
- Water to power stations will continue to be supplied from the Usuthu, Komati and Vaal systems
- Other water required to supply the current and future social and economic activities in the Olifants catchment will have to come from the catchment's local resources
- Water required by Polokwane and Mokopane will be augmented from the Olifants catchment

Olifants Reconciliation Strategy in a Nutshell (continued)

- Reconciliation achieved through:
  - Eliminating unlawful water use
  - Introducing water conservation and water demand management (WC/WDM) in all sectors
  - Utilisation of treated acid mine drainage water.
  - Removing of invasive alien plants
  - Developing groundwater
  - Additional reuse of return flows from Polokwane and Mokopane
- Solutions management rather development orientated.
  - Orchestrated effort is necessary.
  - If not fully achieved, water will have to be moved from low value irrigation

Food security/ self-sufficiency

- Debate around food security (or self sufficiency) will become very topical (and emotional)
- Will have a large bearing on the water resource debate
- The following report gives a desk top overview of the regional potential for food production

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

REPORT NO: P RSA 000/00/12510

An Assessment of Rain-Fed Crop Production Potential in South Africa's Neighboring Countries

MAY 2010

W34_2010/J00105

Summary of report

- Irrigation in SA uses 60% of water
- Large proportion of crops internationally regarded as “rain-fed” crops
- Investigation shown “high-potential rain-fed cropping land” in
  - Zambia - 11,1 million ha
  - Mozambique - 8,8 million ha
  - Zimbabwe - 6,3 million ha
  - Malawi - 0,4 million ha
  - Total - 26,6 million ha

Key strategic messages (1)

- Detailed work confirmed broad strategies of NWRS 1, but added desalination as a strategy
- Water management is complex
- Solutions entail much more than just addition of dams
- WC/WDM extremely important in all areas – SA can not afford to waste water, anywhere, anytime
- Groundwater important, currently under-valued and under-used
- Huge potential for increase in re-use, at coast but also in inland systems i.e. Vaal River system

Key strategic messages (2)

- Limited opportunity for more dams
- Dams and interbasin transfers inevitable in certain areas – very expensive
- Desalination
  - Small scale seawater desalination already being done
  - Mine water desalination important
  - Large scale seawater desalination imminent
- Possible to make more water available anywhere in the country in the future, but at steeply rising costs
- Zambezi water too costly

Key strategic messages (3)

- Water for increase in irrigation in SA very limited
- Moving some water from irrigation to other use must already be considered in certain areas
- Food could be grown by SADC countries and traded to SA – regional perspective important
- Catchment rehabilitation, clearing of invasive alien plants and rainwater harvesting can be undertaken to optimise rainfall (both at catchment and household level)

Key messages from All Town Studies

- Improved management will solve largest portion of immediate problems
  - No metering – WSAs have no idea how much water is used or wasted
  - Large wastage of water evident
  - Per capita use much too high
  - Free water provided far above indigent level obligations
  - Poor cost recovery
  - Lack of proper maintenance and skilled operators
  - Technical competency low
- Groundwater a very important resource for towns

Desalination Strategy (1)

- Desalination will play an important role in South Africa's future water security.
- The DWA will ensure that desalination is properly considered as an option
- Will actively promote and support the desalination projects where these projects compare favourably to other alternative options
- Taking into account the benefits of the diversity of water supply in context of increased climate change risk

Key objectives of desalination strategy

- Integrating energy and water planning
- Improved water quality regulations
- Streamlining regulatory approval processes
- Research and development
- Financing desalination projects
- Implementing large-scale sea water desalination projects
- Desalinating and treating acid mine water
- Development of skills and local capacity
- Increasing public awareness and acceptance
- Developing guidelines

Re-use strategy (1)

- The implementation of re-use at different scales or levels:
  - local i.e. factory,
  - cluster ie municipal treatment works or
  - river system level
- Decision-making will vary across these applications
- The intent of the water re-use strategy is to encourage wise decisions
- Three important factors for good decision making
  - A sound and clear policy and legislative framework
  - The benefits and costs are clearly understood
  - Decision makers have access to relevant information and support to make informed decisions

Key objectives of Re-use strategy

- Creating a clear policy and legislative environment
- Reviewing water quality standards
- Development of incentives
- Information to support sound decision making
- Develop methodologies for evaluating options
- Development of guidelines for implementing
- Facilitate technology selection
- Public education and awareness
- Technology innovation and development
- Develop institutional capacity to implement and to operate re-use systems
- Financing water re-use projects

In summary

- Water management is complex
- But it is possible for SA to have water security
- We can use water more efficiently and we can make more water available
- **But we must implement the plans and the water sector needs**
  - **Much more financial resources**
  - **Appropriate human resources**
  - **Unpopular decisions to be made from time to time**
  - **Fully functioning institutions**
- And water is going to cost more and more as we go into the future
- Trade-offs will be necessary
- Water will have to be central in all planning

Part 4.2 Investment framework

Development Rationale

- National Treasury requirement to source funding;
- Legal requirement of the National Water Act;
- Core element of National Water Resources Strategy;
- Need to facilitate integrated delivery plans ("source-to-tap-to source" approach);
- Socio-economic development & functional programmes require integrated investment;
- Poor track-record in the sector (e.g. under utilized dams, incomplete services, functionality), requires a holistic approach to infrastructure development.

Context

- Total water sector approach: reflect all use sectors;
- Alignment with Outcomes & Developmental Goals;
- Addresses infrastructure + sustainable management (O&M), water governance & water programmes (e.g. Water Use Efficiency);
- Apply total value chain (source to tap and tap to source principle) and life cycle management;
- Includes financial management and funding model;
- Addresses existing (refurbishment & replacement) + new infrastructure; and
- Development of an integrated and accessible investment information and monitoring system.

Positioning the investment framework

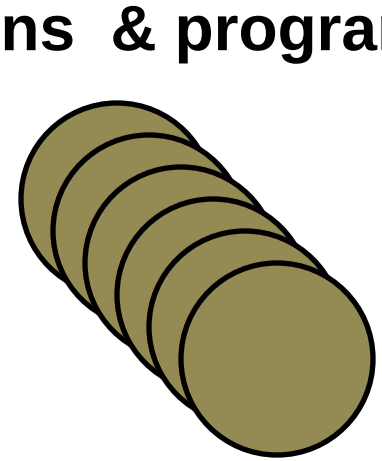
Water Strategy

Outcomes
Outputs
goals

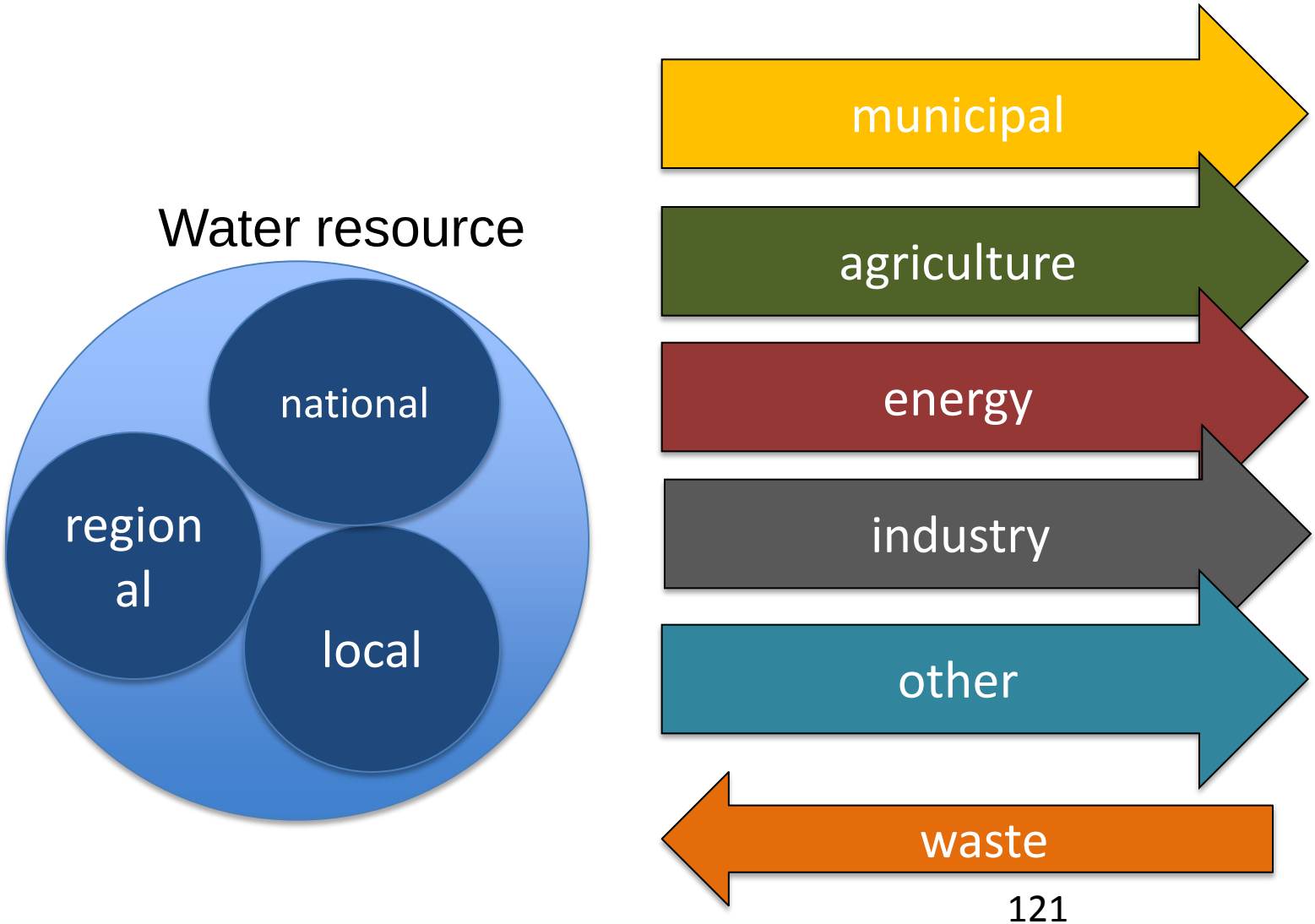
Investment framework

- Infrastructure
- Management
- Governance
- Institutional, skills
- financial

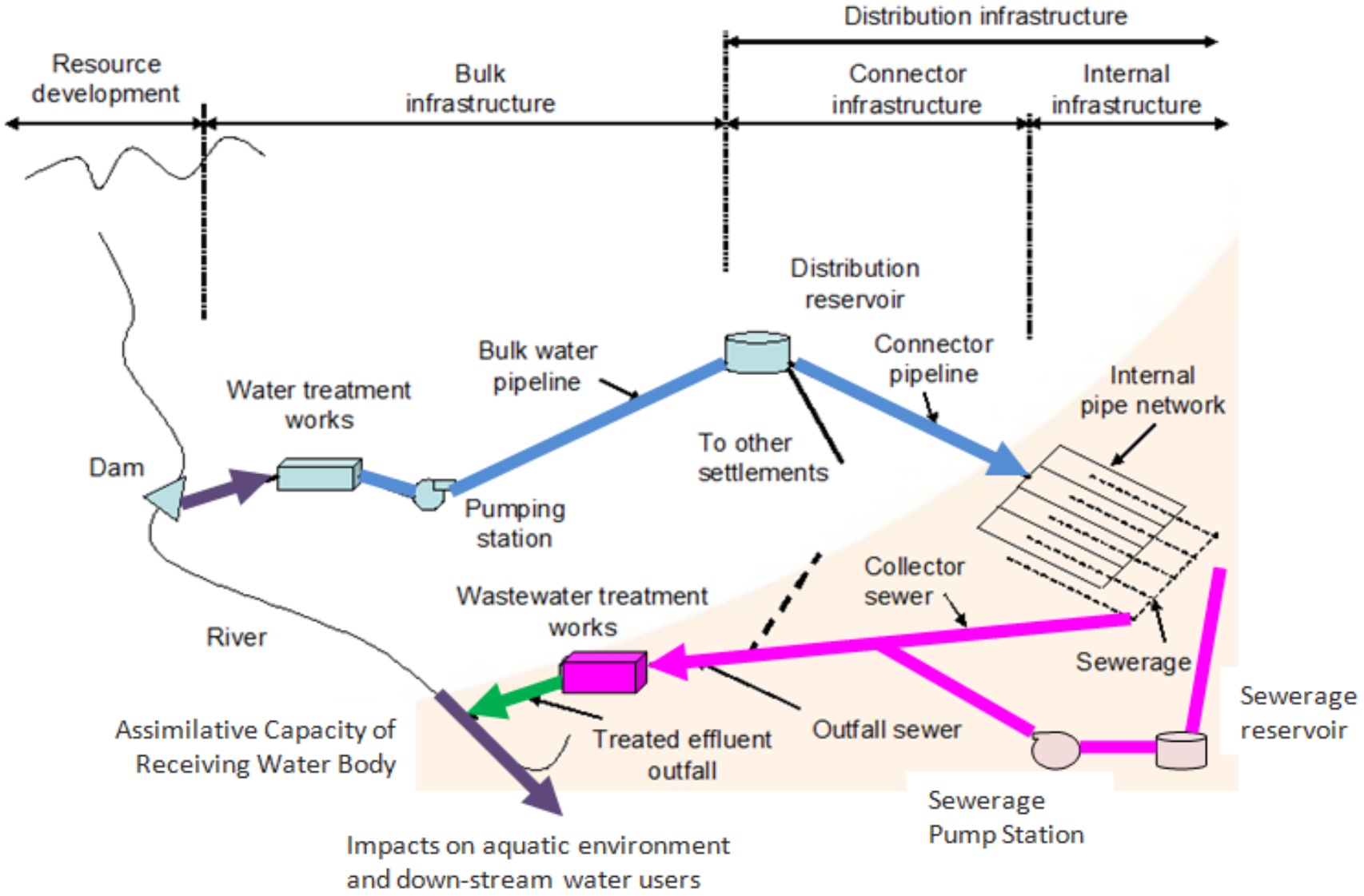
Actions & programme



Total sector perspective and value chain



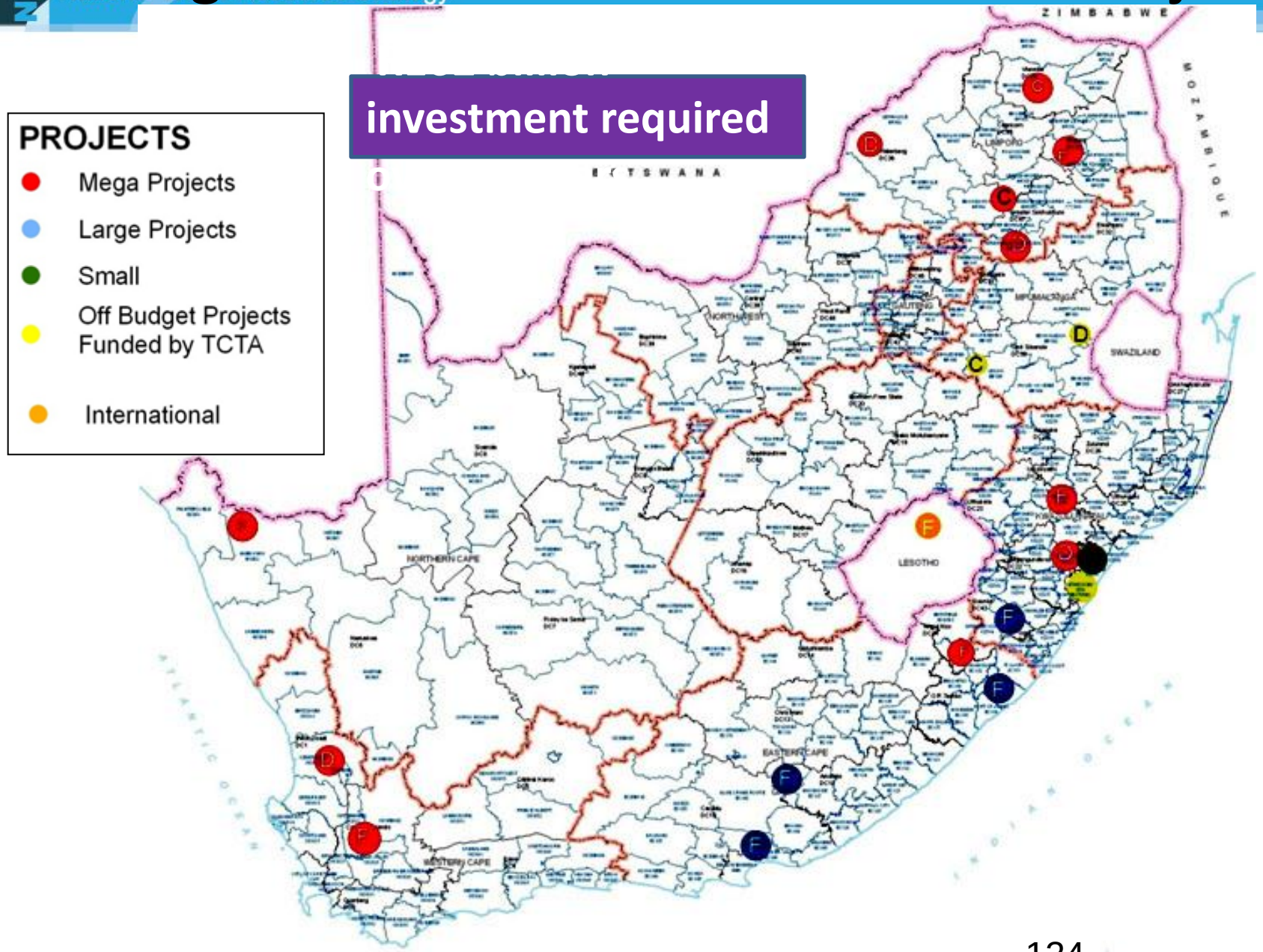
Water Supply-Chain: "Source-to-Tap-to-Source"



Water Infrastructure Challenges

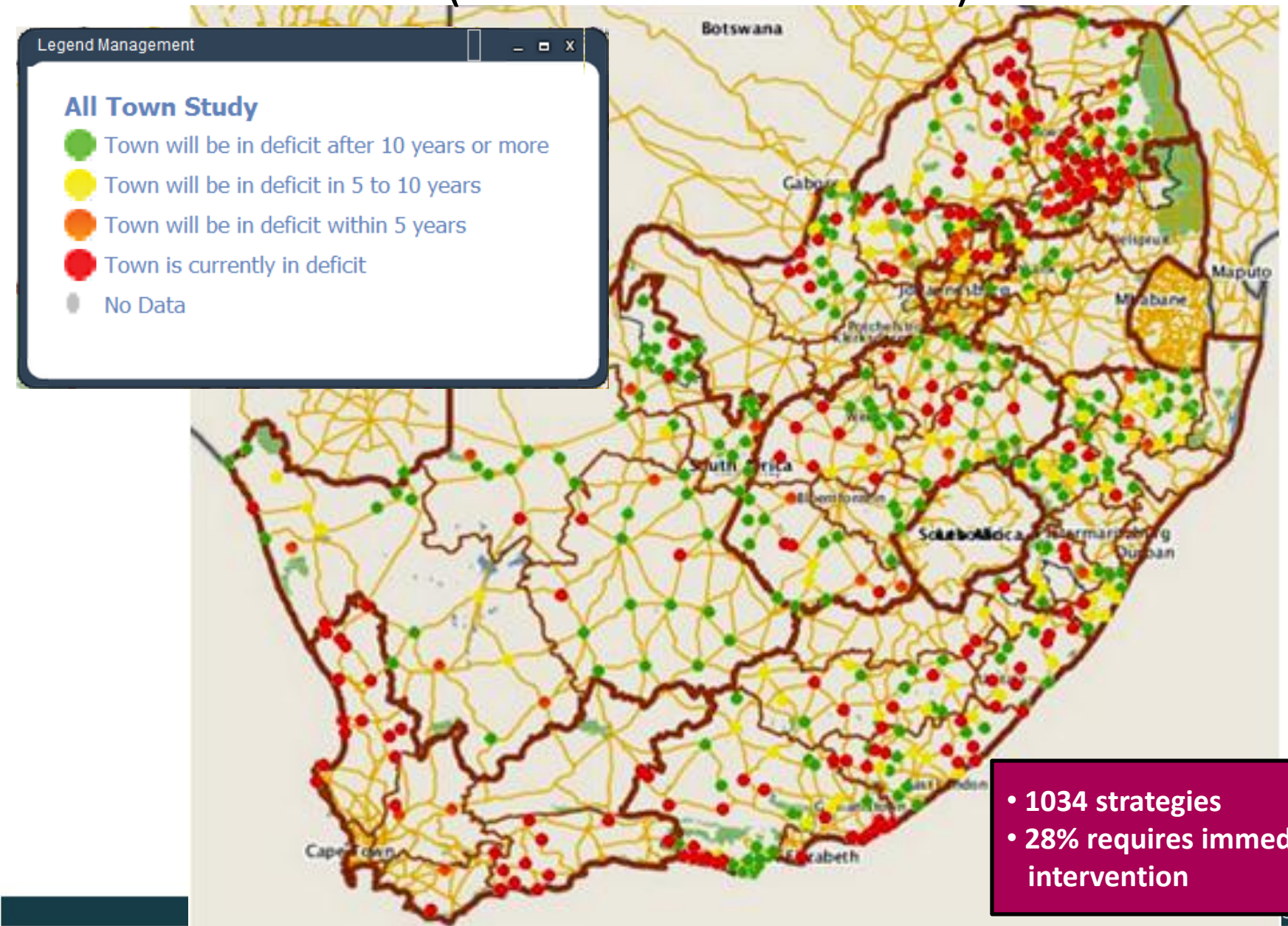
- National infrastructure development – urgent need to ensure water security (economic, social & environment)
- Local water infrastructure development
- Municipal infrastructure:
  - Bulk infrastructure
  - Services quality (waste & drinking water, asset management)
  - Basic services
- Water use sectors: agriculture, industry, mining, energy, environment, water quality, etc.
- Sustainable management: services functionality, life cycle, asset management & governance

Large Water Resource Infrastructure Projects



Municipal Water Resource "Hotspots"

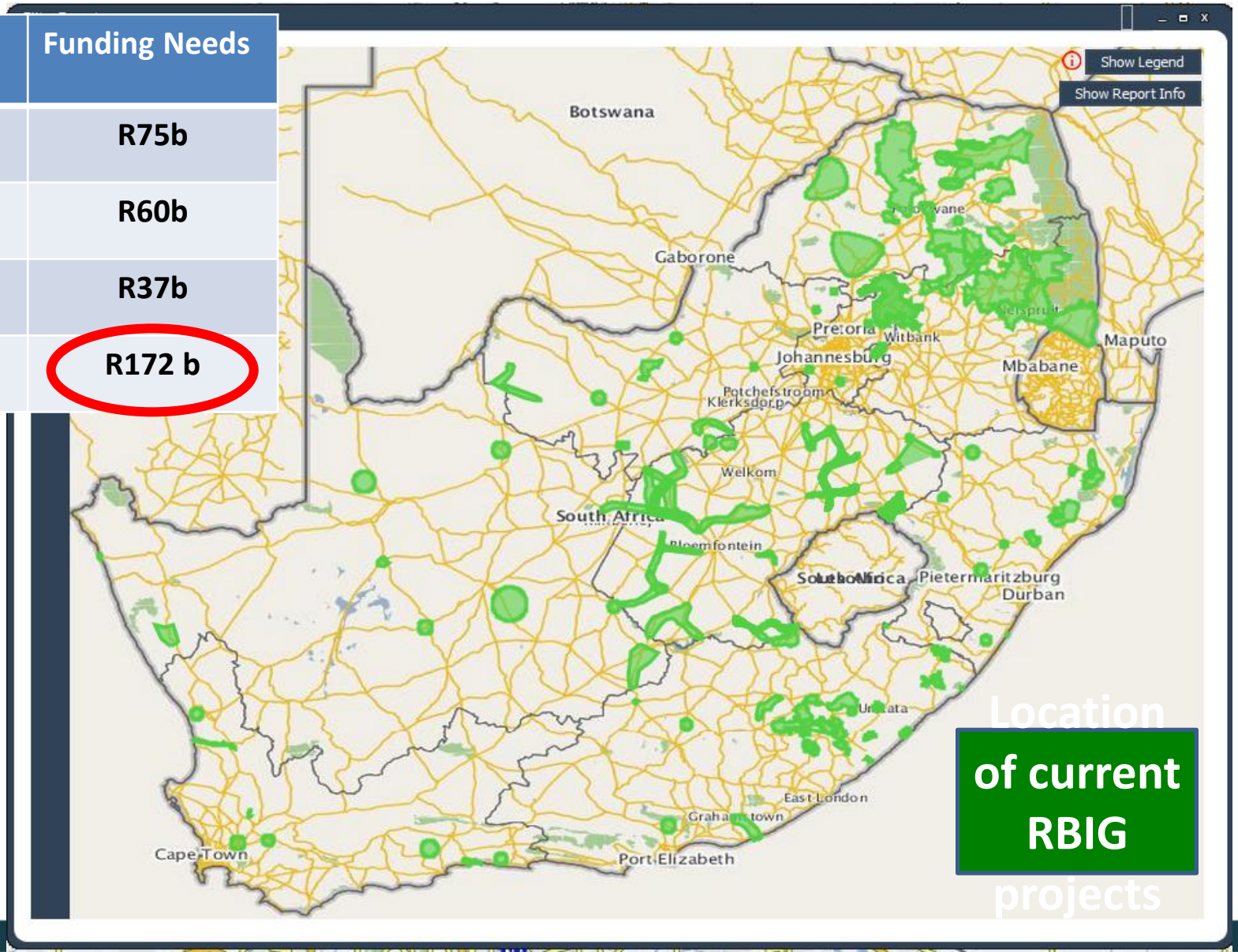
(town clusters in stress)



- 1034 strategies
- 28% requires immediate intervention

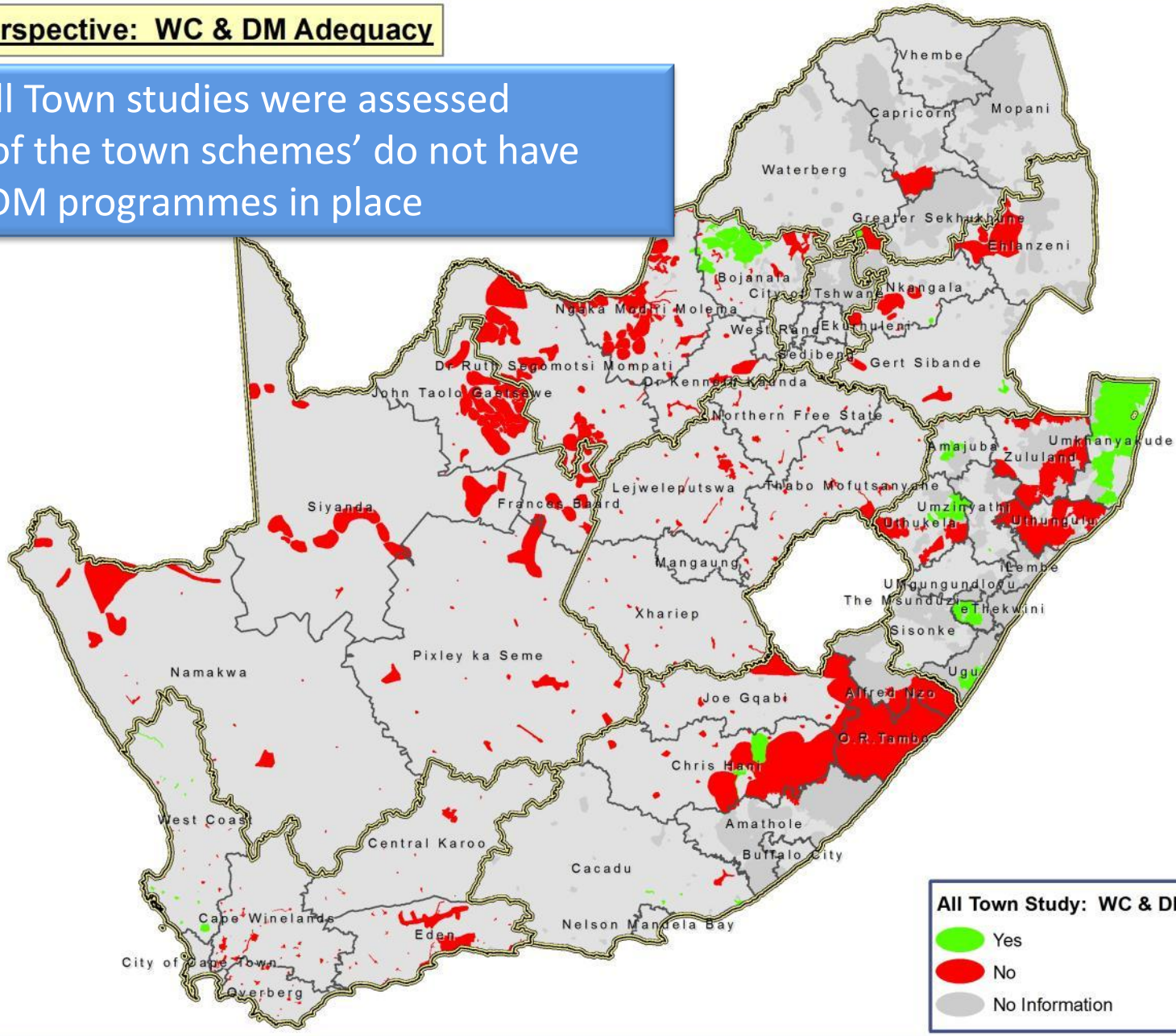
Bulk cost perspectives & RBIP projects

Type	Funding Needs
Regional bulk	R75b
Internal supply	R60b
Sanitation	R37b
Total for 10 yrs	R172 b



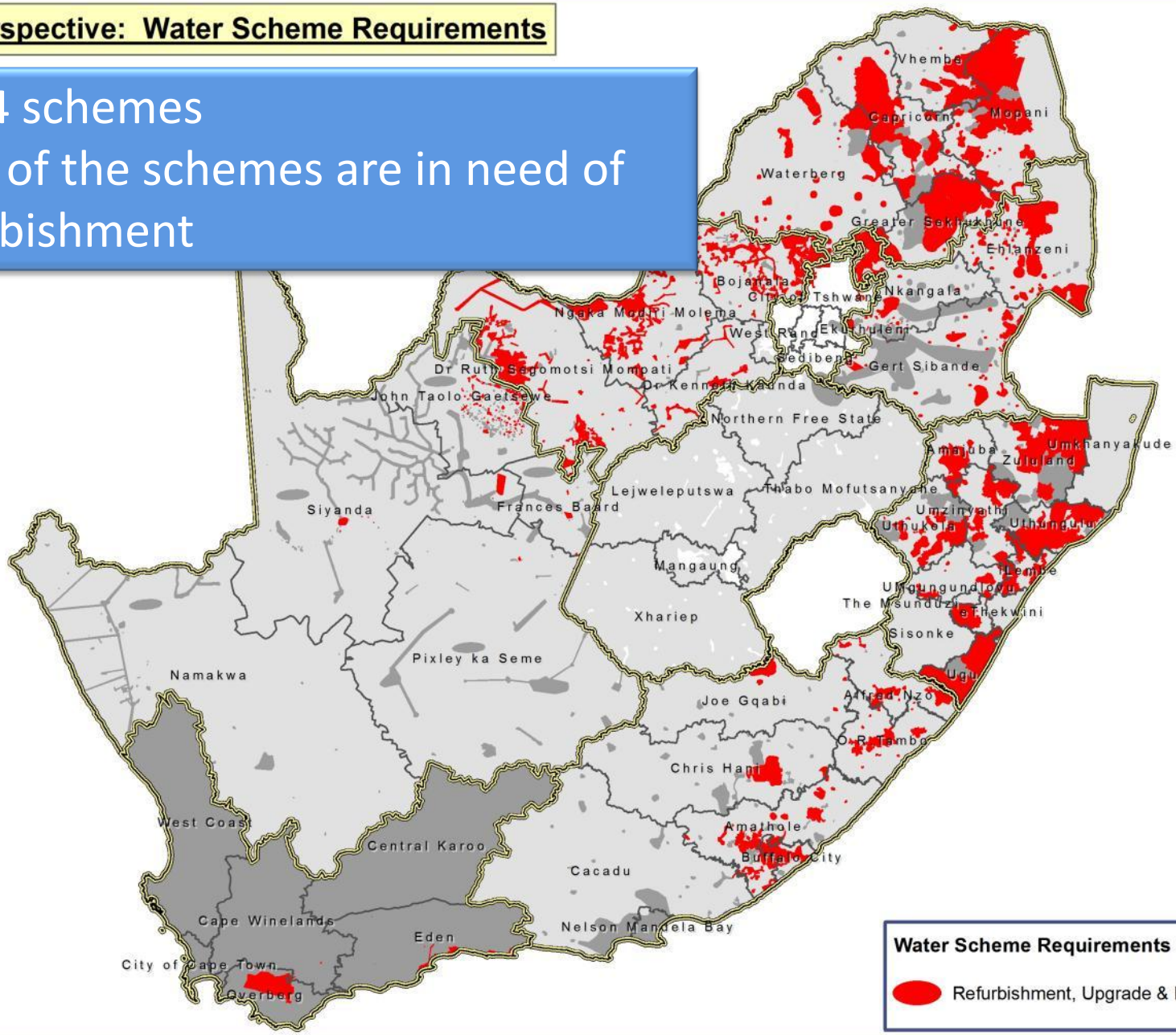
National Perspective: WC & DM Adequacy

- 905 All Town studies were assessed
- 50% of the town schemes' do not have WC&DM programmes in place



National Perspective: Water Scheme Requirements

- 1 664 schemes
- 43% of the schemes are in need of refurbishment



Key Findings

- To ensure sustainable management and to avert potential water crisis an amount of R668 billion is **required** over the coming 10 years = **R67 b/a**;
- Current financial arrangements = R 33 b/a, leaving a ***finance gap of R 34 b/a*** in the sector (10 years);
- This is an alarming conclusion but understandable:
  - Institutional shortcomings in the sector;
  - Large remaining water and sanitation backlogs;
  - Condition of water and waste water infrastructure is in decline;
- Under investment in O&M with associated implications (poor functionality, pollution & risks;
- Potentially sufficient funding for WS O&M is available (*Equitable Share subsidy & effective cost recovery)*

Proposed Interventions

- Need to double up water investment funding;
- Focus to be placed on operations & maintenance (incl. life cycle funding & management);
- Dedicated funding required for priority water management and water governance programmes:
  - Wastewater systems intervention;
  - Water quality management;
  - Infrastructure asset management;
  - Demand & conservation management.
- Funding required for social & environmental components;
- Extended focus on stretching of existing infrastructure (operate within the existing economic climate).

Financing Interventions

- Capital Financing:
  - Increase capital funding by R29.1 b/a over the next 5 years through increases in own funding, grants and debt financing
- Water Services Operation and Maintenance
  - In principle no need to increase operating grant finance above current levels as per Division of Revenue Act;
  - Requires drastic revision of equitable share policy and application, & investment in effective financial planning and management;
- Investment in social and environmental programmes
  - It is accepted that investment in social and environmental goals is a high priority, e.g. investment in irrigated agriculture that supports emerging farmers. A special funding policy and model is required to address the capital and sustainable management of these programmes.

Specific Interventions

- Institutional :
  - Establishment of National Water Resources Infrastructure Unit
  - Establishment of Catchment Management Agencies
  - Restructuring of water boards and establishment of regional water utilities
  - Restructuring of Water User Associations
  - Support capacity building of mostly rural municipalities (requires a collaborative effort between DWA and MISA)
- Water Conservation and Demand Management (WCDM)
  - Introduce a WCDM grant (minimum R0.5 b/a for municipal services)
  - Potential savings of R1.0 b/a operating and R1.8 b/a in capital expenditure)
- Capacity building
  - Establish a national fund for a capacity building programme, in partnerships with private sector, water boards and civil society. An amount of R2.3 billion over the coming three years is proposed.

Success factors

- Appropriate additional funding allocations from the national fiscus;
- Gearing up funding from other sources:
  - Establishment/Expansion of national public entities responsible for water resource infrastructure development in increasing 'own source' funding;
  - Role of DFIs & SOEs (DBSA, TCTA) in terms of infrastructure financing;
- Involvement of private sector to facilitate access to capital, construction expertise & capacity for the ongoing management of water systems;
- Strong political commitment required for the proposed rural water supply capacity building initiative, backed by finance from the national fiscus;
- Successful implementation of the currently proposed institutional reform and realignment initiative;
- DWA leadership & commitment to achieve performance objectives.

Risk factors

- Lack of political buy-in to the proposed institutional changes and funding from the fiscus;
- Lack of sufficient economic growth (and hence, availability of budgetary resources) to enable substantial increases in funding from the national fiscus. This would necessitate further project prioritisation;
- Antagonism towards the private sector and for enabling increased private sector engagement in water services delivery;
- Ongoing neglect of community based organisations in providing services, with associated limits to the extent to which infrastructure can be provided quickly, efficiently and cost effectively;
- The capacity in the Department and other water sector institutions to drive the programmes.
- Inadequate engineering expertise.

Conclusion

- The water & sanitation delivery is at a transition point;
- Increased commitment is required to address challenges within the sector;
- Need to build effective partnerships between DWA, its Minister & National Treasury, DCoG and other national departments, water sector public entities, private sector and civil society organisations;
- Capital investment of R29.1 b/a is required which includes R17.3 b to be sourced from the national fiscus, plus funding of R1.8 b/a for capacity building, institutional development & resource conservation;
- Acknowledging the role of and partnering with Development Financing Institutions to address the funding gap (areas not funded through allocations from the national fiscus);
- Systematically prioritizing and sequencing the capital project portfolio to ensure that the most critical projects are given sufficient emphasis.