Western Cape Government

DEPARTMENT OF LOCAL GOVERNMENT

Western Cape Water Resilience Strategy: Future-proofing our water security 2025 - 2035

ACKNOWLEDGEMENT

Water is a vital resource, fundamental to life, economic growth, and environmental sustainability. The Water Resilience Strategy outlines a clear and actionable framework to enhance our province's capacity to manage water resources in the face of increasing challenges, including climate change, population growth, and resource constraints. This document outlines strategic priorities, including conservation, innovative augmentation, infrastructure development, and governance, to ensure a sustainable and resilient water future.

This strategy is the result of extensive collaboration among government departments, municipalities, academic institutions, private sector partners, and civil society organisations. We are deeply grateful to all who contributed their expertise, time, and dedication to shaping this vision. Your commitment reflects the shared responsibility we all bear in safeguarding our water resources for current and future generations.

We extend our sincere thanks to all those who contributed to the development of the Western Cape Water Resilience Strategy. This strategy has been shaped by the invaluable insights, critical reflections, and collaborative spirit of numerous individuals and institutions who engaged in discussions, workshops, and consultations throughout the process.

LIST OF STAKEHOLDERS CONSULTED

STAKEHOLDER	REPRESENTATIVE
NATIONAL GOVERNMENT	Department of Water and Sanitation
	Department of Forestry, Fisheries and the Environment
PROVINCIAL GOVERNMENT	Department of Local Government
	Department of Environmental Affairs & Development Planning
	Department of Agriculture
	Department of Infrastructure
LOCAL GOVERNMENT	City of Cape Town
	Drakenstein Municipality
	Saldanha Bay Municipality
	Bergrivier Municipality
	Swartland Municipality
	Stellenbosch Municipality
GOVERNMENTAL COMMITTEE	Western Cape- Water Resilience Committee
	Western Cape- Water and Energy Council
ENVIRONMENT MANAGEMENT AGENCIES	Cape Floristic Region Partnership
	SANParks
	CapeNature
	Greater Cape Town Water Fund / The Nature Conservancy
	Boland Groot Winterhoek Collective / WWF South Africa
GOVERNMENT AGENCIES	SALGA
WATER BOARD(S) AND CATCHMENT AGENCIES	Overberg Water Boards
	Western Cape Water Users Supply System (WCWSS) Water Users Platform / Economic Development Partnership
	Lower Olifants River Water Users Association (CEO)
	Breede-Olifants Catchment Management Agency
BUSINESS(ES)	South African Table Grape Industry
	SA Citrus Growers Association
	CGA Executive Board member
	Wool Growers Association (WC)
	Grain South Africa
	Grain South Africa (Western Cape)
	Canning Fruit Producer's Association
	SA Ostrich Business Chamber
	Agri Expo
	SAFVCA
	SA Olive Industry Association (SA Olive)
	South African Liquor Brand owners Association (SALBA)

	SA Fruit Juice Association
	The Wine and Agricultural Ethical Trade Association
	Rooibos Ltd
	Fresh Produce Exporters' Forum (FPEF)
	Wines of South Africa
	SAwine
	Canning Fruit Producer's Association
COMMUNITY ORGANISATIONS	Berg River Water User Association
	Clanwilliam WUA (CEO)
	Citrusdal WUA (CEO)
	Sandveld Werkgroep (Chair)
	Sandveld Bewaringskommittee (Chair)
	Vanrhyndorp WUA (Chair)
	Cogmanskloof Irrigation Board
	Central Breede River Water User Association
	Wolseley Water User Association
	Worcester East Water User Association
	Wynland Water User Association
	Tulbagh Water User Association
	Ebenhaeser Water Management Institute (Chair)
	Stompdrift Kamanassie WUA
	Outeniqua to Tsitsikamma Water Working Group
ACADEMIA & RESEARCH INSTITUTIONS	South African Biodiversity Institute
	CSIR
	South African Biodiversity Institute
CONSULTANTS	GreenCape
	JG Afrika
INDUSTRY BODIES AND CHAMBERS	Accelerate Cape Town
	Afrikaanse Handels Instituut
	Business Western Cape
	Cape Higher Education Consortium
	National Business Initiative (NBI)
	Cape Chamber
CIVIL SOCIETY ORGANISATIONS	Development Action Group (DAG)
	Community Organisation Resource Centre (CORC)
	People's Environmental Planning (PEP)
	VPUU
	South African Women in Construction (SAWIC)
	Educational Support Services Trust
	Habitat SA
	Isandla Institute
	CDI/BLC

PREMIER'S FOREWORD

Water is the lifeblood of our society, a resource that sustains our people, our environment, and our economy. In the face of growing challenges such as climate change, population growth, and increasing demands on limited resources, ensuring the resilience of our water systems is not just an option—it is a necessity.

The Water Resilience Strategy is a call to action for every sector, every community, and every individual. It sets forth a roadmap to secure our water future by embracing innovation, fostering collaboration, and prioritising sustainable development. From enhancing water conservation practices to investing in cutting-edge infrastructure and ecological restoration, this strategy represents our commitment to resilience, equity, and shared prosperity.

The Western Cape Energy and Water Council is a critical body for ensuring the province's economic growth, job creation, and sustainability through effective energy and water management. The council, which integrates efforts for energy resilience and water security, is a key pillar of the province's long-term strategies, including the Western Cape Climate Change Response Strategy, the Growth for Jobs (G4J) Strategy, and the Western Cape Government (WCG) Infrastructure Strategy.

As Premier, I am proud to champion this strategy, knowing it is both ambitious and achievable. By working together—across all levels of government, with our private sector partners, and in concert with our citizens—we can turn challenges into opportunities and ensure a water-secure future for generations to come.

Let us move forward, united in purpose, to protect and preserve this precious resource—a resounding appreciation to our stakeholders for their invaluable contributions to this critical endeavour. Together, we can make water resilience a reality.

Mr A Winde
PREMIER OF THE WESTERN CAPE GOVERNMENT
SEPTEMBER 2025

Ministerial Statements

The Western Cape stands at a decisive moment, where the resilience of our water systems is inextricably linked to the resilience of our economy, our communities, and our ecosystems. It is within this context that we present the revised Western Cape Water Resilience Strategy (2025–2035), a decisive, forward-looking framework to secure water for today, and for future generations.

This strategy is rests on the foundation laid by the Strategic Plan (2025–2030) of the Department of Local Government (DLG), which emphasises resilient municipalities, disaster risk reduction, and responsive governance. It is equally supported by the Strategic Plan (2025–2030) of the Department of Environmental Affairs and Development Planning (DEADP), which foregrounds environmental sustainability, climate adaptation, and spatial resilience.

We recognise that water resilience is not only an environmental necessity, but also a developmental priority. The strategy reflects the critical need to support local municipalities with both institutional and technical capacity - particularly in vulnerable rural regions, and to strengthen integrated planning and infrastructure investment. In line with the DLG's focus on capacity-building and intergovernmental coordination, the strategy fosters a responsive and accountable governance model across the water value chain.

The strategy also responds directly to Western Cape Government's commitment to the whole-of-society approach, systems thinking, and the integration of climate change responses in every layer of planning. Its emphasis on ecological infrastructure, aquifer protection, and demand-side efficiency aligns closely with our shared vision of a low-carbon, climate-resilient, and just future for the Western Cape.

Furthermore, the strategy serves as a key enabler of the Growth for Jobs (G4J) agenda, particularly Priority Focus Area 4, aiming to double water availability to productive sectors by 2035. It also supports the implementation of the Western Cape Sustainable Water Protection Plan (2024–2029) and the Climate Change Act (2024).

This is more than just a policy document. It is a call to action - a blueprint for cooperative governance, a signal to investors, and a source of confidence for our citizens that we are working with purpose and urgency towards a resilient future.

We extend our sincere thanks to all stakeholders who have contributed to shaping this strategy, from municipal leaders, catchment agencies, academic institutions as well as public and private partners. Your voices have helped forge a strategy that is practical, inclusive, and transformative.

Together, let us build a water-secure Western Cape—resilient, thriving, and prepared for the challenges of tomorrow.

Mr AW Bredell
MINISTER OF LOCAL GOVERNMENT, ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING
SEPTEMBER 2025

Ministerial Statements

Water is the cornerstone of agricultural productivity, economic development, and community well-being in the Western Cape. As the custodian of the province's agricultural and economic sectors, I am proud to support the Western Cape Water Resilience Strategy (WCWRS), which provides a bold and integrated roadmap to secure our water future.

Agriculture remains the largest water user in the province, and its resilience is vital to food security, rural livelihoods, and export competitiveness. The WCWRS recognises this reality and commits to supporting farmers through improved water-use efficiency, investment in ecological infrastructure, and the promotion of climate-smart agricultural practices. Through initiatives such as the SmartAgri Plan and the Sustainable Resource Use and Management programme, we are already seeing the transformative impact of precision irrigation, regenerative farming, catchment restoration, rehabilitation, and disaster risk reduction projects.

Equally, water resilience is a key enabler of economic growth. The strategy aligns with our Growth for Jobs (G4J) agenda, particularly Priority Focus Area 4, which aims to double water availability to secondary and tertiary sectors by 2035. By diversifying water sources, promoting innovation, and strengthening infrastructure, we are creating the conditions for investment, job creation, and inclusive development across the province.

Tourism, manufacturing, and agri-processing all depend on a reliable water supply. The WCWRS provides the confidence and clarity needed for businesses to invest in sustainable operations. It also signals our commitment to public-private partnerships, green finance, and circular economy principles that will unlock new opportunities for growth.

This strategy is not only a technical blueprint—it is a call to action. It invites every farmer, entrepreneur, municipality, and citizen to be part of a shared journey toward water security. I commend the collaborative spirit that shaped this strategy and reaffirm our department's commitment to its implementation.

Together, let us build a water-resilient Western Cape—where agriculture thrives, the economy grows, and every community has access to this most precious resource.

Dr Ivan Meyer
MINISTER OF AGRICULTURE, ECONOMIC DEVELOPMENT AND TOURISM WESTERN CAPE GOVERNMENT
SEPTEMBER 2025

Content

List of Abbreviations

AWRMS	Atlantis Water Resource Management Scheme
BOCMA	Breede-Olifants Catchment Management Agency
CMA:	Catchment Management Agency
CSO:	Civil Society Organisation
CWRF	City Water Resilience Framework
DEA&DP:	Department of Environmental Affairs and Development Planning
DEDAT:	Department of Economic Development and Tourism
DLG:	Department of Local Government
WCDoA:	Department of Agriculture (referred to as Western Cape Department of Agriculture, WC DoA)
DoI:	Department of Infrastructure
DoHW	Department of Health and Wellness
DWS:	Department of Water and Sanitation
EI:	Ecological Infrastructure
G4J:	Growth for Jobs
GCF:	Green Climate Fund
GEF:	Global Environment Facility
I**WRM**	Integrated Water Resources Management

IWQM	**Integrated Water Quality Management**
MAR	Managed Aquifer Recharge
MFMA	Municipal Finance Management Act
NPO	Non-profit Organisation
NRW:	Non-Revenue Water
PFMA	Public Finance Management Act
PPP:	Public-Private Partnership
PSP	Provincial Strategic Plan
SEMA	Specific Environmental Management Acts
SWRC	Strategic Water Resilience Committee
WCCCRS	Western Cape Climate Change Response Strategy
WCG	Western Cape Government
WCSWPP	Western Cape Sustainable Water Protection Plan
WCWRS	Western Cape Water Resilience Strategy
WSA	Water Services Act
WSDP	Water Services Development Plans

Glossary

TERM	DEFINITION
Aquifer	An underground layer of water-bearing rock or sediment from which groundwater can be extracted using wells.
Catchment Management	Coordinated management of water, land, and resources within a defined drainage area to ensure sustainability and reduce environmental impact.
Desalination	The process of removing salts and other impurities from seawater or brackish water to produce fresh water.
Ecological Infrastructure (EI)	Functioning ecosystems that deliver essential services, such as fresh water, climate regulation, and disaster risk reduction, serving as nature-based equivalents to build infrastructure.
Green Bonds	Fixed-income financial instruments are specifically earmarked to raise funds for environmental and climate-related projects.
Groundwater Recharge	The process by which water from precipitation or surface water infiltrates the ground to replenish aquifers.
Invasive Alien Plants (IAPs)	Non-native plant species that spread rapidly, consuming significant water resources and disrupting local ecosystems.
Non-Revenue Water (NRW)	. Refers to water that has been produced and is available for use but does not generate revenue because it is not billed, does not reach the consumer, or is lost before it can be measured. NRW represents the difference between the total water supplied into a distribution system and the water that is billed to users. It comprises of three main components: • Physical losses – leaks, bursts, and overflows in transmission and distribution systems before the water reaches the consumer. • Commercial losses – water that is delivered but not billed, due to meter inaccuracies, data handling errors, or unauthorised use (theft or illegal connections). • Unbilled authorised consumption – legitimate uses such as firefighting, main flushing, or public uses that are not billed.
Public-Private Partnership (PPP)	A cooperative arrangement between the public and private sectors for financing, building, and managing infrastructure projects.
Rainwater Harvesting	The collection and storage of rainwater from roofs or other surfaces for use in irrigation, domestic water supply, or other applications.
Riparian Zone	The interface between land and a river or stream is often characterised by vegetation that helps protect water quality and prevent erosion.
Sediment Management	The control and reduction of sediment accumulation in water bodies and infrastructure, such as dams and canals, to maintain efficiency and capacity.
Smart Water Systems	Advanced technologies, including sensors and automated monitoring, are used to optimise water use and detect issues such as leaks in real time.
Water Augmentation	The process of increasing water supply through measures such as desalination, groundwater extraction, or inter-basin water transfers.
Water Sensitive Design (WSD)	Urban and rural planning that integrates sustainable water management practices to enhance water efficiency, flood control, and groundwater recharge.
Wastewater Reuse	The process of treating and repurposing used water for applications such as irrigation, industrial processes, or even potable use.

Fog harvesting	Refers to a sustainable, passive method of collecting water from fog by using large mesh nets to capture water droplets

Executive Summary

The Water Resilience Strategy for the Western Cape (2025–2035) outlines a forward-looking, integrated framework for water resilience. The strategy aims to safeguard the province's water future amid climate change, urbanisation, a strained macroeconomic environment, demographic shifts, geopolitical uncertainty, technological doubts, and social cohesion pressures (PSP 2025-23). This vision is underpinned by six foundational principles that reflect and reinforce the priorities of the Provincial Strategic Plan (PSP), **namely Equity and Access, Responsible Water Resource Management and Use, Sufficiency for Growth, Resource Stewardship, and Governance and Accountability**. Together, these principles guide a holistic approach to managing water as a shared, strategic asset essential for resilience, inclusion, and sustainable development.

At the heart of the strategy is a clear and compelling vision: "**To futureproof the Western Cape by ensuring water security and equitable access to water that meets the needs of all users.**"

Achieving water security promotes the well-being of people and the growth of the economy. The water security of the province is threatened by (i) climate change and ecological systems degradation disrupting freshwater system resources, (ii) water demand exceeding the capacity of the water supply system, (iii) infrastructure failing to meet demand, aggravated by external pressures such as power outages, and (iv) governance and capacity challenges in various spheres of government. Key impacts resulting from these challenges include poor water quantity and quality, over-abstraction of the resource, discharges that degrade water quality and damage ecosystems, and increased water conflicts. The implementation of the strategy aims to ensure sustainable water availability while enhancing resilience against future uncertainties. Recognising the vulnerability of the province, highlighted during the 2015-2019 drought crisis, **the strategy focuses on reducing water demand, diversifying water sources, protecting and restoring the ecological infrastructure of catchments, protecting water quality, and strengthening governance to ensure water security for all (**Figure 1**).** The outcome targets for each focus area are described in Table 1.

The focus areas are:

- **Water Conservation and Demand Management (WCDM):** This is the first line of defence against water scarcity by promoting efficiency in water use behaviour, infrastructure, and planning.
- **Water Augmentation:** To reduce dependence on single water sources and strengthen climate resilience, the strategy promotes the diversification of water supply sources.
- **Infrastructure Management, Development and Maintenance:** Infrastructure sustainability is crucial to long-term water resilience; therefore, lifecycle asset management and ecological infrastructure are promoted.

- **Governance:** Institutional coordination and capacity are the foundation for achieving water security and are the key enablers of service delivery, economic growth, and social justice.
  (the above list is in a non-hierarchal order)

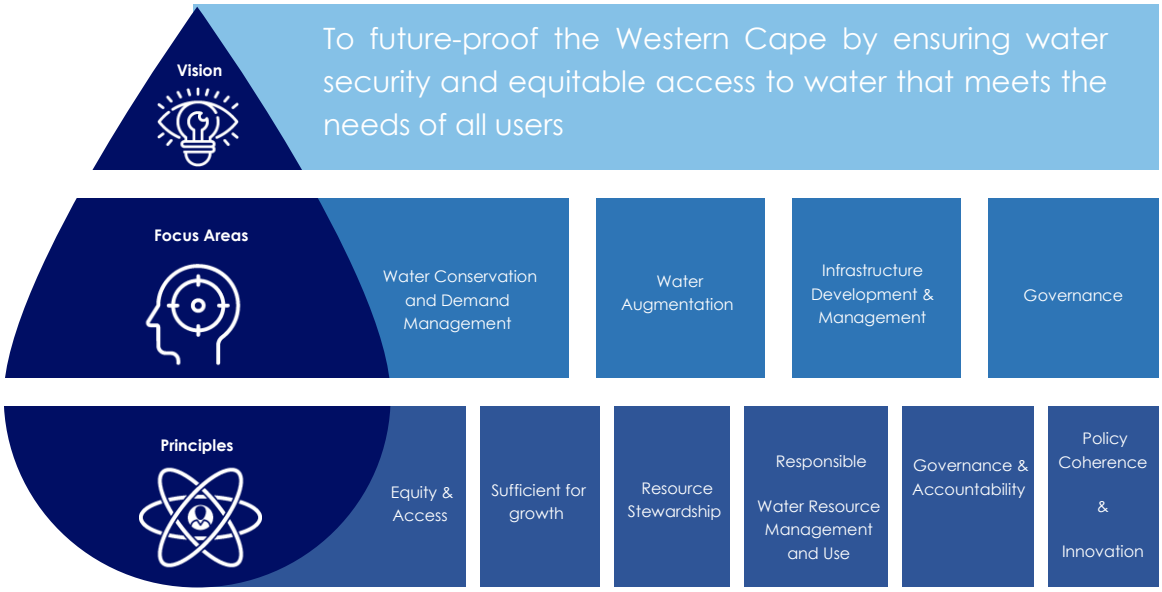

Figure 1: Overview of the water resilience strategy

The implementation of the strategy requires **customised approaches** for each focus area, based on existing supply and demand needs, as well as opportunities for diversifying water sources. These approaches must also consider the cost-effectiveness of the most appropriate interventions.

The strategy emphasises the importance of disaster mitigation, risk reduction and response, advocating for proactive planning, early warning systems, and improved coordination across government and sectors. This aims to reduce vulnerability and strengthen mitigation and response mechanisms, ensuring the province is better equipped to anticipate, absorb, and recover from future water-related shocks and stresses**.**

Climate change is a central focus, with the strategy promoting both green and grey infrastructure that can withstand extreme weather events. It is also aligned with international, national, and provincial goals, linking water resilience to economic development, job creation, and environmental sustainability. To achieve the ambitious targets of the strategy, funding will be sourced through various mechanisms, including green and water bonds. Partnerships are key to implementation, leveraging expertise and resources to build a water-resilient Western Cape.

The Strategy will be reviewed at least every five years to ensure alignment with a constantly evolving global context. The implementation of the WCWRS will be achieved through the actions outlined in the Implementation Plan. To ensure effective and efficient implementation of the strategy, the following key components will be undertaken:

- **Implementation Planning and Target Setting**
- **Institutional Strengthening and Capacity Building**
- **Stakeholder Engagement and Communication**
- **Develop Data Systems for evidence and Monitoring Frameworks**
- **Securing and Mobilizing Funding**
- **Policy and Regulatory Alignment**
- **Review and Adaptive Management**

Table 1: Strategy focus areas outcome targets

STRATEGY FOCUS AREAS OUTCOME TARGETS			
1: WATER CONSERVATION AND DEMAND MANAGEMENT	**2. WATER AUGMENTATION**	**3: INFRASTRUCTURE DEVELOPMENT & MANAGEMENT**	**4: GOVERNANCE**

Targets:
• **Reduce overall provincial water demand by 40 million m3/a by 2035**
  ○ **Reduce municipal water losses to 15% by 2035**
  ○ **Reduce average residential water consumption to 160 l/c/d by 2035**
	Targets:
	• **Secure an additional 310 million m³/a of water by 2035**
	• **Ensure 100% of municipalities have a diversified water supply source by 2035**
		Targets:
		• **100 % of municipalities to have updated water master plans by 2035.**
		• **100 % of municipalities to have updated asset management plans by 2035.**
		• **100% of urban residents have access to safely managed water**
			Targets:
			• **80% of municipalities to obtain a ≥95% Green Drop score by 2035**
			• **80% of municipal water supply systems to obtain a ≥95% Blue Drop score by 2035**
			• **80% of municipalities to obtain no drop certification by 2035**
			• **Reduce average municipal NRW to <25% across the province**
			• **100% of municipalities to have updated water use and sanitation bylaws aligned to WCWRS and enforceable tariff structures and restrictions by 2035**
			• **100% of WSA's to have updated Statutory Documents (WSDPs, WUL, etc) by 2035**

I. Improve rural water efficiency by maintaining infrastructure & implementing resource quality objectives (RQOs) II. Improved urban water use efficiency through water sensitive design, reducing non-productive water use (i.e., domestic water use), and reducing water losses	I. Improve investment in ecological infrastructure (e.g., mountain catchments within Strategic Water Source Areas) for reduced water losses to invasive alien plants and improved water provisioning from healthy ecosystems II. Progress the uptake of wastewater reuse and recycling, including the use	I. Upgrading and maintenance of bulk and municipal infrastructure II. Maximise rainwater harvesting, infiltration and retention through sustainable urban drainage and implementation of nature-based solutions for stormwater management and improved water resource quality within cities and towns.	I. Adopt lifecycle asset management approaches II. Utilise Natural Capital Accounting for the province's ecological infrastructure III. Encourage prioritised funding using master planning and transparency. IV. Improve supply chain processes for improved affordable service delivery that acknowledges full cost accounting V. Build capacity within the province to implement the strategy VI. Streamline regulatory processes

III. Improved agricultural water efficiency through innovative and precision technologies for monitoring, irrigation, abstraction and pollution. IV. Improve water resource protection measures such as catchment management, wetland protection and estuary management. V. Improve mining, commercial and industrial efficiencies.	of recycled water in aquifer recharge III. Increase water provisioning from groundwater sources IV. Explore desalination of seawater and brackish water for water needs in coastal areas V. Increase surface water storage and increase efficiencies through transfer schemes and other mechanisms VI. Increase the contribution and promotion of alternative water harvesting options to water demands, such as rain fog harvesting, aquafer recharge with storm water and rain water storage tanks for households.,	III. Improve the efficiency of storage and conveyancing infrastructure IV. Improved sediment management within catchments and built infrastructure through riparian rehabilitation and river maintenance plans. V. Construct and maintain infrastructure necessary for intra- and inter-basin transfer schemes VI. Improve the responsible uptake of small-scale community infrastructure for access to water and sanitation in informal, rural and peri-urban communities. VII. Roll out smart and digital technologies that diagnose and provide early warning for water services. VIII. Enable the development of alternative sanitation (non-sewered) and grey water re-use technologies and infrastructure for new developments	VII. Review legislation and policy for improved alignment with and implementation of the strategy VIII. Improve mandate clarity with defined roles and responsibilities IX. Encourage knowledge transfer throughout the province towards water resilience X. Compulsory water systems thinking course for SMS, Middel managers and relevant technical officials.

Chapter 1: Strategic Overview

The Western Cape Water Resilience Strategy (WCWRS) outlines a vision for achieving water resilience in the Western Cape by 2035. This strategy is structured around four strategic focus areas, each with specific, targeted outcomes that reflect the principles of international best practices in integrated water resource management. The strategy also incorporates resource mobilisation in each focus area. Achieving the strategy's objectives requires the delivery of both technical solutions and non-technical governance solutions at a systemic level. The WCWRS provides a comprehensive, long-term framework for ensuring sustainable and resilient water security across the province.

The WCWRS integrates ecological and grey infrastructure, governance, and economic dimensions of water management, with a specific focus on climate change adaptation and the socio-economic implications of water risks.

1.1. Vision

The water security of the province is threatened by (i) climate change and ecological systems degradation disrupting freshwater system resources, (ii) water demand exceeding the capacity of the water supply system, (iii) infrastructure failing to meet demand, aggravated by external pressures such as power outages, and (iv) water losses and (v) governance and capacity challenges in various spheres of government.

The vision of the strategy is "To futureproof the Western Cape by ensuring water security and equitable access to water that meets the needs of all users."

In attaining this vision, the Western Cape Government ensures that the province remains economically vibrant and environmentally sustainable, while meeting the water requirements of its growing population, ecological systems and key economic sectors by 2035 and beyond.

1.2. Rationale for the WCWRS

Key impacts resulting from these challenges include poor water quantity and quality, over-abstraction of the resource, discharges that degrade water quality and damage ecosystems, and increased water conflicts.

Droughts and floods have a natural cyclical occurrence, and severe climate variability is not new to the Western Cape. One of the province's most devastating droughts occurred during the early to mid-1920s, a period characterised by persistently low rainfall and severe water shortages. This

had a profound impact on agriculture, rural livelihoods, and urban water supplies across the region.

Recent climate cycles have been more frequent and severe than previous cycles and have been scientifically linked to human-driven climate change. The 2015–2019 drought exposed the City of Cape Town's water system vulnerabilities, triggering the expansion of the water management and dam system on the eastern mountain catchments within the City to improve water security amongst other interventions. At that time, these measures were successfully implemented with increasing water storage, water demand management, and diversifying water sources.

While drought remains a pressing issue, the Western Cape is also prone to flooding events. Flood-related damage has included destruction of infrastructure such as roads, bridges, and rail lines; loss of homes and property; agricultural losses (land, crop, livestock, fencing) and damage of informal settlements; and, in severe cases, injury and loss of life. **The 2015-2019 drought is estimated to have caused the loss of between 36,000 and 63,000 jobs. The agriculture and agri-processing sector suffered a R14-billion loss, while the tourism sector recorded a 13% decline in international arrivals around Day Zero (G4J, 2023).** More recently, **the 2023 floods in the province resulted in 11 fatalities (BBC, 2023).**

The WCWRS reflects the Western Cape Province's commitment to mitigating and responding to climate change and other disasters, as evidenced by the droughts and floods that have become prevalent, as referred to Figure 2.

Figure 2: Western Cape flooding disasters

1.3. Principles to be applied in implementing this strategy

The WCWRS is underpinned by **six foundational principles** that reflect and reinforce the priorities of the PSP, as referred to Figure 3

Equity and Access

Ensure equitable, safe, reliable, and affordable access to water and sanitation across regions, sectors, and user groups.

Resource Stewardship

Promote stewardship of ecological infrastructure, including wetlands and riparian zones, as well as the protection of groundwater and strategic water source areas.

Responsible Water Resource Management and Use

Promote the efficient, just, and transparent use of water resources through demand management, reduction of losses, appropriate allocation, and adaptive management.

Sufficient for Growth

Guarantee fit-for-purpose, affordable water that supports inclusive economic growth, sustainable development, and environmental integrity

Governance and Accountability

Ensure integrated, transparent governance with clearly defined mandates, streamlined regulation, and active stakeholder participation, including academia and civil society, strengthening the relationship between government and citizens by fostering transparency, participation, and mutual accountability.

Policy Coherence and Innovation

Integrate financing, research, and innovation support with policy frameworks for long-term sustainability and institutional capacity-building. To improve water services, a whole-of-society approach is needed with a turnaround plan that will ensure sector-wide investment and capacity building, promote innovation and evidence-based actions, enhance cross-sectoral coordination and cooperation amongst stakeholders, and result in an integrated approach to water resources and water services planning and management

Figure 3: Principles that reflect and reinforce the priorities of the PSP.

1.4. Purpose

The PSP and Western Cape Growth for Jobs Strategy (G4J) recognise the need to build a more resilient economy, that is both **water secure** (everyone has safe, affordable, clean water to live a healthy and productive life) and **water resilient** (the ability of water systems to withstand a variety of water-related shocks without losing their ability to support key functions).

The G4J goals statement is to **"double the amount of water available for secondary and tertiary economic sectors (primarily from non-productive use) by 2035 and honour existing allocations to agriculture**." The WCWRS responds to the **ministerial priorities** of securing and managing water resources for the current and future needs of the province. Thus, the WCWRS aims to safeguard the province's water future amid climate change, urbanisation, a strained macroeconomic environment, demographic shifts, geopolitical uncertainty, technological doubts, and social cohesion pressures (PSP, 2025). It serves as a forward-looking blueprint, developed to tackle the multifaceted water challenges confronting the region and improve provincial water resilience.

1.5. Scope of strategy

This WCWRS geographical scope encompasses the entire Western Cape. Its socioeconomic scope encompasses society as a whole and is temporally framed by the date of adoption and the year 2035. The WCWRS addresses the specific vulnerabilities of key water catchments within the Berg, Breede, Gouritz, and Olifants-Doorn systems (Figure 4), while considering inter-municipal and inter-district water interdependencies, such as the Western Cape Water Supply Scheme (WCWSS).

The strategy builds on existing water-related frameworks and provincial strategies developed between 2012 and 2022, setting a clear direction for water resilience in alignment with the Western Cape Government's Growth for Jobs (G4J) targets for 2030 and 2035. The WCWRS prioritises reducing water demand, diversifying water sources, protecting and restoring the ecological infrastructure of catchments, protecting water quality, and strengthening governance to ensure water security for all.

The strategy also aligns with the Western Cape Climate Change Response Strategy (2023) and the Western Cape Sustainable Water Protection Plan (2024–2029), as well as relevant national water sectoral plans. It serves as an overarching framework under which key initiatives (e.g. Berg River Improvement Plan, Breede River Environment Protection Plan, Ecological Infrastructure Investment Framework and Integrated Water Resource Plan) are integrated and aligned into a coherent programme.

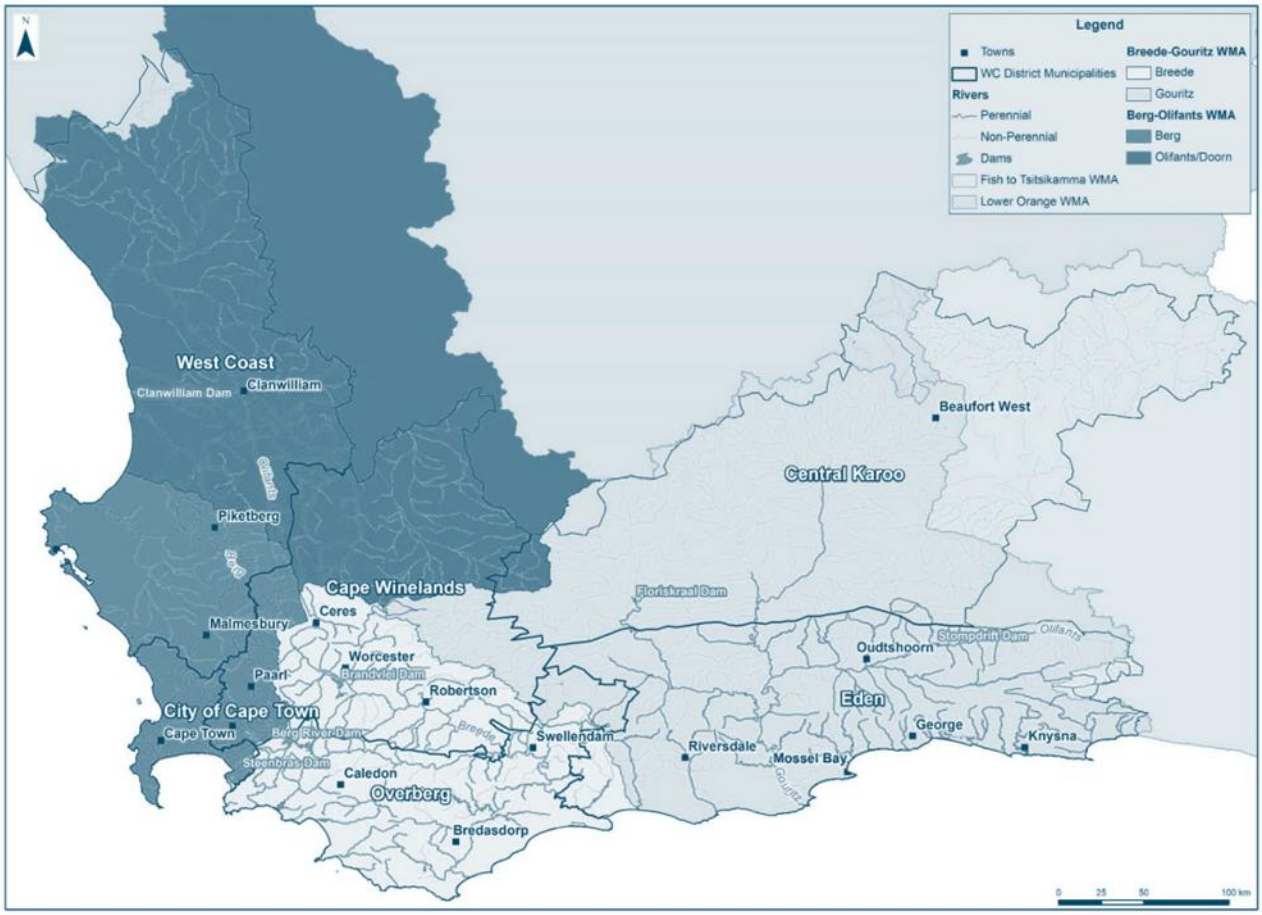

Figure 4: The water management areas that overlap the Western Cape Province (SEOR, 2024)

1.6. Overview of the Western Cape Province water supply systems

In large parts of the province, water storage infrastructure is critical in capturing winter rainfall for all-year urban uses and for meeting agricultural demands (fruit and vegetable crop production) during the growing season. The need for new or upgraded water storage infrastructure for agricultural use will arise across the province as climate change progresses. Agriculture will otherwise decline in areas that historically did not qualify for water storage, e.g. predictable year-round rainfall, that is now much more unpredictable and variable. The Cape Town Metropolitan area and its hinterland are primarily dependent on surface water sources from six major dams (Berg, Voelvlei, Theewaterskloof, Wemmershoek, and Upper and Lower Steenbras Dams) located in nearby mountain catchments (Figure 5).

Some of these dams are owned and operated by the City of Cape Town, whereas the bigger dams (e.g. Theewaterskloof, Berg River) are owned and managed by the National Department of Water and Sanitation (DWS). The total storage capacity in the system is currently 898 million cubic metres, with a supply of 576 million cubic metres per annum (SEOR, 2024). These dams are interconnected via pipelines and tunnels to form an integrated water supply system called the **Western Cape Water Supply System (WCWSS)**.

A key feature of the WCWSS is its ability to transfer water between dams using a combination of run-of-river flows, pipelines, and canals. This design minimises spill losses by allowing each dam to reach full capacity before excess water is discharged over spillways. The mountain catchments surrounding these dams are managed by CapeNature, the province's nature conservation agency, which oversees five of the strategic water source areas across the Western Cape.

The WCWSS water supply system spans six local municipal areas, where water allocations are distributed as follows: 64% to the City of Cape Town, 7% to other urban users, and 29% to agriculture. The system also generates pumped storage hydropower using an installed capacity of 580 Megawatt (MW) on the Palmiet and Steenbras Rivers. While the primary function of irrigation dams is to support agricultural production, their contribution to the province's broader water system cannot be overlooked. These dams represent a significant component of the Western Cape's overall storage capacity and play a critical role in catchment management, food security, and buffering against climate variability. Recognising irrigation dams within the Water Resilience Strategy ensures alignment with integrated water resource management principles, strengthens opportunities for collaborative governance between agricultural and municipal sectors, and highlights the potential for co-investment and optimisation to enhance resilience across the province

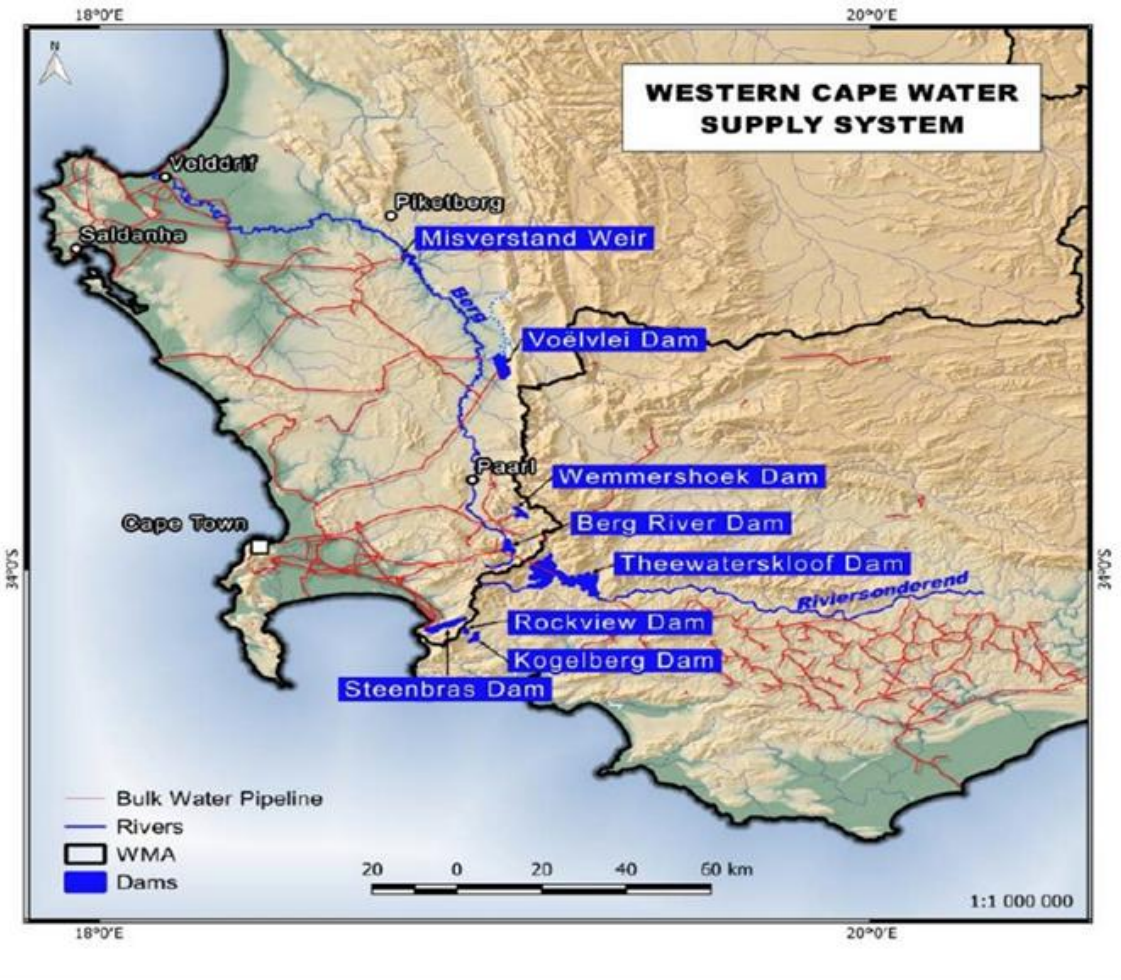

Figure 5: Dams and Weirs of the WCWSS

Although the WCWSS is the major supply system in the Western Cape, many smaller systems supply local municipalities, as described in Table 2. The systems are examples of conjunctive use and management, consisting of regional water supply (e.g., WCWSS and Overberg Water) and local sources.

Table 2: Description of town water supply systems outside the City of Cape Town Metropolitan Municipality.

District/Local Municipality (LM)	Description of water supply system
Cape Winelands District Municipality (DM)	
Breede Valley LM	The main towns are Touws River, De Doorns, Rawsonville and Worcester. Water for Rawsonville is supplied from Stettynskloof Dam to the Rawsonville Reservoir. Four boreholes are currently not operational but are maintained for emergency purposes. Worcester receives its water from two sources: the Stettynskloof dam, situated in the Du Toitskloof Mountains, and the Fairy Glen dam, located in the

District/Local Municipality (LM)	Description of water supply system
	Brandwacht Mountains. The main source is the Stettynskloof Dam, which contributes more than 90% to the total water demand. Another source is from a diversion in the Hex River for Irrigation to some parts of the town. The water to De Doorns is provided by Hex Valley Water Users Association from the Roode Els Dam as well as the Grootkloof River. The main water supply to the Touws River is from the Bokrivier storage dam. Another supply utilised during the drier summer months to supplement the network is the Witklip Borehole.
Drakenstein LM	The Drakenstein LM includes Paarl, Wellington, Saron, Gouda, Hermon and Bainskloof. The LM Drakenstein is supported by two other water service providers, namely the City of Cape Town Metropolitan Municipality (CoCT Metro) and the West Coast District Municipality (WC DM). Drakenstein LM receives 81.9% of the water from the CoCT Metro and 1.5% from the WC DM. The Drakenstein LM solely maintains the distribution network. The Drakenstein Municipality receives its raw water supply from the following sources :Rivers: Berg River, Spruit River, Leeu River, Witte River; Dams: Nantes, Bethe, Antoniesvlei; Groundwater: Boy Low, Parys Sport, Welvanpas, Civic Centre; and Bulk Purchase: Wemmershoek Pipeline CCT, Voëlvlei Dam WTW (WC DM)
Langeberg LM	The Langeberg LM include the towns of Robertson, McGregor, Bonnievale, Ashton and Montagu. Robertson receives its bulk water from three sources: the Dassieshoek Dam and the Koos Kok Dam, an allocation from the Robertson (Brandvlei) Irrigation Canal, and Water from the Hoops River Irrigation Scheme. the raw water for McGregor is obtained from the Houtbaais River Scheme. Bonnievale receives its raw water from an irrigation canal owned and operated by the Zanddrift Water User Association (WUA) and from direct abstraction from the Breede River. Ashton receives all its raw water from the Breede River via three schemes: the Robertson Irrigation Canal, the Cogmanskloof Irrigation Board, and through direct pumping from the Breede River. Montagu is supplied with bulk water from two local streams, namely the Kruis River and the Rietvlei River, via the Cogmanskloof Irrigation Scheme, and directly (during the winter months) from the Breede River.
Stellenbosch LM	Stellenbosch LM receives its water from various sources, including both internal resources and external providers. Internally, water is drawn from the municipality's own surface and groundwater resources such as the Eerste River (weir in the Jonkershoek Valley) in Stellenbosch, the Perdekloof spring source in Franschhoek, dam supply and boreholes scattered across Stellenbosch and the Dwars River area. Additionally, Stellenbosch LM procures water externally from entities like the Department of Water and Sanitation (DWS) and the CoCT Metro. A significant portion of Stellenbosch LM's water supply for the town of Stellenbosch comes from the WCWSS, which is channelled directly through the Theewaterskloof tunnel or indirectly acquired through purchases from CCT.
Witzenberg LM	The primary water source for Ceres is the Koekedouw Dam. Additionally, six boreholes provide a backup supply for the municipality. Prince Alfred Hamlet has three (3) water sources, namely, the link to the main supply line from the Koekedouw Dam, the Wabooms River weir that is used for irrigation and the 'Cutting Fountain. Op-die-Berg water supply system relies entirely on groundwater as the primary source for domestic use. Wolseley Raw bulk water is extracted from the boreholes and stored in two bulk storage reservoirs. Tulbagh water supply system relies entirely on surface water for domestic use. The primary water source in this system is the Tierhoekkloof Weir, a stream originating from the Dwarsriver. Additionally, the Artois irrigation canal serves as a supplementary source for abstraction.
Central Karoo DM	

District/Local Municipality (LM)	Description of water supply system
Beaufort West LM	Beaufort West LM municipality serves four towns: Beaufort West, Murraysburg, Nelspoort, and Merweville. Beaufort West and Nelspoort utilise groundwater in conjunction with surface water for their town supplies. Beaufort West receives additional water from the Gamka Dam and utilises a reclamation plant to purify the water to an acceptable standard. While Nelspoort also gets water from the Sout River. Dated infrastructure and vandalism are the main concerns in this LM.
Laingsburg LM	The Laingsburg Municipality's management area encompasses all towns and rural areas within its boundaries, which include Laingsburg and Matjiesfontein. The town of Laingsburg is entirely dependent on groundwater for its water supply. The current groundwater abstraction is from two main well fields, namely the Town well field and the Soutkloof well field. The Town well field comprises a network of production and monitoring boreholes in the town of Laingsburg, whilst the Soutkloof well field comprises production and monitoring boreholes on the Farm Soutkloof, situated about 10km northwest of Laingsburg. The current groundwater abstraction for Matjiesfontein occurs in the well field south of the town along the foothill of the mountain range.
Prince Albert LM	The Prince Albert Local Municipality incorporates the towns and surrounding farm areas of Klaarstroom, Prince Albert, Prince Albert Road and Leeu Gamka. The main water distribution systems of the Prince Albert Local Municipality are located in the towns of Prince Albert, Leeu Gamka (which includes Bitterwater), Klaarstroom and Prince Albert Road. The Klaarstroom, Leeu Gamka and Prince Albert Road areas are solely dependent on groundwater. At the same time, the town of Prince Albert is supplied with groundwater from production boreholes as well as surface water ("lei water" allocation) from the Kweekvallei WUA.
Garden Route District Municipality	
Bitou LM	Bitou LM primarily relies on surface water sources to maintain the water supply throughout the municipal management area. The main supply to Plettenberg Bay is abstracted from the Keurbooms River on a run-of-river basis (weir). Supplementary raw water is supplied from the Roodefontein Dam on the Piesang River. The Roodefontein Dam is currently the only raw water storage in the supply system. Fourteen (14) production boreholes are not in use, as well as the Plettenberg Bay Desalination Plant, which is currently out of operation. Kurland is supplied with water from Run-off-River, abstracted from a weir constructed on the Wit River, and groundwater from four boreholes. Raw water for the Natures Valley water distribution system is abstracted from the Groot River, which flows into the sea at Natures Valley.
Knysna LM	The Knysna Local Municipality serves the towns of Knysna, Sedgefield, Buffels Bay, Karatara, and Rheenendal/Homthini. The Knysna River and Gouna River are the current sources of water for Knysna, as neither the Bigai Spring nor the Glebe Dam is operational. The boreholes are utilised, but the groundwater quality is poor. The Desalination plant currently has a low yield. Sedgefield water distribution is mainly dependent on run-of-river abstraction from the Karatara River. There are eight boreholes, with only five boreholes in working order. The desalination plant is not in operation and is only utilised for seawater desalination in the case of emergencies. Buffels Bay is primarily dependent on run-of-river abstraction from the Goukamma River. During mouth closures, the river water becomes saline. The desalination plant is not operational because the weir is not functioning, resulting in saltwater intrusion. The main raw water source for Karatara is surface water abstracted from the Karatara River. Homthini/Rheenendal depends entirely on the abstraction of the run-of-river

District/Local Municipality (LM)	Description of water supply system
	from the Homthini River. The boreholes are not used due to the poor quality of the groundwater
Kannaland LM	In the Kannaland LM, Ladismith obtains raw bulk water from the Swartberg River and the Elandsberg Fountain. It has a backup water supply comprising fourteen boreholes in a well field along the base of the Small Swartburg Mountains in various states of operation. Vanwyksdorp receives water from a mountain spring and three production boreholes, although only two of these boreholes are currently operational. Calitzdorp sources its water from the Nels River Dam on the Nels River, a tributary of the Gamka River. This dam is owned and managed by the Calitzdorp Irrigation Board, primarily serving local farmers through a network of canals. Calitzdorp is expected to provide water to the Gamka Area through the Klein Karoo Rural Water Supply System (KKRWSS); however, this scheme is currently not operational. Zoar is currently completely reliant on the Tierkloof Dam in the Seweweekspoort Mountains.
George LM	The George/Wilderness water distribution system provides water and sanitation services to George, Herolds Bay, Victoria Bay, Kleinkrantz and Wilderness. Bulk raw water supply to the George/Wilderness water distribution system is from the Garden Route Dam (GRD), the Malgas River pumping scheme and the Touw River (for Wilderness). Bulk raw water supply to the Uniondale water distribution system is from the Haarlem Dam, the Kammanassie River (Holdrif Weir) and the Uniondale raw water dam (i.e. off-channel storage dam). The Haarlem Dam supplies bulk raw water to the Haarlem water distribution system.
Oudtshoorn LM	Oudtshoorn potable water is currently supplied to the town from the Koos Raubenheimer Dam, Melville Dam and the Rust en Vrede Waterfall weir. The Klein Karoo Rural Water Supply Scheme (KKRWSS) supplies water to Dysselsdorp, De Rust, KKRWSS West, KKRWSS East, and the Rest of the KKRWSS. The water is currently supplied from the Vermaaksrivier, Varkieskloof en Olifantsrivier wellfields. The water from these wellfields is pumped to the KKRWSS water treatment works at Dysselsdorp. Potable water is currently supplied to the De Rust from the Huis River weir with supplementary supply from the KKRWSS
Mossel Bay LM	The Wolwedans Dam is the largest raw water storage for the Mossel Bay Water Supply System. The Klipheuwel and Ernerst Robertson dams have augmented the water supply for the town of Mossel Bay. The Municipality abstracts groundwater from 8 boreholes. Ruiterbos is supplied with raw water from the Perderberg River. The Beneke River and groundwater sources supply Bulk raw water to the Friemersheim water distribution system. The bulk raw water supply to the Buisplaas water distribution system is currently sourced from groundwater. Bulk raw water is supplied to the Herbertsdale water distribution system from one borehole and spring.
Hessequa LM	The towns of Heidelberg and Slangrlver is supplied with bulk/raw water from Overberg Water through the Duiwenhoks water scheme. The town of Witsand partially depends on bulk/raw water supplied by Overberg Water through the Overberg Water rural water scheme. Water is also provided to Witsand from a desalination plant and abstracted at a borehole to augment the Overberg Water Supply during peak holiday periods. The town of Albertinia is supplied with raw water extracted from six boreholes and two fountains. The raw water supply to Stilbaai comprises independent water supplies from local sources, including springs, boreholes, and the Olive Grove Dam. Melkhoutfontein, Jongensfontein and Gouritsmond rely on springs. All water for Riversdale is received from the Korente-Vette Government Water Scheme.
Overberg DM	
Cape Agulhas LM	The Cape Agulhas LM incorporates the main town of Bredasdorp, as well as the towns / villages of Napier, Struisbaai, Elim, Arniston (Waenhuiskrans) and

District/Local Municipality (LM)	Description of water supply system
	L'Agulhas, and the De Hoop Nature Reserve. This municipality primarily relies on groundwater for its water supply. Struisbaai, Napier, and L'Agulhas are supplied exclusively by boreholes, while Suiderstrand is also provided by RO (reverse osmosis) treated groundwater. Arniston (Waenhuiskrans) receives water from both local boreholes (RO-treated) and a bulk supply from Bredasdorp. Bredasdorp itself sources water from the Vleikloof Dam, which is supplied by a combination of water from boreholes, the Uitvlught spring, and the Klein Sanddrif Dam. Elim receives no municipal water services, as it is a privately owned town/village managed by the Moravian Church.
Theewaterskloof LM	The Theewaterskloof LM includes the towns/villages of Caledon, Grabouw, Villiersdorp, Botrivier, Genadendal, Bereaville, Voorstekraal, Greyton, Riviersonderend, Tesselaarsdal, and Bethoeskloof, each with varying water supply sources. Caledon receives surface water from the Theewaterskloof Dam (Overberg Water Board - Rûensveld West Water Supply System) and the Basil Newmark Dam, as well as borehole groundwater. Grabouw is primarily supplied by surface water (Eikenhof Dam - Groenland Irrigation Board - and additional water from the Nuweberg Dam). Villiersdorp mainly relies on surface water (Elandskloof Dam - Elandskloof Government Water Scheme), while also being supplied by borehole groundwater. Water from the Kommissiekraal River is only used during the wetter winter months. Botrivier obtains all its water from groundwater via boreholes. Genadendal, Bereaville, and Voorstekraal are supplied with surface water from the Baviaanskloof, Bereaville, and Voorstekraal streams, respectively. Additionally, Bereaville and Voorstekraal receive groundwater from boreholes. Greyton is provided by surface water (Wolwekloof Stream weir and the Gobos River), as well as borehole groundwater. Riviersonderend sources most of its water from the Olifantsbos River (Olifantskloof weir) and directly from the Sonderend River, with a production borehole used as backup and for drought relief. Tesselaarsdal and Bethoeskloof are both supplied from a single production borehole.
Swellendam Local Municipality	The Swellendam LM incorporates the towns and surrounding areas of Swellendam, Barrydale, Suurbraak, Buffeljagsrivier, Rietkuil, Malgas, and Infanta. Surface water is the primary source of water for this municipality. Swellendam, Barrydale, and Suurbraak mainly receive water from the Klip River, the Huis River, and a tributary of the Buffeljags River, respectively. Buffeljagsrivier Town obtains water from the Buffeljags Dam, although there is no formal allocation. Rietkuil has no water storage or supply infrastructure of its own and is currently dependent on water from outside Swellendam LM (Heidelberg Town Supply - Overberg Water Board via the Duivenhoks River Scheme). Malgas receives no municipal water provision services, due to its small population, relying instead on a mix of carted water (Overberg Water Board), rainwater collection, groundwater from boreholes or water pumped directly from the Breede River. Similarly, no municipal water provision services are available in Infanta, and groundwater serves as the primary water supply.
West Coast DM	
Bergrivier LM	The Municipality consists of Aurora, Eendekuil, Piketberg, Porterville and Redelinghuys. Goedverwacht and Wittewater. Bulk potable water is supplied to Aurora, Eendekuil, Piketberg, Porterville and Redelinghuys by Bergrivier LM. Bulk potable water is provided to the towns of Velddrif and Dwarskersbos by the West Coast DM through the Withoogte bulk water distribution system. The bulk potable water supplied from the Withoogte WTW is augmented by groundwater abstraction from the Langebaan Road Aquifer System. The bulk distribution scheme is a cross-border scheme which supplies water to Bergrivier Municipality, Swartland Municipality, as well as Saldanha Bay Municipality.

District/Local Municipality (LM)	Description of water supply system
Matzikama LM	The towns supplied by Matzikama LM include Vredendal, Klawer, Vanrhynsdorp, Bitterfontein, Koekenaap, Lutzville, Papendorp, Strandfontein, Doring Bay and Kliprand. The towns have an allocation from the Olifants River LORWUA canal. The Southern Namaqualand Government Regional Water Supply Scheme (GRWSS) supplies potable water to the towns of Nuwerus, Bitterfontein, Rietpoort, Molsvlei and Stofkraal (from south to north) in the southern Namaqualand region. The scheme has a desalination works at Bitterfontein. The scheme abstracts groundwater from 13 boreholes. Kliprand is totally dependent on groundwater for their supply. The current groundwater supply is from two boreholes situated in the town.
Saldanha Bay LM	Saldanha Bay Local Municipality (LM) by completing a short-term water security risk assessment for the municipal jurisdictional area, which includes the following towns: Hopefield, Langebaanweg, Langebaan, Vredenburg, Saldanha, Jacobs Bay, Paternoster, St Helena Bay, Shelley Point and Britannia Bay. Potable bulk water is provided to the Saldanha Bay LM by the WCDM through their Withoogte bulk water distribution schemes.The Withoogte system extracts raw water from the Berg River at the Misverstand Weir. The Withoogte system's water supply is supplemented by water sourced from the Langebaanweg (Langebaan Road Aquifer) and the Hopefield Wellfields (Elandsfontein Aquifer), both comprising a network of boreholes.
Cedarberg LM	The municipality can be divided into a mountainous section (Cederberg) and an area comprising coastal plains (Sandveld). The main towns on the Cederberg side of the local municipality are Citrusdal and Clanwilliam, as well as the villages of Algeria and Wupperthal, and the Moravian settlements of Nuweplaas. The main towns within the Sandveld side of the local municipality are Lamberts Bay, Elands Bay and Graafwater, as well as the villages of Leipoldtville and Paleisheuwel. In the Sandveld area, all towns are solely dependent on groundwater supply for domestic purposes. In the Cederberg area, only Citrusdal currently relies exclusively on groundwater for its municipal supply. During normal circumstances, Citrusdal uses groundwater in conjunction with water from the Olifants River; however, flood damage to the infrastructure has halted this use since the winter of 2023. Algeria uses groundwater in conjunction with surface water, mainly during the dry summer months. Clanwilliam, Nuweplaas and Wupperthal use surface water for municipal supply; however, all have groundwater resources developed, all in various states of disuse. Clanwilliam has one borehole utilised for irrigation whilst all of the others are either vandalised or not equipped. Both Wupperthal and Nuweplaas has equipped boreholes without using them at the moment.
Swartland LM	The West Coast WC DM is a bulk water service provider for the Bergrivier, Swartland and Saldanha Bay LMs. They are all part of the Western Cape Water Supply System (WCWSS); and the WC DM holds the water use licence on behalf of the LM. Potable bulk water is provided to Swartland LM through their Swartland and Withoogte bulk water distribution schemes. Both of these distribution schemes are cross-border schemes, operated and maintained by the WC DM. The towns within the Swartland LM jurisdictional area (except for Malmesbury) are currently supplied from a single resource, namely the Berg River (Voëlvlei Dam and Misverstand Weir). Various water resource augmentation investigations have been conducted over the past few years for the West Coast Region, the WCWSS, and the towns in Swartland's LM Management Area. These studies recommended various augmentation projects for the different systems, of which the Berg River to Voëlvlei Augmentation Scheme was identified as the next surface water scheme.

1.7. Process of development/Approach to this Strategy

The Western Cape Water Resilience Strategy 2025 is the product of over a decade of policy development, programmatic learning, and collaborative planning in response to growing climate-related water risks.

The WCWRS foundation is rooted in earlier initiatives, including the Western Cape Sustainable Water Management Plan (2012, updated in 2018), the Berg River Improvement Plan (2013), and the Breede River Environmental Resource Protection Plan (2017), all of which aimed to strengthen water governance and ecosystem management. The Eco-Invest Programme (2015) and Biodiversity Economy Programme (2017–2025) also played a crucial role by linking natural capital and water security to sustainable economic development (Figure 6). The All Towns Studies and DWS Water Sector Master Plan for the Western Cape.

Figure 6: Past strategies, plans and interventions

A major catalyst in the development of the strategy was the "Day Zero" drought (2015–2019), during which water insecurity emerged as a significant threat to the people and economy of the province. Following several consecutive years of below-average rainfall, the drought was formally recognised as a provincial enterprise risk. This crisis led to the development of the 15-Year Western Cape Integrated Drought and Water Response Plan (2022), which laid the groundwork for long-term resilience planning and initiated a province-wide shift toward a more sustainable approach to our water resource management and systems.

The severe drought exposed vulnerabilities in infrastructure, coordination, and demand management, necessitating a stronger, integrated response. Further strategic consolidation was achieved through the Ecological Infrastructure Investment Framework (2021) and the Updated Sustainable Water Protection Plan (2024). These frameworks emphasised the value of ecological infrastructure and nature-based solutions, creating a platform for aligning water resilience efforts with broader economic objectives, particularly the Growth for Jobs (G4J) strategy. Furthermore, WCDoA's ecological infrastructure projects contributes significantly to building climate change resilience in the agricultural sector. This integration allowed water resilience to be positioned as a critical enabler of both economic growth and environmental sustainability.

The development of the 2025 strategy was informed by a participatory and inclusive workshop process that brought together a wide range of stakeholders. These included provincial departments (such as Local Government, Environmental Affairs and Development Planning, Infrastructure, and Agriculture), national Department of Water and Sanitation experts, catchment management agency specialists, municipalities, academia, civil society, and sector experts. The process drew lessons from past interventions, particularly the independently evaluated Berg River Improvement Plan, which was identified as a highly relevant and effective programmatic response. The collaborative approach ensured that the strategy was grounded in both operational experience and future-oriented thinking.

The resulting WCWRS focuses on strengthening infrastructure, improving governance systems, enhancing climate adaptation capacity, and promoting inclusive and sustainable economic development. It aligns with provincial priorities, such as G4J, and national legislation, including the Climate Change Act (2024).

Chapter 2: Understanding the Landscape

Water resilience is the ability of a water system, whether natural or human-made, to withstand and recover from shocks and stresses related to water, while also adapting to an uncertain future. Shocks and stressors can include natural disasters like droughts, floods, and storms, as well as human-made events like infrastructure failures or pollution, all of which are increasingly prominent and common globally as well as across the Western Cape. Water systems also need to be flexible enough to deal with changing climatic patterns, population growth, and other unforeseen challenges. **Water resilience is thus critical to ensuring water security, which is defined as the availability, accessibility, and sustainability of water resources, ensuring access to adequate quantities of safe water for human and ecological needs, as well as protection from water-related risks**. This concept encompasses not only the physical supply and quality of water but also the social, economic, and institutional context in which it is managed and used.

Resilient systems must ensure a reliable supply of water while maintaining its quality for various uses. Water resilience encompasses not only individual components of a system but also how those components interact with each other and with the broader environment. Building water resilience thus requires collaboration between different stakeholders, including all spheres of government, Catchment Management Agencies (CMAs), water user associations, agricultural, industrial, and other sectors, businesses, and local communities.

A water resilience strategy for the Western Cape is necessary to streamline and coordinate our initiatives across our various mandates, optimising our collective resources and capacities to achieve our common and agreed-upon goals for a Water Resilient Province.

2.1. Strategic Alignment

Water resilience in South Africa is governed by a suite of legislative frameworks that align mandates across national, provincial, and municipal levels to ensure sustainable water management. The National Water Act of 1998 (NWA) serves as the cornerstone, recognising water as a public resource and establishing CMAs to decentralise water governance. Municipalities implement water supply, sanitation services, and local conservation efforts under the Water Services Act (WSA) of 1997. While there are no exclusive provincial legislative powers relating to water in Schedule 5 of the Constitution, several concurrent constitutional functions with the national government impact water security and resilience, including agriculture, disaster management, the environment, and pollution control. The provincial government has no direct mandate for water resources through the NWA; its only mandate, as outlined in the Water Services Act, is to monitor the performance of water services institutions.

The key roles of the Western Cape Provincial Government include supporting, monitoring, and building the capacity of local government, as per Section 154(1) of the Constitution and the

Municipal Finance Management Act (MFMA). The Province also plays a critical role in coordinating spatial and environmental planning through the National Environmental Management Act (NEMA) and the Spatial Planning and Land Use Management Act (SPLUMA), as well as in protecting the environment through NEMA and the Specific Environmental Management Acts (SEMAs).In addition, the provincial government also plays a role as a water user, as a land custodian, and as a significant user in specific sectors (e.g., health and education). **There is also the international context, trends and governance in which the WCWRS is embedded.**

2.1.1. International water resilience context

Water resilience has been identified as a priority concern at the international level for various reasons, including increasing tensions over dwindling water resources at the domestic level and shifting geostrategic dynamics at the global level. The impact of environmental and planetary changes (i.e., global climate change) on food, water, and health security is acknowledged as a key source of risk exposure at the international level, with five of the top 10 World Economic Forum global risks for 2024 being environmental. The World Bank estimates that approximately $131 to $140 billion is required to realise SDG6 which focusses on clean water and sanitation supply. This funding is double the current estimated public funding globally. Concerted efforts are being made by financiers at an international level to improve global water resilience. **The WCWRS also contributes to these global targets. It leverages international partnerships, aligns financing mechanisms, and adopts best practices to ensure sustainable and inclusive water management.** The Sustainable Development Goals directly addressed by the WCWRS are foremost SDG6 and SDG13, followed by SDG1, SDG3, SDG8, SDG11, SDG12, SDG15, and SDG17. Several additional SDGs are indirectly supported by the WCWRS, including SDG 2, SDG 5, SDG 9, SDG 10, and SDG 16.

The international Integrated Water Resources Management (IWRM) policy framework is a comprehensive approach designed to improve the management of water resources, aligning directly with SDG target 6.5. It promotes the coordinated development and management of water, land, and related resources to maximise economic and social welfare equitably without compromising the sustainability of vital ecosystems. The WCWRS strategy adopts the Integrated Water Resources Management (IWRM) approach, grounded in the internationally recognised **Dublin Principles**, as a guiding framework for sustainable and inclusive water governance. This approach is particularly well-suited to the Western Cape's complex water landscape, where competing demands, climate variability, and ecological interdependencies necessitate coordinated, cross-sectoral action. The IWRM approach aligns closely with the province's commitment to equity, efficiency, and environmental stewardship. Through this strategy, the WCG is actively operationalising IWRM principles by integrating ecological and grey infrastructure, demand management, multi-stakeholder governance, and long-term planning into a cohesive and adaptive water resilience agenda.

The City Water Resilience Framework (CWRF) is a global framework for assessing and planning urban water resilience. It enables comprehensive assessments of urban water resilience across sectors, stakeholders, and city boundaries. The framework focuses on four dimensions, namely: leadership and strategy, planning and finance, infrastructure and ecosystems, and health and well-being. Each dimension is broken down into eight goals and 53 sub-goals, accompanied by indicators that measure performance and overall resilience. The CWRF has been designed to guide cities in building water resilience and has been applied in various cities globally, including the City of Cape Town, Johannesburg and Nelson Mandela Bay, scalable from towns to megacities, and can be utilised by a wide range of stakeholders, including government entities, water utilities, river basin authorities, the private sector, and civil society groups.

Various international structures and organisations are likely to play distinct roles given their various focal areas in the realisation of the WCWRS. These consist of organisations with a global footprint that participate in the setting of international targets and agreements to which countries like South Africa are signatories. Development Banks and other financiers worldwide provide much-needed resources to achieve these goals through various financial products.

- ***Bilateral partnerships***

  The Western Cape Government has a long history of engaging with other countries and subregional governments towards shared water resilience objectives. These partnerships have played a significant role in improving water provisioning in the province and will contribute meaningfully to water resilience as outlined in this strategy.

- ***Multilateral partnership platforms***

  Various initiatives encourage partnership and knowledge exchange to improve resilience among multiple countries or regional governments. These platforms significantly aid in achieving water resilience by broadening regional perspectives to an international level

and seeking shared experiences and solutions across different societies. An example of such a platform, in which the Western Cape Government is actively involved, is the Mediterranean Climate Action Partnership.

The WCWRS will consider financing and partnership options further in its implementation plan.

2.1.2. National Water Resilience Context

South African water governance is subject to the constitution and water legislation, such as the National Water Act 36 of 1998 (NWA) and Water Services Act 108 of 1997 WSA, which the DWS oversees. The constitution guarantees everyone's right to access sufficient water and places an obligation on the state to take legislative and other measures to achieve the progressive realisation of this right. It also affords the right to equal benefit of the law, ensuring that there is no unfair discrimination in the provision of water services, thereby promoting human dignity and life. Further enshrined are the right to an environment that is not harmful to one's health or wellbeing and the right to just administrative action in water-related decisions.

The DWS is responsible for managing dams and maintaining infrastructure, including boreholes and storage reservoirs, for both urban and rural communities (HSF,2025). The Water Services Act governs domestic water supply services and delegates responsibilities for such services to Water Services Authorities (WSA),, such as municipalities, water utilities, and private firms. According to the Water Services Act , the local municipality is responsible for maintaining the distribution network and regulating water use. Catchment Management Agencies represent the second tier of the water resource management framework. In the Western Cape, the Breede-Olifants (CMA) which has jurisdiction over the entire Western Cape Province, has been established. The National Water Act also make provision for Water User Associations. Water Boards are state-owned regional water services providers (WSP) who may provide both bulk services to more than one WSA area and retail services on behalf of WSA. WSA could be a metropolitan municipality, an authorised district municipality or an authorised local municipality which is responsible for ensuring the provision of water services within its area of jurisdiction.

The Water Service Provider is a Water Services Authority (internal) or any person (external) who has a contract with a WSA or another water services provider to sell water to, and/or accept wastewater for treatment from, that authority or provider (bulk water services provider); and/or has a contract with a WSA to assume operational responsibility for providing water services to one or more consumers within a specific geographic area.

The Water Research Commission (WRC) administers the Water Research Act to, amongst others, promote coordination, cooperation and communication in the area of water research; and stimulate and fund water research according to priority. The Trans-Caledon Tunnel Authority (TCTA), which is a State-owned entity, plans, finances, and implements sustainable and accessible water resource infrastructure. The different spheres of government are subject to the Public Finance Management Act (PFMA) and Municipal Finance Management Act (MFMA).

The **National Water Resource Strategy Third Edition** (NWRS-3) seeks to secure South Africa's water resources and serves as the legal instrument to operationalise the NWA. The NWRS-3 aligns with the SDGs, particularly SDG 6, which emphasises the need for clean water and sanitation for all, as well as SDG 13, addressing climate action. This strategy integrates the principles of the DWS National Water and Sanitation Master Plan and the broader Water Security Plan, forming a comprehensive response to national and global water challenges. A strong alignment exists between the WCWRS and the NWRS-3, as evidenced by the priority focus areas articulated below.

- Reducing water demand and increasing supply
- Redistributing water for transformation
- Managing water and sanitation services under a changing climate
- Regulating the water and sanitation sector
- Improving water quality
- Protecting and restoring ecological infrastructure for the green economy
- Creating effective water sector institutions
- Promoting international cooperation
- Building capacity for action
- Ensuring financial sustainability
- Managing data and information in line with the fourth industrial revolution (4IR) and global knowledge
- Enhancing and deploying research, development and innovation
- Addressing legislative and policy gaps

The **Second Integrated Water Quality Management (IWQM) Policy and Strategy** (DWS, 2017) represents a significant step towards addressing the country's water quality challenges. The strategy aims to provide a comprehensive framework for managing water quality in South Africa. It emphasises the importance of improving water quality through an inclusive and integrated approach, recognising that deteriorating water quality in rivers, streams, dams, wetlands, estuaries, and aquifers has far-reaching impacts on the economy, human health, and aquatic ecosystems. The IWQM Policy is underpinned by seventeen principles, ensuring that the approach to water quality management is structured, transparent, and predictable. These principles encompass government-wide integrated water quality management, people-centric approaches, subsidiarity and accountability, transboundary cooperation, partnerships, and integrated and adaptive management, among others. The policy reflects a commitment to addressing water quality challenges holistically and collaboratively, aligning with the National Water Act and the White Paper on National Water Policy to promote sustainable and integrated water resources management in South Africa.

The 2018 **National Water and Sanitation Master Plan** is a comprehensive guide developed by the Department of Water and Sanitation to steer the water sector's investment planning for the development of water resources and the delivery of water and sanitation services until 2030 and beyond. The Master Plan outlines key actions in the water sector and assigns roles and responsibilities to all stakeholders, including various tiers of government, the private sector, and other relevant parties. The plan consists of three volumes: Volume 1, Call to Action; Volume 2, Plan to Action; and Volume 3, Schedule of Actions. The Water and Sanitation Master Plan addresses

the country's water security, future water sources, operation and maintenance of water and sanitation infrastructure, water quality management, resilience to climate change impacts, and water conservation and demand management. The plan aims to ensure that South Africa can avoid the projected 17% water deficit by 2030 by tackling both the supply and demand side of water management. On the demand side, the plan calls for households to consume less water and for municipalities to reduce water waste. On the supply side, it calls for the construction of new dams and transfer schemes.

The **Blue, Green, and No Drop Certification programmes** are regulatory mechanisms of the Department of Water and Sanitation in South Africa, designed to improve municipal drinking water quality, wastewater management, and water loss control. The Blue Drop report is a comprehensive assessment of all drinking water systems in the country, including water treatment works. It evaluates the condition of the infrastructure, maintenance, operation, treatment processes, and monitoring and controls. The Green Drop report, on the other hand, assesses the state of all wastewater treatment systems in South Africa, including municipal, Department of Public Works, and private wastewater treatment systems. The No Drop report focuses on water loss and non-revenue water across municipalities nationwide, highlighting the need for efficient water use and conservation. The certification programmes were relaunched in 2022 after a 10-year hiatus and show significant declines across the country.

Raw Water Pricing Strategy outlines the various water-use charges recovered from water users thorough three tariffs. These tariffs are set by water use institutions in consultation with all the relevant stakeholders. The revenue is collected for: 1) water resource management, 2) maintenance and repairs to water distribution infrastructure, 3) Water Research Commission.

Of the 124 water supply systems in the Western Cape, about 15 water supply systems (12%) qualified for the Blue Drop Certification (scoring over 95%) in 2023. There was a general decline in the Green Drop score from 2013 to 2021, highlighting the need for infrastructure repairs, maintenance, and new builds for wastewater management. The Western Cape performed well in the no drop audits, which focused on water conservation and water demand management. Overstrand scored over 100% and City of Cape Town and Swartland scored above 90%. Six WSAs scored above 80% (good performance).

Source: GreenCape (2025)

Given the latest information and emerging issues regarding climate change, the **Water and Sanitation Sector Policy on Climate Change** is being reviewed and updated by the DWS. The Strategy encourages, among other things: A review of all recent and current water-related climate change frameworks, protocols, modelling systems, scenarios, and response strategies; Identify gaps in the information and knowledge needed for mainstreaming climate change in water and sanitation management and planning; Investigate innovative water-saving solutions to sanitation needs/challenges; Investigate the potential impacts on the environment of maladaptation to climate change; and Develop proposals for the more effective utilisation of

climate change research outcomes and understanding of climate risks in support of water-related decision-making. This will include relevant information from the outputs of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

The national DWS is currently updating the **Reconciliation Strategy for the Southern Region and All Town Studies** across South Africa. This includes an update to the WCWSS Reconciliation Strategy, which was first compiled in 2007. The 2021/22 WCWSS Reconciliation Strategy Status Report (October 1, 2021, to September 30, 2022) included projected future water requirements, proposed interventions, and the potential timeline for implementation to avoid any delays, refer to Figure 7. The updated 2022/23 WCWSS Reconciliation Strategy Status Report (October 1, 2022, to September 30, 2023) is currently underway. An 'Evaluation of Schemes' is also currently being undertaken and forms part of the ongoing WCWSS Reconciliation Strategy. This includes the revision and updating of the potential future bulk water interventions for the WCWSS that were initially screened in a workshop held in 2005. The results of these studies will be available soon and will provide an update on the hydrology and the yields from the major water supply systems such as the WCWSS. These studies are also updating future water demands for each system, as well as for small towns, and reviewing potential water supply augmentation options. They will make recommendations for the way forward.

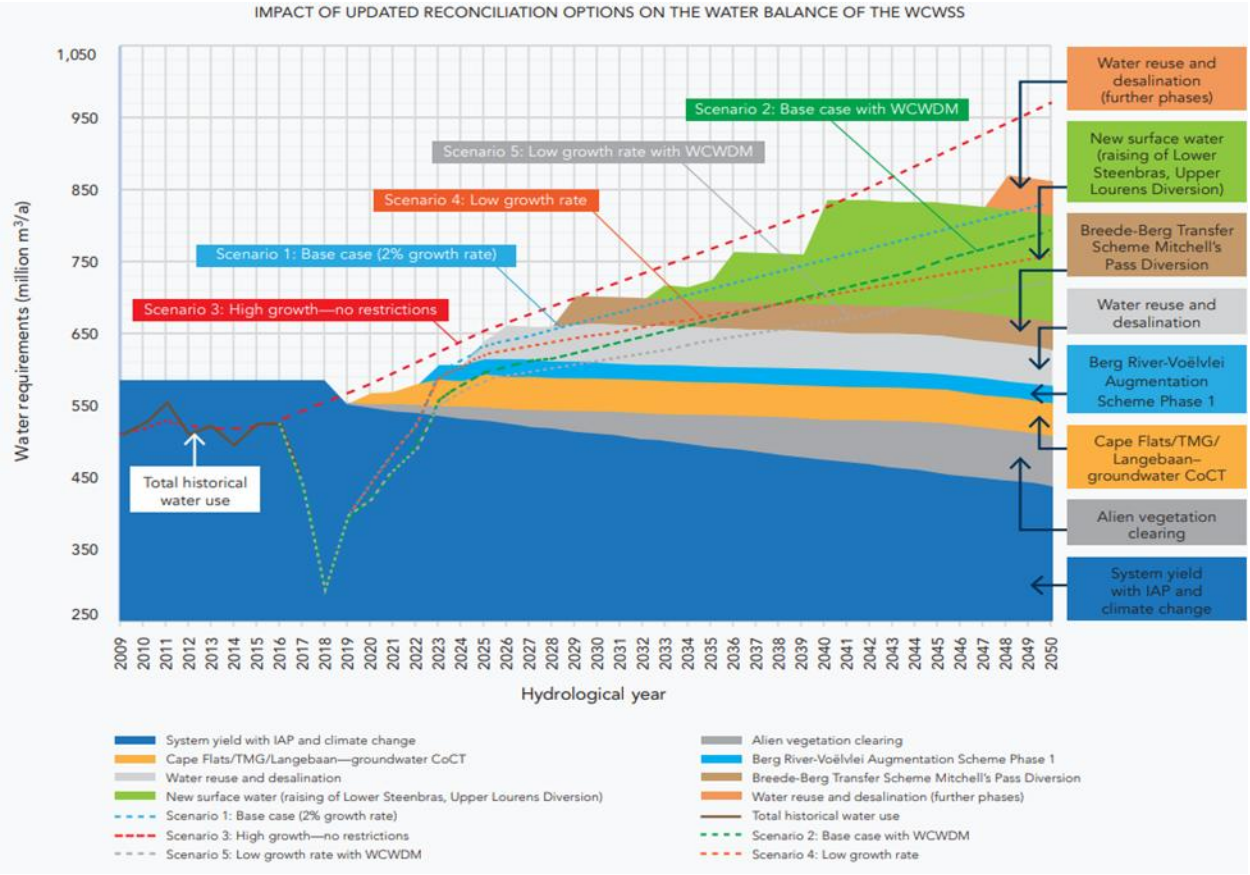

Figure 7: WCWSS showing planning scenarios for supply and demand

The Breede-Olifants Catchment Management Agency (BOCMA) is the lead agent for water resources management within the Breede-Olifants Water Management Area, along with the provincial office of DWS. The BOCMA is responsible for overseeing the implementation of the Catchment Management Strategy (CMS) and other delegated functions that significantly contribute to water resilience in the province. The CMS is currently being updated.

2.1.3. Provincial Water Resilience Context

As stated above, while there are no exclusive provincial legislative powers relating to water in Schedule 5 of the Constitution, several concurrent constitutional functions with the national government impact water security and resilience, including agriculture, disaster management, the environment, and pollution control. Table 3 provides a summary of the **mandates of specific provincial departments regarding water security and resilience.**

Table 3: Legislative mandates of specific provincial departments regarding water security and water resilience.

DEPARTMENT	LEGISLATION	MANDATE REGARDING WATER SECURITY AND WATER RESILIENCE
Department of Local Government	Constitution	Support and monitoring of the local government
	Municipal Systems Act	Support and monitoring of the local government
	Municipal Structures Act	Adjustment of the water services function
	Water Services Act	Monitor the performance of water services institutions.
	Municipal Financial Management Act	Intervene in a municipality in the event of a financial crisis
	Disaster Management Act	Provincial Disaster Management functions including risk reduction and disaster response and recovery
Provincial Treasury	Constitution	Support and monitoring of local government
	Municipal Systems Act	Regulation and oversight of municipal finances, including tariffs
Department of Environmental Affairs and Development Planning (with public entity CapeNature)	Constitution	Environment, nature conservation, pollution control, development planning
	National Environmental Management Act	Coordinate environmental planning through the environmental implementation plan. Exercise functions to protect the environment Environmental authorisations Chemical and Pollution Management Exercise law enforcement
	NEM: Integrated Coastal Management Act	Prepare, coordinate and monitor coastal & estuary management programmes CapeNature is the Responsible Management Authority for several estuaries.
	NEM: Waste Act	Consult DWS on the issuance of waste disposal licenses.
	NEM: Protected Areas Act	Management of WCG-owned Nature Reserves, which are part of water source areas, aquatic ecosystems and estuaries.

		Management Authority over government-owned land, e.g. forest exit area
	NEM: Biodiversity Act	Ecosystem health & protection (Catchment Management) Control invasive species, monitor and report progress
	Spatial Planning and Land Use Management Act	Planning alignment Support and monitor municipal planning performance Enable regional and provincial development
Department of Economic Development and Tourism	Constitution	Consumer protection, industrial promotion, tourism, trade
Western Cape Department of Agriculture	Constitution	Promote and support agriculture
Department of the Premier	Inter-governmental Relations Framework Act	Coordination with the national government and municipalities; dispute resolution
	Disaster Management Act	Declare a Provincial Disaster Issue regulations and directives to manage the disaster
Department of InfrastructureInfrastructure		General obligations as a significant user and custodian of provincial land and infrastructure
Department of Health and Wellness		General obligations as a significant user and Public Health protections
Western Cape Education Department		General obligations as a significant user
Department of Agriculture		General obligations as a significant user
Department of Police Oversightoversight and Community Safety		General obligations as a user
Department of Cultural Affairs and Sport		General obligations as a user
Department of Social Development		General obligations as a user

The Western Cape Government, in its Growth for Jobs (G4J) Strategic Framework 2035, Priority Focus Area 4 (PFA 4) – Water Security and Resilience, appreciates the importance of improved water resilience for long-term socio-economic growth and stability. The goal under PFA 4 is to "*Double the amount of water available for secondary and tertiary economic sectors (primarily from non-productive use) by 2035 and honour existing allocations to agriculture*".

The G4J strategy supports economic growth and job creation in response to the post-COVID economic downturn, requiring support from all government departments. At the centre of the strategy, it also recognises that the private sector creates the majority of jobs in the country, and that the state needs to stimulate market growth and create an enabling environment in which people and businesses can create and exploit opportunities. The transversal G4J underpins all other provincial strategies and plans; as such, all related water resilience strategies and plans should be viewed through the G4J lens shown in Figure 8.

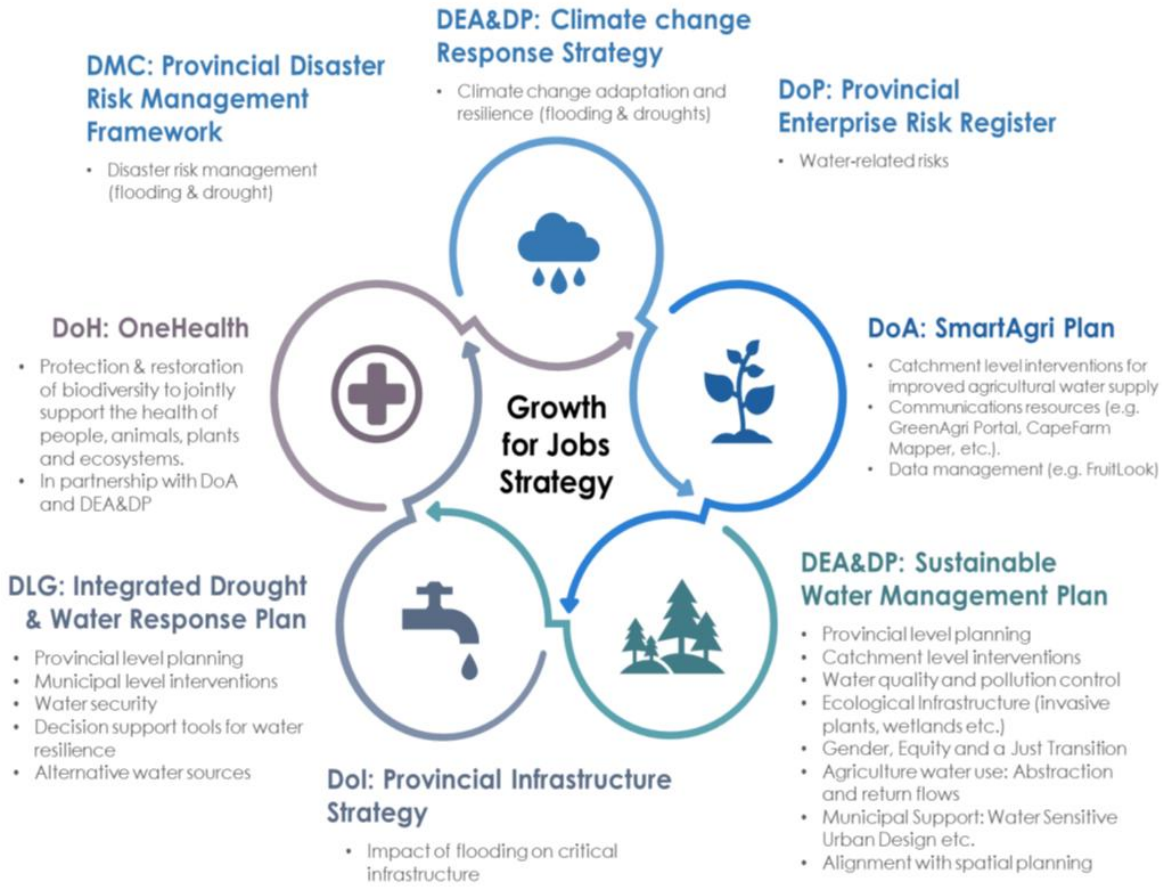

Figure 8: G4J and provincial department responsibilities.

The Western Cape Government emphasises its unique vulnerabilities related to the Mediterranean weather conditions experienced in parts of the Western Cape, unlike the rest of South Africa, which is dominated by summer rainfall areas. The landscape, biodiversity, and location of the region present specific challenges related to extreme weather events, such as droughts, floods, and coastal erosion, all of which are forecast to be exacerbated by climate change. The Western Cape Climate Change Response Strategy (WCCCRS), led by the Department of Environmental Affairs and Development Planning (DEA&DP), guides the Western Cape actions and aligns with South Africa's recently enacted Climate Change Act (2024). The WCCCRS complements the Climate Change Act's framework for integrated actions across all government levels, avoiding policy contradictions and fostering cooperation on climate action nationally, and focuses on integrating climate adaptation and mitigation measures across governance and infrastructure to build a low-carbon, climate-resilient province.

In terms of alignment with the Water Resilience Strategy, the Western Cape Infrastructure Framework (WCIF) 2050 is deeply connected through its **prioritisation of climate-adaptive and regenerative infrastructure** development. It explicitly identifies water security as one of the province's core priorities, aligning directly with the Western Cape's Water Security Plan and Water Resilience Strategy. This alignment is evident in several ways: first, WCIF includes water

infrastructure under both its ecological and economic infrastructure categories, recognising the importance of both built systems (such as reservoirs and wastewater treatment plants) and natural systems (such as wetlands and catchments).

Furthermore, the WCIF acknowledges the role of climate change in intensifying water risks and advocates for infrastructure that is resilient to droughts, floods, and changing hydrological patterns. The WCIF incorporates frameworks such as the Integrated Drought and Water Response Plan, Ecological Infrastructure Investment Plan (EIIF) and the Western Cape Sustainable Water Protection Plan (WCSWPP) into its policy ecosystem, reinforcing interdepartmental and intergovernmental alignment. Through its holistic approach, WCIF enables the strategic prioritisation and funding of catalytic water resilience projects, and its commitment to governance supports the type of cross-sector collaboration essential for effective water management in a climate-stressed province. In essence, WCIF 2050 provides the enabling environment, planning logic, and governance architecture that underpin the successful implementation of the Water Resilience Strategy.

The Western Cape Sustainable Water Protection Plan (SWPP) 2024 – 2029 reflects on water-related risks including increased urbanisation, climate change, failing infrastructure and irresponsible consumer behaviour. The SWPP also considers how biodiversity and nature conservation initiatives can contribute to water security and resilience, specifically through IAP and ecological infrastructure (EI) management, taken up in the Provincial Biodiversity Strategy and Action Plan and the Ecological Infrastructure Investment Framework and Implementation Plan. The strategy and framework are driven by the mandates for environmental protection, nature conservation, pollution control and development planning to address threats to water resources from unsustainable use (over abstraction), transformation (loss of watershed priority areas through inappropriately sited and illegal agriculture), urban development and infrastructure and land degradation, as well as IAPs.

The Climate Change Response Framework and Implementation Plan for the Western Cape's Agricultural Sector, known as the 'SmartAgri plan', was launched in May 2016. It is a strategic initiative and road map aimed at leading the way to a climate-resilient, low-carbon agricultural future. While the plan builds on the Western Cape Climate Change Response Strategy and Implementation Plan, it provides sectoral depth and practical solutions across the agricultural value chain. An update is currently underway, informed by the 2022 update of the climate change trends and projections across the province. **The plan is structured around key strategic focus areas: (i) promote a climate-resilient low-carbon agricultural sector that is productive, competitive, equitable and ecologically sustainable across the value chain; (ii) strengthen effective climate disaster risk reduction and management for agriculture; (iii) strengthen monitoring, data and knowledge management and sharing, and lead strategic research for climate change and agriculture; and (iv) ensure good co-operative governance and joint planning for effective climate change response implementation for agriculture**.

The SmartAgri plan builds on existing initiatives, leveraging shared learning, insights, and joint identification and promotion of effective and practical responses through strong stakeholder engagement. The most important pathway by which agriculture will face increasing threats due

to climate change is via access to sufficient water resources of the required quality for food production, as well as more frequent extreme events such as droughts and floods.

The WCWRS encompasses the provincial policy outlook. It outlines the emerging focus that will inform the policy direction required for water resilience in the Western Cape by 2035 and beyond. **The DLG plays multiple important roles in the water resilience space. Most notably, the DLG oversees the Provincial Water Resilience Committee and leads the implementation of the Water Resilience Strategy**. The DLG's involvement in water resilience is primarily driven by the mandate to support and build capacity in local governance, as well as to monitor the performance of Water Service Authorities as provided for in the Water Services Act. The DLG also plays a crucial role in the Strategy through its disaster management mandate, and the Provincial Disaster Management Centre (PDMC), which oversees the Provincial Disaster Risk Management Framework. This framework aims to prevent or reduce the risk of disasters through mitigation and adaptation. The DMC has a critical role to play in flood and drought risk management in the Western Cape and played a key role during the 2015-2019 drought. It also maintains a dedicated provincial drought risk register that should also be aligned with the Water Resilience Strategy.

The Provincial Treasury (PT) has a similar role to DLG to support, monitor and build capacity with respect to municipal finances across the province. **In relation to water security and resilience, the PT is concerned with the financial sustainability of the water services function and the degree to which this is threatened by tariff levels and unaccounted for water**. Apportion funds for the provincial key environmental functions and conservation mandate, which impact on water supply (water source areas within Provincial Nature Reserves, Water quality, Pollution and Chemicals control, Ecological Infrastructure restoration and maintenance) Apportion funds for disaster risk reduction efforts through prevention and preparedness measures. Oversee disaster grant allocations when disaster recovery funds are provided. Seek and secure alternative and blended finance for the required key infrastructure and activities, which will enhance the Western Cape systems and economy.

The DEDAT has a mandate to promote industry, tourism and trade. **Given that water is a key economic input, water resilience is crucial to the provincial economy**. The DEDAT seeks to explore avenues of reducing business risk to water insecurity and measures to support water resilience in the Western Cape economy. The Department plays a crucial role in enhancing water-use efficiency and reducing water consumption in businesses, supporting them in securing their water supply augmentation, and fostering growth in the water sector in the province.

The Western Cape Department of Agriculture (WCDoA) has a constitutional mandate to promote agriculture. The agricultural sector has the highest water allocation in the Western Cape and the second-largest allocation in the WCWSS. Water resilience is crucial for maintaining agricultural productivity, which in turn supports food security and economic growth. The WCDoA, LandCare programme (community base natural resource management), in the Western Cape, aims to achieve sustainable natural resource management among farmers, landowners, and land users within the agricultural sector. The programme derives its mandate from the Constitution, the Conservation of Agricultural Resources Act (No. 43 of 1983), NEMA and NWA. The programme

includes a range of projects and activities, such as area-wide planning, awareness raising, and project implementation (e.g., clearing alien vegetation, river protection works, erosion protection, stock-water stock and fencing construction). They also give advice and assist with the designing of irrigation systems, like drip irrigation systems, to promote the efficient use of water. The relevant strategic objectives and actions are outlined in the WCDoA's SmartAgri Plan, which was initially developed in 2016 and is periodically reviewed and updated, guiding the WCDoA's strategy regarding climate and water resilience.

The Western Cape Department of Infrastructure (DoI) is the custodian of much of the provincial land and infrastructure, primarily provincial roads, nature reserves, general offices, schools and health facilities. In this role, it is responsible for the design, construction and maintenance of these facilities, which can have a significant demand on water resources, both in terms of location and design standards. The department also coordinates all Expanded Public Works Programme activities in the province, which include alien vegetation clearing projects. The increasing risk of flooding and the recognition of the benefits of catchment management activities in reducing this risk, particularly in the face of climate change, make sustainable water management of relevant interest to the DoI.

This argument could be made for all departments. The mandate for water resource management is DWS, then DLG and in various other ways the other provincial departments.

In addition to this, the Department's public entity, CapeNature, is the Management Authority for thousands of hectares of land owned by the Western Cape Government, which includes significant portions of five out of six Strategic Water Source Areas in the Province (located in and around the Cape Fold Mountains). The Catchment to Coast and Man and Biosphere Programmes specifically contribute to the health of water source areas and the protection of water quality, as well as aquatic and estuarine systems, and riparian and wetland ecosystems.

Following the COVID-19 pandemic, the One Health Approach is being implemented by the National Department of Health (DoH) and adapted by the Western Cape Department of Health and Wellness (DoHW), in collaboration with the WCDoA and DEA&DP. It establishes a crucial connection between human, animal, and environmental health, as well as the management of waterborne diseases. **The Western Cape One Health approach follows six tracks. Track 6, *"Integrating the Environment into One Health," is particularly relevant* to sustainable water and environmental management. This action aims to protect and restore biodiversity, prevent the degradation of ecosystems and the wider environment, and jointly support the health of people, animals, plants and ecosystems.**

2.2. Climate and Water Security Risks

The Western Cape is facing a mounting water resilience crisis driven by a convergence of demographic, environmental, infrastructural, and financial pressures. Rapid population growth, urbanisation, and economic development have significantly increased water demand, placing

stress on ageing and under-capacity infrastructure that was not designed to meet current or projected needs. **Climate change is further exacerbating vulnerabilities, with projections indicating a 20–25% decline in annual rainfall by 2035 and an increase in more frequent and severe extreme weather events, such as droughts and floods**. These trends threaten both the reliability of the water supply and the integrity of built and ecological infrastructure. Continued warming associated with climate change is also increasing transpiration (through plant leaves) and evaporation from land and water surfaces. Potential evapotranspiration is projected to increase by at least 5% by mid-century, and this could rise if windy conditions and wind speeds increase as expected in some areas. Additional losses from larger and more shallow dams could be significant.

Environmental degradation, including the spread of invasive alien plants and the loss of wetlands and natural habitats, has weakened the natural systems that help regulate water availability and quality. Pollution from failing wastewater infrastructure, informal settlements, agricultural runoff, and industrial discharges is degrading water sources, negatively impacting public health, ecosystems, and critical sectors, including agriculture.

Meanwhile, significant **underinvestment and delayed infrastructure projects have created a funding gap of billions, particularly affecting rural and under-resourced municipalities.** Without urgent and coordinated interventions—ranging from ecological infrastructure restoration to diversification of water sources and improved governance of infrastructure—the Western Cape faces escalating risks to its water security, economic stability, and environmental sustainability. These challenges, as well as opportunities, are reflected in greater detail in the chapter.

2.3. Disaster Risk Response Approaches

A robust water resilience strategy must integrate both **proactive** and **reactive** approaches to effectively address the growing threats posed by climate change, such as increased frequency and intensity of droughts, floods, and other hydrological extremes. By doing so, the strategy should effectively respond to both the immediate and long-term impacts of climate change, review the lessons learnt from previous severe weather impacts that should influence mitigation & response planning thereby avoiding and/or adapting to the risks at hand.

Through **Proactive approaches,** this strategy encourages diversification of water supply sources and a focus on disaster risk reduction, including investments in sustainable water infrastructure, early warning systems, integrated catchment management, restoration of ecological infrastructure (e.g., riparian restoration, river protection works, removal of invasive alien plants, restoration of wetlands), and policies promoting water conservation and reuse. These include long-term investments in sustainable and climate-resilient water infrastructure (such as rainwater harvesting systems, flood **retention** basins, and permeable surfaces which allows for the absorption of stormwater), the development of integrated water resource management plans, and the use of predictive climate and hydrological models to inform decision-making. Proactive actions also involve building institutional and community capacity, promoting water conservation and efficiency measures, diversifying water sources (e.g., desalination, recycled wastewater, ground water), and establishing regulatory frameworks that encourage adaptive planning. These

measures will build baseline resilience by reducing vulnerability before shocks occur in the Western Cape province.

On the other hand, through **Reactive approaches,** the strategy recognises that appropriate and effective responses are essential for a crisis and recovery period. They include emergency water supply distribution, implementation of emergency water tariffs, rapid repair of damaged infrastructure, and adaptive management protocols that can be triggered during extreme weather events. As required by Reactive approaches, the strategy encourages a strong coordination mechanism between government agencies, utilities, and communities to ensure timely and efficient responses during and after disasters. This can be achieved through a stakeholder mapping, analysis and engagement plan for the whole province.

By recognising and encouraging both approaches in the Western Cape province, our water resilience strategy can mitigate the impacts of climate-related shocks and recover from them more effectively. This dual approach ensures that water systems remain functional and equitable, even under stress, thereby safeguarding public health, livelihoods, economic development, and ecosystems in a changing climate. Together, these approaches ensure the system can withstand, absorb, and quickly recover from disruptions, maintaining critical water services during climate-induced shocks.

Chapter 3: Focus Areas

The following focus areas underpin the Western Cape Water Resilience Strategy, refer to Figure 9. **These areas support the realisation of the Strategy's vision by outlining broad strategic targets, as reflected in the respective areas below.** These strategic targets are expanded upon in the Implementation Plan.

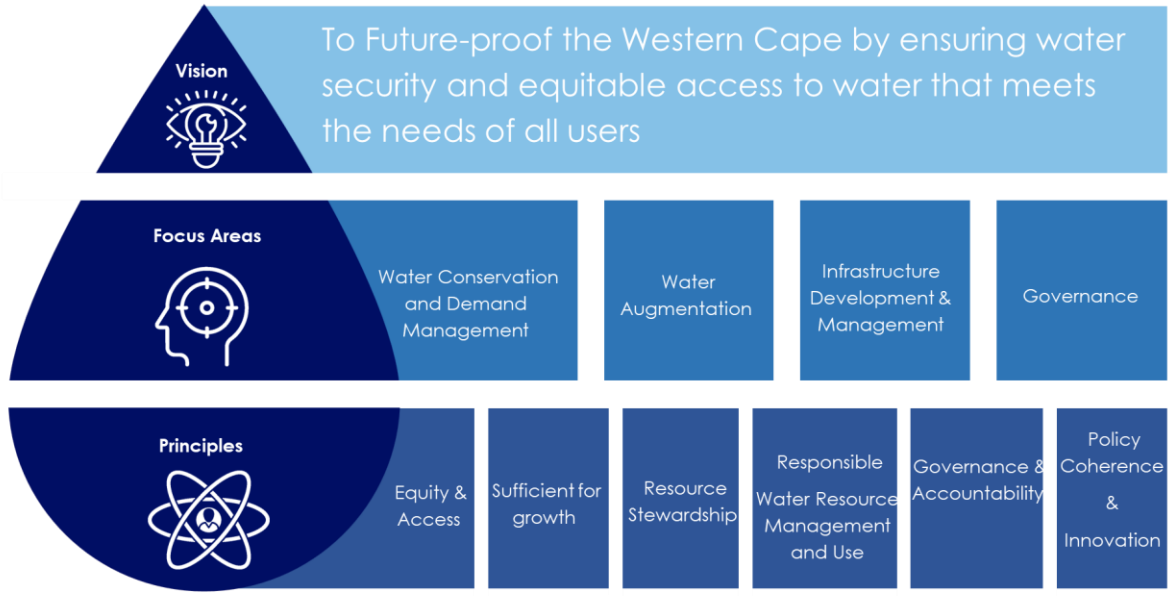

Figure 9: Western Cape Water Resilience Strategy focus areas.

3.1. Focus Area 1: Water Conservation and Demand Management (WCDM)

The strategy promotes WCDM as the first line of defence against water scarcity by embedding efficiency into water use behaviour, infrastructure, and planning. It will influence municipal and sectoral planning by integrating WCDM targets into Water Services Development Plans (WSDPs), spatial development frameworks, urban design and infrastructure masterplans. To ensure implementation, the WCG seeks to galvanise partnerships with municipalities, the private sector (particularly in agri-processing and tourism), and academia to support innovation in water-saving technologies and real-time monitoring systems. Civil society Organisations and community-based organisations will also be mobilised to lead public awareness and behavioural change campaigns. Strategic lobbying will focus on securing fiscal grant alignment (e.g., Water Services Infrastructure Grant) and performance incentives through the No Drop Programme to reward reduced non-revenue water.

Non-Revenue Water (NRW) reduction is central to achieving the WCWRS's goal of enhancing water efficiency and financial sustainability within municipal systems. NRW denotes all water produced but not billed due to physical leaks, unauthorised consumption, or data and metering errors.

At the national level, South Africa loses an estimated 2.08 billion m³ (≈ 2 080 billion litres) of potable water per year, equivalent to 47.4 % of total system input volume (SIV). Within the Western Cape, NRW is comparatively lower at approximately 27.9 %, equating to approximately 126.7 million m³ (127 billion litres) per year. This indicates the province performs substantially better than most others but still faces notable losses and revenue leakage that impact service delivery and sustainability. (Sources: DWS National State of Water Report 2023; No Drop Assessments 2023; Parliamentary Reply RCW381 of 2025.)

To align with the Water Conservation and Demand Management (WCDM) objectives, municipalities are required to:

- Implement continuous leak detection, pressure management, and pipeline rehabilitation programmes.
- Ensure accurate metering, billing, and data integrity to minimise commercial losses.
- Roll out smart monitoring and early-warning systems for high-risk zones.
- Incorporate NRW reduction plans into Water Services Development Plans (WSDPs) and master plans.

The WCWRS target is to reduce average municipal NRW to below 25 % by 2035, contributing to provincial water savings of over 40 million m³ per annum and strengthening municipal revenue stability.

Water-smart farming: Sandvelds' answer to the climate crisis.

Sandveld potato farmers have adopted water-saving technologies and regenerative farming practices to ensure a steady supply of this crucial staple. The Sandveld Potato Growers have taken this challenge head-on by investing in precision irrigation, soil moisture monitoring, and improved farming methods. The water-saving measures introduced by Sandveld farmers have resulted in a 20% reduction in water consumption, according to research conducted by the University of Pretoria. Some farmers have achieved even greater reductions. A growing number of Sandveld farmers are embracing regenerative farming techniques. Traditionally, fields were left fallow since potatoes can only be grown in the same area once every three years to prevent soil-borne diseases. Now, with a focus on environmental sustainability, farmers plant cover crops, such as rye, immediately after harvesting potatoes. "Rye's deep roots and the remaining soil moisture eliminate the need for additional irrigation. This cover crop not only protects the soil from erosion but also naturally suppresses weeds, reducing reliance on herbicides. When the field is ready for potatoes again, the rye is cut and incorporated into the soil, enriching its organic matter and enhancing water retention.

https://www.foodformzansi.co.za/water-smart-farming-sandvelds-answer-to-climate-crisis/

The Western Cape Water Services scores best in the No Drop assessment

The No Drop Programme enables DWS, as the Regulator, to measure the performance of WSAs in terms of water use efficiency, as managed by these entities. The scorecard completed during the No Drop audits is used to assess the core competencies, or criteria that enable acceptable performance in water demand management in the municipal sector. Overstrand LM scored over 100% and City of Cape Town and Swartland scored above 90%. Six WSAs scored above 80% (good performance.

2023 No Drop Report

3.2. Focus Area 2: Water Augmentation

To reduce reliance on single water sources and improve climate resilience, **the strategy supports diversification through the restoration of ecological infrastructure, such as wetlands and catchments, as well as support for groundwater development, water reuse, stormwater and rain water harvesting, aquafer recharge harvesting, and desalination**. The strategy aims to influence project planning by ensuring diversified options are assessed in feasibility studies and supported in investment cases. It will mobilise partnerships with national governments (DWS), Catchment Management Agencies (CMAs), landscape programmes (e.g., Biosphere Reserves), Water Funds, non-profit organisations (NPOs), local municipalities, water boards, and the private sector to co-develop and finance these alternatives. The strategy promotes a proactive lobbying for access

to climate finance and development funding (e.g., Green Climate Fund, DBSA) by positioning diversification projects within broader climate adaptation and circular economy frameworks.

Greater Cape Town Water Fund

The GCTWF is celebrating five years of successful operations since its launch in November 2018. A key component of the GCTWF is removing invasive trees—including acacia, pine and eucalyptus—from remote, hard-to-access areas. These invasive trees use huge amounts of water compared to the natural plants, reducing the amount available for people in and around Cape Town.As of October 2023, GCTWF teams have cleared more than 46,000 hectares of invasive trees. This recovers about 15.2 billion liters of water per year (42 million liters per day) back into the water catchment and keeps the rivers flowing.

And the work has had community benefits, too: Since 2019, the GCTWF has created 722 green job opportunities, nearly half of which are held by women. About 150 of those jobs are for high-angle technicians. This challenging work in remote, mountainous terrain, is the biggest operation of its kind in South Africa. In a region grappling with severe unemployment, jobs with the GCTWF provide opportunities for the community.

Source: https://www.nature.org/en-us/about-us/where-we-work/africa/stories-in-africa/nature-based-solutions-could-protect-cape-town-s-water-supply/

Conjunctive use and management of water resources: the saviour during peak seasons and droughts

The Western Cape coastal areas and smaller towns are hotspots for water demand during holiday periods. To meet peak demands, the town relies on various sources, including surface water resources, groundwater, and desalination. For example, the village of Witsand partially depends on the water provided by Overberg Water and utilises a borehole to supplement the Overberg Water supply during peak holiday periods. The French Embassy supported the construction of a desalination plant to help alleviate peak water demand. During the winter months, there is a reliance on Overberg Water, while in peak seasons, groundwater and desalinated water augment the water demand. The town of Prins Albert obtains its water from a combination of groundwater and surface water sources. The Kweekvallei Water User Association allocates the surface water. A joint water management team has been established between the municipality and the WUA to manage seasonal and drought cycling. A contingency plan has been developed through DLG support, as shown in Figure 10.

Figure 10: Contingency plan for Prins Albert.

Managed Aquifer Recharge (MAR) in the Western Cape: Examples of nature-based solutions in action

MAR aims to rapidly replenish aquifers with water that would otherwise be lost through evaporation and stream flows. The subsurface conservation of water is particularly significant in semi-arid to arid regions.

The Atlantis Water Resource Management Scheme (AWRMS) has been in operation since the late 1970s. The scheme's design demonstrated cost-effective and responsible groundwater use at the time. Initially, water supply to Atlantis was facilitated through conventional groundwater abstraction; however, this proved insufficient due to the growth of the residential and industrial sectors. Through visionary town planning for the time, water recycling via the passive managed aquifer recharge (MAR) at two MAR basins were incorporated into the water supply system for Atlantis, Stormwater from the residential portion of Atlantis is directed to a retention Basin which features a constructed reed bed, allowing polishing of the stormwater quality before discharge to the MAR basins. The MAR source then infiltrates the aquifer and is abstracted ~750 metres downgradient at a wellfield. Industrial effluent is directed to coastal recharge basins, which serve as barriers against saline intrusion.

The CoCT now aims to meet its immediate short-term water requirements through local-scale groundwater abstraction and distribution via the Cape Flats Aquifer Management Scheme (CFAMS), with longer-term flexibility for broader-scale distribution through the Western Cape Water Supply System (WCWSS). The planned implementation of measures, such as MAR, will improve the aquifer's abstraction potential and groundwater quality within the CFA over the lifespan of the aquifer's utilisation. The CFAMS has been implemented through a combination of exploration drilling and heliborne geophysics, targeting appropriate CoCT-owned land to avoid time-consuming landowner agreements, and the simultaneous drilling of production boreholes in areas where high yields were realised during exploration. To date, drilling and testing have continued, with over 250 boreholes being drilled and tested within a 2–3 year period. Once drilled, boreholes are included in the ongoing monitoring of groundwater quality and levels. The scheme currently consists of 6 abstractions, boreholes, and 5 MAR wellfields.

https://recharge.iah.org/files/2025/06/ISMAR12_Excursion_The-Atlantis-Water-Resource-Management-Scheme.pdf
https://recharge.iah.org/files/2025/06/ISMAR12_Excursion_The-Cape-Flats-Aquifer-Management-Scheme-1.pdf

3.3. Focus Area 3: Infrastructure Management, Development and Maintenance

It is recognised that infrastructure sustainability is essential to long-term water resilience. As such, **lifecycle asset management is promoted by integrating it into built infrastructure planning tools and by supporting the adoption of digital infrastructure management systems across municipalities**. Ecological Infrastructure is recognised as a form of infrastructure in the National

Infrastructure Plan and the WCIF. It requires "asset" management to keep the systems functional and optimised to achieve water quantity and quality objectives.

Effective asset management should influence infrastructure budgeting processes to prioritise preventive maintenance over emergency repairs, and advocate for prioritised or ring-fenced budgets to address deferred maintenance. **The strategy proposes partnerships with engineering institutions, state-owned enterprises (e.g. Trans-Caledon Tunnel Authority, CapeNature), Catchment Management Agencies (CMAs), landscape programmes (e.g. Biosphere Reserves, Fire Protection Agencies), Water Funds (e.g. Greater Cape Water Fund), NPOs and donors to capacitate municipalities and co-finance infrastructure restoration, upgrades and new developments duel pipeline systems for raw and chlorinated water in new developments as well as novel nature-based solutions**. It will also lobby the National Treasury to incentivise performance in maintenance delivery and to prioritise shovel-ready, resilience-oriented infrastructure in the national pipeline.

3.4. Focus Area 4: Governance

Institutional coordination and capacity are foundational to achieving water security. Cross-sectoral governance coordinated by the provincial Water Resilience Committee which feeds into the Provincial Energy and Water Council. Moving forward, the committee should influence institutional mandates and co-operative joint planning between all levels of state and non-governmental actors by supporting policy clarity, streamlined licensing, and the reduction of duplication in water governance functions. Partnerships will be galvanised with national and provincial departments, relevant public entities, CMAs, SALGA, academia, NPOs, water user sector representatives and Civil Society Organisations to build a coherent governance framework and expand technical and leadership capacity across the water sector. The approach includes lobbying for integrated water governance reforms at provincial and national levels, including advocating for alignment between municipal functions, catchment management (including Ecological Infrastructure), and infrastructure regulation. In doing so, it will position institutional reform as a key enabler of service delivery, economic growth, and social justice.

Chapter 4: Challenges and Opportunities within the landscape

The following challenges and opportunities have been identified in the provincial water risk register and inform the pillars of this Water Resilience Strategy.

4.1. Challenges

Several challenges exist that undermine the Western Cape's ability to secure a water-resilient future. These challenges are outlined below and inform the approach adopted in this Strategy. A strategic, adaptive approach will be adopted in implementing the strategy, where emerging challenges to implementation will be accommodated to ensure the successful realisation of the strategy's vision. The following challenges have been taken into consideration herein:

- **Population and Economic Growth:** The Western Cape's population continues to grow due to natural growth and immigration into the Province, causing increased strain on water resources and services. The Province's GDP growth target of 4-6% per year (aligned with the *Growth for Jobs* strategy) relies on securing sufficient water (of acceptable quality) to support industries, particularly secondary and tertiary sectors.

- **Rapid urbanisation:** As towns and cities grow, water services get overstretched, which leads to water scarcity, and therefore, negative impacts on public health, economic development, and the environment become inevitable. Urbanisation affects land use management with an impact on the environment if not managed properly; therefore, the quality and quantity of drinking water, sanitation, and other aspects of water management are affected.

- **Capacity and Demand**: The existing infrastructure was designed for a smaller population, lower economic activity and typically better source water quality. With increasing urbanisation and industrial growth, the capacity of water treatment and distribution systems is stretched, leading to inefficiencies and water supply risks

- **Drought, flood and Climate Change:** The region's Day Zero crisis highlighted the region's vulnerability to water shortages as a winter rainfall Mediterranean climate region. The Climate Change projections show the Western Cape to be more at risk to climate change than the rest of South Africa and indicate a 20-25% decrease in annual rainfall by 2035. Rain is also more likely to fall as heavy storms rather than gentle, slow rain. This means that a greater reliance on alternative water sources, such as groundwater, water reuse, and desalination, is critical as part of a diverse mix of water supplies. Climate change also makes the Western Cape more vulnerable to flood damage through an increased frequency of extreme storm events. These events threaten our built infrastructure; the whole agriculture and agri-processing value chain, therefore, a review of our climate resilience strategies and infrastructure to address the increasingly extreme weather events we are experiencing is essential.

- **Environmental Degradation:** The loss of natural habitat and ecosystem health and function through land use change, increased pollution and the spread of invasive alien plants throughout the Province (especially the impact of these on important water resources such as rivers, wetlands and Strategic Water Source Areas) has weakened the Province's natural water systems. Furthermore, the ongoing loss of natural habitat through land cover change also results in increased erosion and pollution of watercourses. Over allocation and unlawful water use from water sources and not adequately providing for an ecological reserve further exacerbates the weakening of the Province's natural water systems. Weakened natural systems are less capable of delivering water and protecting downstream water users and environments from natural disasters (such as floods and droughts).

- **Ageing Infrastructure and lack of maintenance**: Many of the pipelines, dams, and treatment plants are decades old, resulting in inefficiencies, increased water losses, and frequent breakdowns. For example, the maintenance of canals and bulk infrastructure has been underfunded, resulting in water losses due to leaks and inefficient distribution. Similarly, ageing and inadequate maintenance of wastewater (sewerage) infrastructure result in sewage leaks into rivers, impacting both ecosystem health and downstream users.

- **Funding Gaps**: To strategically close funding gaps across the four focus areas of the Water Resilience Strategy—namely Water Conservation and Demand Management, Water Resource Diversification and Augmentation, Infrastructure Planning and Maintenance, and Institutional Governance and Capacity—the approach will be multi-pronged and intentionally designed to align with both existing and emerging funding mechanisms at national, provincial, and local levels.

  Firstly, the strategy encourages working towards and/or on leveraging national funding instruments, such as the Water Services Infrastructure Grant (WSIG), Regional Bulk Infrastructure Grant (RBIG), and the Green Drop/Blue Drop-linked performance incentives, by aligning projects with national priorities and demonstrating value for money and readiness. Active engagement with National Treasury and DWS will be maintained to position critical water resilience projects within the national budget cycle and infrastructure pipeline.

  Secondly, at the provincial level, the strategy seeks to integrate water resilience into core budget planning through the Medium-Term Expenditure Framework (MTEF) and Public Infrastructure Budgeting process. This includes advocating for dedicated allocations within departmental budgets and strengthening the case for transversal budget coordination, particularly in linking water outcomes with climate adaptation, economic development, and human settlements planning.

  Thirdly, the strategy aims to mobilise the private sector and blended finance by creating bankable projects, de-risking investment environments, and structuring partnerships under Public-Private Partnership (PPP) models. Opportunities for green infrastructure bonds, climate finance, and concessional funding from development finance institutions (e.g., DBSA, World Bank, GCF) will be actively explored, especially for water reuse, desalination, and ecological infrastructure interventions.

Fourth, the strategy promotes co-investment at the local government level by strengthening the financial planning, asset management, and revenue collection capacity of municipalities. Support will be provided to enable municipalities to unlock borrowing from institutions such as the Municipal Infrastructure Investment Unit (MIIU) and to access donor-funded technical support.

Treasury guideline require 15% of revenue generated from services to be ring-fenced. This is to ensure that adequate investment is made in the operations, maintenance, and repairs of infrastructure.

Finally, the strategy emphasises performance-based funding and results-linked finance, aligning budget allocations with measurable resilience outcomes. This includes linking infrastructure grants and operational support to governance improvements, planning compliance, and delivery effectiveness. By combining these approaches and maintaining a dynamic funding coordination platform within the governance structure, the strategy aims to systematically and sustainably close funding gaps across all focus areas.

- **Inefficient project implementation:** Key water infrastructure projects, such as raising the height of Clanwilliam dam wall and constructing new treatment plants, have been delayed over the past three decades due in part to funding constraints and prioritisation of projects such as housing. These delays in project delivery further contribute to the disparity between water supply and demand. They must be factored into the implementation of this Strategy to ensure that targets outlined herein and in the implementation plan are realistic.

4.2. Opportunities

Despite these challenges, the Western Cape is well-positioned to **build a resilient and adaptive water future**.

- The province benefits from a strong technical and research ecosystem, anchored by leading universities, research institutions, and innovation hubs. These institutions support the development and localisation of advanced technologies in water reuse, digital metering, managed aquifer recharge, and climate forecasting—tools critical for data-informed decision-making and adaptive management.

- **The Western Cape also has a diverse water resource base, including surface water, groundwater, stormwater, and the potential for desalination and reclaimed water**. By integrating and managing this portfolio more efficiently and in a conjunctive manner, the province can reduce over-reliance on single sources and improve climate resilience. The WCWSS, which serves the Metropolitan area of Cape Town as well as several surrounding towns and agriculture, is an interconnected system which allows operators to move water between dams to ensure that they are all full before winter water "spills" over the dam walls, thereby optimising the storage capacity. This is an unusual and highly innovative system, designed in response to a severe drought in the 1920s and managed through cooperative technical relationships. Strengthening the WCWSS will ensure that the WC and its economy are future-proof.

- Furthermore, the presence of established governance structures, such as the DWS Reconciliation Committee, the WCWSS Hydrological Committee, the Provincial Water Resilience Committee and the Premier's Energy and Water Council, PDMC JOC/ Advisory Forum provides institutional platforms for coordinated, cross-sectoral implementation of the strategy.

- There is also a significant opportunity to mobilise the private sector, which has shown growing interest in sustainable infrastructure investment, public-private partnerships, and water stewardship initiatives. Additionally, heightened public awareness following recent drought crises has created a receptive environment for promoting behavioural change, water conservation, and co-production of local solutions. These factors, combined with access to international climate finance and donor support, position the Western Cape to lead in implementing a forward-looking, inclusive, and resilient water management model.

- The Drought (2015-2019) and extended to 2022 in arid regions of the province, provided tangible evidence across economic sectors regarding how water scarcity impacted economic growth and economic sustainability. This socio-economic polycrisis, however, also prompted the acknowledgement of the enormous opportunities this hardship presents for developing water efficiency technologies, manufacturing, and services, and for assisting the private sector to rethink its processes and significantly reduce water usage and dependency.

  This has led to Green Economy Ecosystem Support (GEES) efforts to ensure that new investment in the province is water-sensitive and efficient, and to build on the innovation and entrepreneurial response seen during the drought to create a thriving green economic sector. The WC Growth for Jobs Strategy, therefore, includes a focus on ensuring sufficient water for green economic growth.

- **Technological Innovation**: Across the Province, investment in diverse water supplies such as groundwater abstraction, water reuse, and desalination has proven effective. The City of Cape Town's planned desalination plants alone have the potential to contribute up to 40 million cubic meters annually. Future innovations include a shift from wastewater treatment plants to Bi-product Recovery Facilities for the reuse of water, gas, and sludge, thereby creating an economic value chain around our water infrastructure. Another key example is the Steenbras Hydro-electric Power Station, which produces energy while serving as a storage dam for water security. More of these innovations will be explored to create not only economic opportunities but also build in sustainability and resilience of water management and supply.

- **Water Demand Management:** Smart technologies and water-efficient appliances present opportunities to significantly reduce water demand across both urban and agricultural sectors. Across the province, municipalities have already begun adopting smart water systems, which enable real-time monitoring of water usage and facilitate the early detection of leaks, thereby contributing to a more efficient and sustainable use of available resources. Expanding water-sensitive design can reduce water demand in urban, peri-urban and rural developments by incorporating stormwater management, greywater recycling, and drought-resistant landscaping. The strategy supports the DWS

WCDM monitoring assessment tool for municipalities, encouraging efficient water use. Furthermore, opportunities for the recharge of aquafers with rainwater can be investigated.

- **Reuse of Treated Wastewater:** Increasing the reuse of treated wastewater provides a substantial opportunity to boost water availability. Beaufort West in the Karoo treats much of its wastewater back to drinking (potable) standard, like many places in Namibia have done for over 50 years. Other towns, such as Cape Town and George, use reclaimed wastewater for non-potable purposes, and scaling this approach will help reduce demand for traditional water sources. There is potential to further expand the scope of wastewater treatment plants across the province too, especially in areas facing low rainfall and severe water shortages. New developments should make provisions for separate dual pipeline systems for raw and treated water.

- **Decentralised Water and Sanitation Solutions:** Decentralised water systems, such as rainwater harvesting, groundwater abstraction and small-scale desalination plants for local use, will be encouraged to provide water security in remote areas and reduce the pressure on centralised infrastructure. Encouraging household-level solutions, such as rainwater tanks and greywater systems for irrigation, will also decrease demand on municipal drinking water supplies, creating a more resilient water-use framework. Furthermore, emerging innovative alternative sanitation and sewerage technologies will be explored, as they have the potential to increase access to dignified sanitation, reduce pollution in underserved areas, and reduce demand through the treatment and reuse of water within a circular design.

- **Agricultural Water Efficiency:** Agriculture has the highest water allocation in the Western Cape with 35% of allocations in the WCWSS especially in the summer season, and 90% of available water in the Olifants River- (upon completion of Clanwilliam dam), the Breede River- (70%) and the Gouritz River (60%) Catchments being allocated to irrigation agriculture. Whereas the City of Cape Town uses near 60%, 38% is used through the summer season and the remainder through the winter season, whilst the dams are being replenished. Water for agriculture is available to irrigation farmers at a much lower assurance of supply, compared to water allocations for domestic and industrial users, meaning that agriculture is subjected to much harsher water curtailments than other water users. Since Western Cape farmers are accustomed to dealing with dry, hot summers and wet winters, they have adapted by selecting crops suitable for the specific region and increasingly adopted more efficient irrigation techniques, such as drip irrigation, soil moisture sensors, and even satellite-based technologies that advise when to water crops. These measures improve water use efficiency and the economic viability without compromising crop yields.

  The uptake of Conservation Agriculture approaches, which promotes no tilling and rotation practices while improving and retaining soil structure and organic content, helps the soil hold water for longer, improved soil health. These shifts, together with the selection of drought-resistant crops, are all part of the Agricultural industry's long-term efforts to ensure water use efficiency, as outlined in the SmartAgri plan.

- **Ecological infrastructure investment:** The protection and restoration of natural ecosystems, such as wetlands and rivers, are not only legal requirements in South Africa but also provide significant opportunities to improve water quality and availability while creating job opportunities in the face of climate change. Investments in ecological infrastructure increase the available water supply and its quality, while enhancing biodiversity and ensuring healthy, functioning wetlands that act as natural sponges, allowing water to slowly seep into soils and groundwater, as well as be released gradually into streams days or weeks after a heavy rain. Invasive alien plant clearing, especially in Strategic Water Source Areas, help restore natural water flows, as these invasive plants currently consume significant amounts of surface water relative to the naturally occurring (indigenous) vegetation within the context of the Western Cape were estimated to consume more than 960 Mm3/a of water within the Western Cape in 2018).

- **Strategic Water Source Areas:** Within the domain of ecological infrastructure, Strategic Water Source Areas emerge as the areas of highest priority. The Western Cape's Strategic Water Source Areas (SWSAs) play a crucial role in sustaining the province's water supply. These areas contribute significantly to the region's surface and groundwater resources and are essentially the places of origin for more than 50% of all water needs in the province[1]. The surface water SWSAs in the Western Cape include the Groot Winterhoek, Boland, Table Mountain, Outeniqua, Swartberg, Langeberg, and Tsitsikamma Strategic Water Source Areas. There are a further seven groundwater SWSAs within the province, namely the George and Outeniqua, Tulbagh-Ashton valley, Overberg Region, Northwestern Cape Ranges, Sandveld, Cape Peninsula and Cape Flats, and West Coast Aquifer groundwater SWSAs. Threats include invasive alien species, over-abstraction, pollution, and climate change impacts, such as reduced rainfall and increased temperatures. Degradation of catchments leads to diminished water quality and quantity, as well as a reduced ability for these systems to absorb high-intensity rainfall events.

[1] For example, Approximately 98% of the water within the Western Cape Water Supply System (which feeds the Cape Town Metropolitan area and many other urban centres) is generated by Strategic Water Source Areas. Note that other major urban centres in the Western Cape outside of the WCWSS that are heavily reliant on SWSAs include George & Wilderness (100% reliant on the Outeniqua SWSA) and Mossel Bay (95% reliant on Outeniqua SWSA). Therefore, all major urban centres in the Western Cape are heavily depended on SWSAs and their ecological wellbeing.

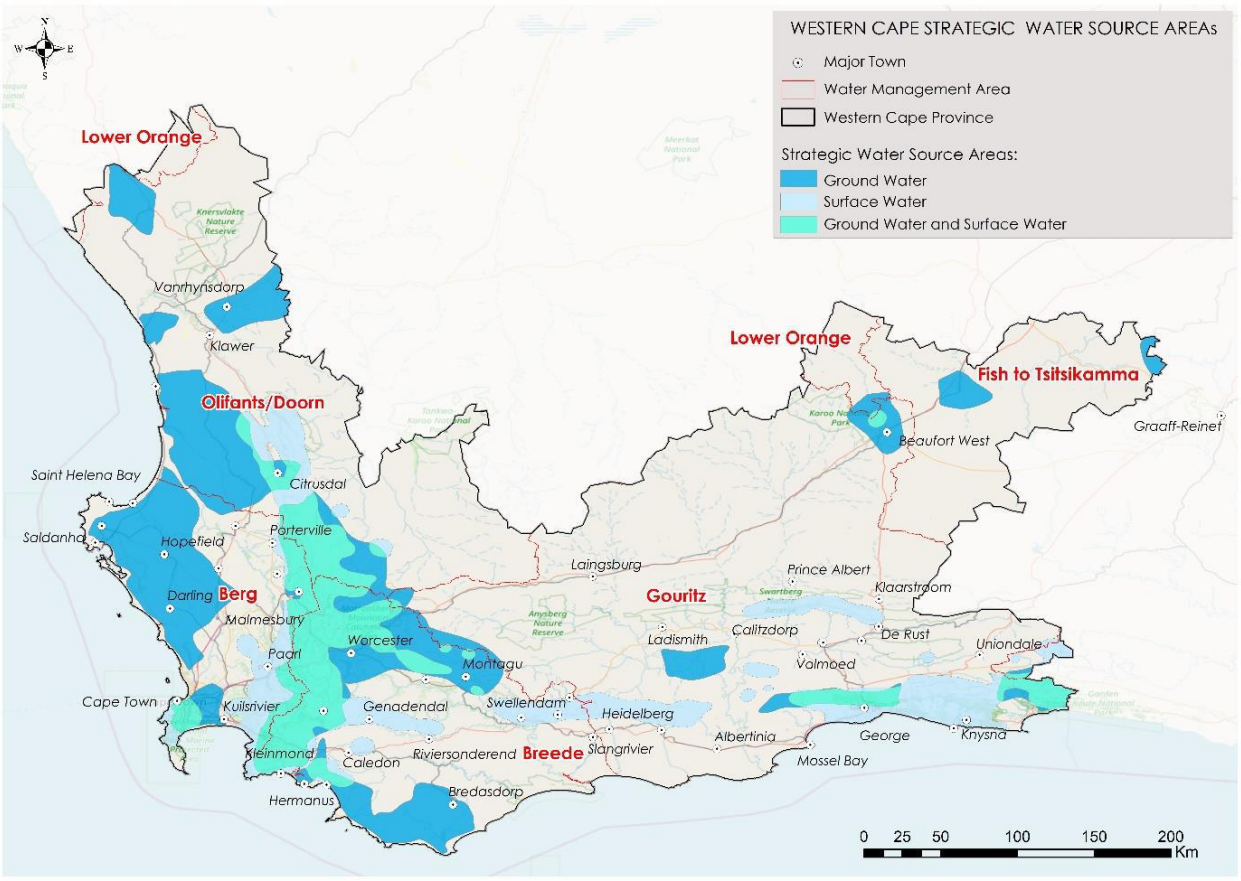

Figure 11: Western Cape Strategic Water Source Areas

- **Water Sensitive Design and Nature-based Solutions**: Planning and development will be promoted with the idea of trapping and using rainwater at various scales, such as swales, artificial wetlands and rain gardens will be encouraged to assist in reducing flood peaks, allow groundwater recharge, improve water quality and reduce the heat which builds up in built-up environments with lots of hard surfaces (known as the "urban heat island" effect).

- **Energy-Water Nexus:** The growing focus on renewable energy, particularly solar and wind energy, offers opportunities to power energy-intensive processes like desalination and water treatment more sustainably. This aligns with the broader goal of transitioning towards a net-zero carbon economy, allowing us to grow our economy using fewer Greenhouse Gases and thereby limiting our contribution to Climate Change. Hydropower opportunities within existing water infrastructure, such as dams and canals, do exist and need to be explored; however, they are not as easily implemented in other systems in South Africa due to the local topography and seasonal rainfall patterns.

- **Job Creation through Water Resilience Projects:** Many of the projects that will be pursued are aimed at increasing water resilience and the creation of jobs, both through the implementation of water resilience initiatives (e.g., the cutting down of invasive alien trees)

but also through secondary industries (value added industries) that might arise around byproducts of these initiatives. Regarding the clearing of invasive alien plants, considerable potential exists to boost job creation through value-added industries that utilise the harvested invasive alien plant biomass as a feedstock. A benefit of these value-added industries is that they predominantly take place near feedstock to reduce transport costs, resulting in job creation in some of the most remote communities within the province, often inhabited by vulnerable members of society (women, children, the elderly and people with disabilities). Water infrastructure development and smart water management also offer opportunities for job creation. Apart from the jobs directly created through water resilience initiatives, concerted focus must be placed on the jobs sustained and indirectly created as a result of improved water resilience for downstream agriculture, communities and their industries. The job creation and sustenance aspects of this Strategy align well with the Western Cape Growth for Jobs Strategy and will help address unemployment while ensuring water resilience.

- **Financing and Alternative Funding Models:** Innovative public-private partnerships (PPP) and alternative financing models, such as water funds and green and water bonds, offer new ways to fund large-scale water infrastructure projects. The Western Cape Government continually explores options to attract impact investment, particularly for projects related to ecological infrastructure and water conservation.

- **Partnerships:** Collaboration with private sector partners, particularly in industries like agriculture, tourism, insurance and manufacturing, could unlock co-investment opportunities to share the costs and benefits of water resilience measures. Further collaborations with international partners, such as development finance institutions and governments, are also essential for securing investment in strategic water source area ecological infrastructure and water resource management projects. The Western Cape is also home to some of the best tertiary education facilities in Africa, putting it at an advantage in terms of access to research and academic partnerships. Partners in academia have already significantly advanced the foundation upon which this Strategy is built and will continue to play a crucial role in realising this Strategy by 2035.

- **Transformative gender and human rights interventions:** The Water Resilience Strategy seeks to actively promote transformative agender and human rights interventions aimed at reducing systemic inequalities in water access, governance, and benefits within the Western Cape. Drawing from international best practices - such as those outlined by the UN Water Framework, the Human Rights to Water and Sanitation (HRWS) principles, and the OECD's inclusive water governance framework - the strategy is grounded in the recognition that water security is both a human right and a prerequisite for gender equity and social justice.

  To achieve this, there is a recognition that pro-poor, gender-responsive, and rights-based planning must explicitly feature in design, implementation, and monitoring processes. This acknowledges that women, girls, persons with disabilities, and other vulnerable groups disproportionately bear the burden of water insecurity, whether through time spent collecting water, exposure to unsafe sanitation, or exclusion from decision-making. In response, the strategy mandates that all project planning and implementation efforts

apply a gender and rights-based lens, particularly in prioritisation of investments, infrastructure siting, and service-level standards.

Institutionally, inclusive governance promotes the inclusion of women and marginalised voices in water forums, catchment committees, and decision-making structures. Participatory planning mechanisms will ensure that the needs and knowledge of underrepresented groups shape local solutions, from community-based water demand management to climate adaptation strategies. Additionally, targeted capacity-building will be rolled out to support gender-equitable leadership in water management, including skills training for women in technical and operational roles.

From a service delivery perspective, the principle is accepted that interventions in underserved and historically excluded communities should be prioritised, particularly in informal and rural settlements. Investments in water infrastructure should be guided by disaggregated data on access, affordability, and safety, enabling the province to close persistent service gaps affecting vulnerable populations. Gender-sensitive designs for sanitation facilities, for instance, will consider menstrual hygiene, safety, and accessibility for persons with disabilities.

The monitoring and evaluation (M&E) framework will include equity-focused indicators, tracking progress on gender participation, rights-based access outcomes, and the reduction of water-related vulnerabilities. These indicators will inform annual progress reviews and shape adaptive management.

Ultimately, the Water Resilience Strategy seeks not only to be conscious of gender and human rights dimensions but also to actively reshape the water system to be more equitable, inclusive, and just. This approach reinforces the province's commitment to a human rights and dignity for all approach in its pursuit of water security.

Chapter 5: Governance of Strategy

To ensure coherence and alignment across sectors, the provincial **Strategic Water Resilience Committee (SWRC**) will serve as the central water-focused governance mechanism within the broader provincial governance architecture. It will feed into the Energy and Water Council (EWC) through a formalised reporting and coordination mechanism. As a high-level, multi-departmental structure chaired by the Head of the Department of Local Government and supported by the Heads of the Department of Environmental Affairs and Development Planning and the Western Cape Department of Agriculture, the committee will escalate key strategic issues, risks, and progress updates to the EWC. This integration will ensure that water resilience priorities are reflected in broader provincial energy-water infrastructure planning, budget discussions, and cross-sectoral decision-making at the provincial executive level.

The SWRC is responsible for coordinating the implementation of the Water Resilience Strategy and will support this upward reporting function by synthesising technical inputs, stakeholder feedback, and implementation of resolutions taken at the EWC. These insights will be channelled through the Water Resilience Committee to inform EWC deliberations. In turn, the EWC will provide strategic oversight, enable resource alignment, and address systemic enablers or barriers (e.g., funding, licensing, intergovernmental coordination) that impact water and energy resilience goals as well as coincide with all G4J reporting channels. This structured link between the Water Resilience Committee and the EWC will strengthen vertical and transversal governance, ensuring that water resilience actions are not siloed but integrated into the province's broader sustainability, infrastructure, and economic development agenda.

Figure 12 illustrates the Governance structure and institutional arrangement in which the WCWRS operates.

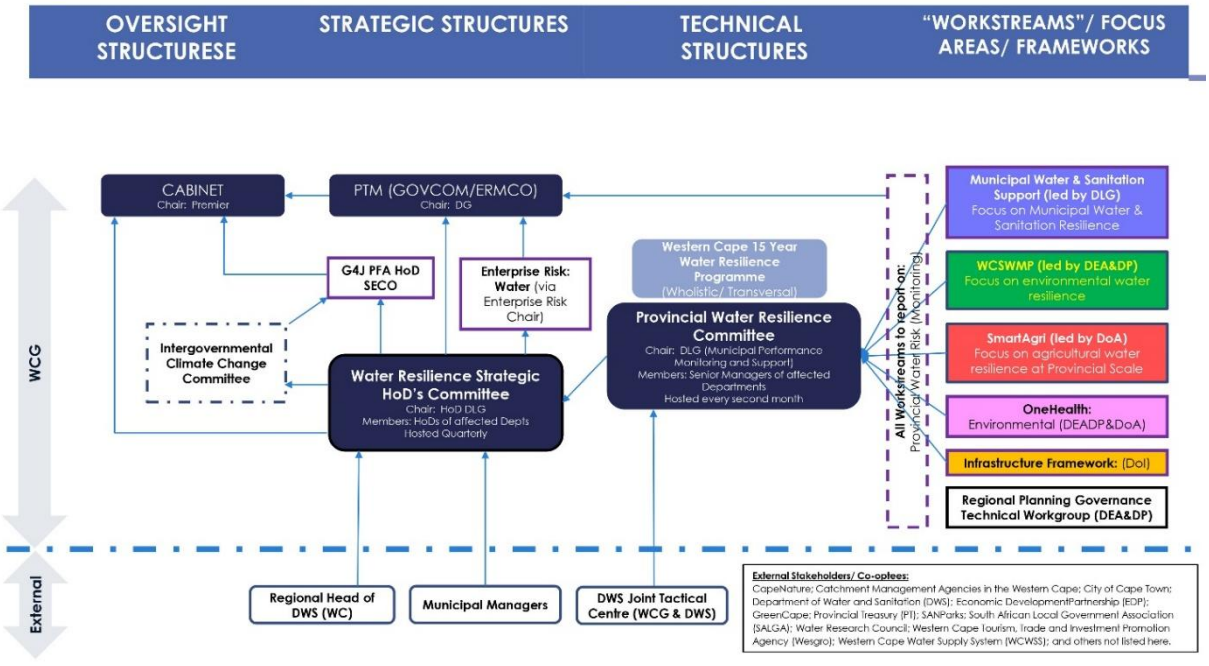

Figure 12: Governance structure and institutional arrangement in which the WCWRS operates.

Chapter 6: Stakeholder Collaboration

Effective stakeholder collaboration is crucial to achieving water resilience in the province. A whole-of-society, panarchic governance approach that brings together all relevant role players—provincial and local government, national departments such as DWS, water user associations, agricultural sector representatives, municipalities, conservation agencies and land owners, NGOs, landscape level programmes, the private sector, academia, civil society, and local communities, fere to Table 4. **This collaborative model emphasises shared ownership, co-planning, and coordinated action to ensure that infrastructure decisions reflect the diverse needs of users, respond to spatial and environmental realities, and unlock catalytic water investments**. By leveraging the complementary strengths and mandates of different actors, the strategy aims to build a resilient and adaptive water system that is transparent, inclusive, and capable of responding to both current challenges and future uncertainties.

Table 4: Stakeholders and roles

Stakeholder	Role
National government, led by the DWS	Will enable the strategy by aligning national policy instruments, issuing water use authorisations, facilitating regulatory reforms, and co-funding large-scale water infrastructure critical to resilience, such as regional storage, transfers, and desalination. DWS will also strengthen compliance, monitoring systems, and national-to-local coordination through the Drop Programmes.
The provincial government	will lead the overall coordination and operationalisation of the strategy across departments and municipalities. It will drive integrated planning, ensure strategic alignment with provincial priorities, support capacity-building initiatives, and champion funding mobilisation for catalytic projects. The province will also be responsible for tracking progress, convening stakeholders, and institutionalising the strategy within transversal governance structures. Specifically: • Head of DLG, as the lead must enable the Water Resilience Committee structure to represent all focus areas of the strategy • DLG will focus on the Municipal interface with bulk water systems and municipal reticulation for drinking water as well as sanitation systems and disaster management • WCDoA will focus on the agricultural commodities, agricultural sector bodies, irrigation boards and water user associations and water use efficiency in agriculture • DEA&DP (with CapeNature) will focus on the catchment management, water quality and ecological infrastructure sectors, spatial development management and its stakeholders • DEDAT will focus on water for economic use, water efficiency in industrial, manufacturing and tertiary sector, interface with rural economies, urban economy, tourism sector, investment stakeholders • DOI will focus on water security in provincial operations and they will work with Education and Health for efficiency and business continuity across provincial services, landholders and interface with other provincial infrastructure, i.e. roads • Provincial Treasury ????
Local municipalities	Will take implementation forward on the ground by integrating the strategy into their Integrated Development Plans (IDPs) and Water Services Development Plans

	(WSDPs). They will roll out water conservation and demand management programmes, improve operations and maintenance of infrastructure, address non-revenue water, and engage communities to promote responsible water use. Their role is vital in delivering service-level resilience at the local level.
Catchment Management Agencies (CMAs)	will advance the strategy by ensuring sustainable water use within catchments, facilitating water reallocation where needed, and strengthening stakeholder participation through water user forums. They will play a leading role in catchment-level planning, balancing ecological and economic water needs, and promoting nature-based solutions.
NPOs, Landscape Initiatives (e.g. biosphere reserves), Water Funds	Will contribute by partnering with other landowners, government, conservation agencies and the private sector to secure funds and provide implementation capacity to restore catchments and biodiversity across landscapes and ecosystems, thereby yielding optimised water quality and quantity in the water supply systems and retaining disaster risk reduction.
The private sector	Will contribute by investing in innovative water technologies, reducing industrial water footprints, and partnering on bulk and local infrastructure delivery through Public-Private Partnerships (PPPs). Businesses will also support resilient water use in agriculture, tourism, and manufacturing, and co-develop decentralised solutions such as water reuse and off-grid systems.
Civil society	will move the strategy forward by strengthening grassroots support and public participation. NGOs and community-based organisations will help raise awareness, promote behavioural change, support local implementation efforts, and act as accountability partners to ensure equity and transparency in delivery.
Labour organisations	will help ensure the transition to a water-secure future is just and inclusive. They will advocate for job creation in water infrastructure projects, participate in workforce planning, and ensure that worker rights and skills development are central to implementation.
Academic and research institutions	will contribute to evidence-based implementation by providing data, modelling, foresight, and technological innovation. Their research will guide decision-making, support pilot projects, and offer technical advice on climate risk, demand management, and water resource planning.
Oversight bodies, including Provincial Parliament Committees, the Auditor-General, and Treasury	will ensure governance, accountability, and financial integrity throughout implementation. They will monitor expenditure, assess delivery performance, and safeguard alignment with legislative mandates.
Donor agencies, international development partners, and multilateral institutions	will support implementation through technical assistance, knowledge exchange, and co-financing for high-impact projects, especially those linked to climate adaptation and water resilience. By collectively playing these roles, all stakeholders will help turn the Water Resilience Strategy from policy into sustained, practical action.

Chapter 7: Summary of Strategic Outcomes/Targets

Table 5 summarises the strategic outcomes or targets that must be met to realise the vision of this Strategy by 2035. These targets have been established for each focus area and are further detailed in the respective chapters of the Strategy. While strategic targets are reflected herein, programmatic and project-specific target-setting is reflected in the Strategy's Implementation Plan.

Table 5: Summary of strategic outcomes/ targets per Strategy pillar.

STRATEGY FOCUS AREAS OUTCOME TARGETS			
1: WATER CONSERVATION AND DEMAND MANAGEMENT	**2. WATER AUGMENTATION**	**3: INFRASTRUCTURE DEVELOPMENT & MANAGEMENT**	**4: GOVERNANCE**
Targets: **Reduce overall provincial water demand by 40 million m3/a by 2035** • **Reduce municipal water losses to 15% by 2035** • **Reduce average residential water consumption to 160 l/c/d by 2035**	**Targets:** • **Secure an additional 310 million m³/a of water by 2035** • **Ensure 100% of municipalities have a diversified water supply source by 2035**	**Targets:** • **100 % of municipalities to have updated water master plans by 2035.** • **100 % of municipalities to have updated asset management plans by 2035.** • **100% of urban residents have access to safely managed water**	**Targets:** • **80% of municipalities to obtain a ≥95% Green Drop score by 2035** • **80% of municipal water supply systems to obtain a ≥95% Blue Drop score by 2035** • **80% of municipalities to obtain no drop certification by 2035** • **Reduce average municipal NRW to <25% across the province** • **100% of municipalities to have updated water use and sanitation bylaws aligned to WCWRS and enforceable tariff structures and restrictions by 2035** • **100% of WSA's to have updated Statutory Documents (WSDPs, WUL, etc) by 2035**
VI. Improve rural water efficiency by maintaining infrastructure & implementing resource quality objectives (RQOs) VII. Improved urban water use efficiency through water sensitive design, reducing non-productive water use (i.e., domestic water use), and reducing water losses	VII. Improve investment in ecological infrastructure (e.g., mountain catchments within Strategic Water Source Areas) for reduced water losses to invasive alien plants and improved water provisioning from healthy ecosystems	IX. Upgrading and maintenance of bulk and municipal infrastructure X. Maximise rainwater harvesting, infiltration and retention through sustainable urban drainage and implementation of nature-based solutions for stormwater management and improved water	XI. Adopt lifecycle asset management approaches XII. Utilise Natural Capital Accounting for the province's ecological infrastructure XIII. Encourage prioritised funding using master planning and transparency. XIV. Improve supply chain processes for improved affordable service delivery

VIII. Improved agricultural water efficiency through innovative and precision technologies for monitoring, irrigation, abstraction and pollution. IX. Improve water resource protection measures such as catchment management, wetland protection and estuary management. X. Improve mining, commercial and industrial efficiencies.	VIII. Progress the uptake of wastewater reuse and recycling, including the use of recycled water in aquifer recharge IX. Increase water provisioning from groundwater sources X. Explore desalination of seawater and brackish water for water needs in coastal areas XI. Increase surface water storage and increase efficiencies through transfer schemes and other mechanisms XII. Increase the contribution and promotion of alternative water harvesting options to water demands, such as rain and fog harvesting aquafer recharge with storm water and rain water storage tanks for households.,	resource quality within cities and towns. XI. Improve the efficiency of storage and conveyancing infrastructure XII. Improved sediment management within catchments and built infrastructure through riparian rehabilitation and river maintenance plans. XIII. Construct and maintain infrastructure necessary for intra- and inter-basin transfer schemes XIV. Improve the responsible uptake of small-scale community infrastructure for access to water and sanitation in informal, rural and peri-urban communities. XV. Roll out smart and digital technologies that diagnose and provide early warning for water services. XVI. Enable the development of alternative sanitation (non-sewered) and grey water re-use technologies and infrastructure for new developments	that acknowledges full cost accounting XV. Build capacity within the province to implement the strategy XVI. Streamline regulatory processes VII. Review legislation and policy for improved alignment with and implementation of the strategy VIII. Improve mandate clarity with defined roles and responsibilities XIX. Encourage knowledge transfer throughout the province towards water resilience XX. Compulsory water systems thinking course for SMS, Middel managers and relevant technical officials.

Chapter 8: Looking Forward

The implementation of the WCWRS will be achieved through the actions outlined in the Implementation Plan. The development of the Implementation Plan will be concluded after approval of the WCWRS. Feedback mechanisms within the Implementation Plan will inform the amendment of this Strategy. The review of the Strategy will be conducted at least every five years to ensure alignment with **a constantly evolving global context**. To achieve an effective and efficient implementation of the strategy, the following process plan is encouraged:

8.1. Implementation Planning

Develop a detailed implementation/action plan that translates strategic targets into specific, time-bound activities. This should include:

- The implementation plan will develop supply and demand scenarios based on the geographical priorities of that area, together with all stakeholders in the space
- Clear roles and responsibilities across departments and agencies in the municipal space
- Prioritization of short-, medium-, and long-term projects and/or actions
- Allocation of resources (financial, human, and technical)
- Integration into existing provincial development and climate plans across sector departments and industry

8.2. Institutional Strengthening & Capacity Building

Build the institutional capacity needed to manage, monitor, and enforce the strategy:

- Train personnel at provincial and local levels on new systems and protocols
- Strengthen coordination mechanisms between the government, utilities, NGOs, and communities
- Establish or empower agencies to oversee strategy execution and enforcement

8.3. Stakeholder Engagement and Communication

To ensure continued stakeholder engagement, buy-in and support within the water sector, the strategy seeks to:

- Facilitate municipal awareness campaigns about new water conservation and management practices
- Support Green Economy and Water Business Ecosystem by creating platforms for ongoing dialogue with economic sector bodies, agriculture, industries, research institutions and landscape partnerships
- Consider marginalised and priority groups in planning, design and implementation efforts

8.4. Data Systems and Monitoring Framework

Develop a robust monitoring and evaluation (M&E) framework to:

- Define indicators that track resilience outcomes (e.g., water security, response time to shocks, ecosystem health)
- Set up real-time data collection and early warning systems
- Regularly report progress and adapt the strategy based on findings

8.5. Securing and Mobilising Funding

Identify and secure diverse funding sources to support implementation by:

- Leveraging fiscal budgets and funding mechanisms, as well as lobbying for international climate finance
- Develop partnerships with the private sector and donor agencies
  Encourage community-based financing models for localised interventions

8.6. Pilot Projects and Scaling Up

Start with demonstration projects in high-risk or high-priority areas to test and refine approaches, which will consider:

- The use of pilot project results to inform larger project rollouts
- Build a knowledge base of best practices under varying climatic and socio-economic conditions

8.7. Policy and Regulatory Alignment

Review and revise existing laws, policies, and regulations to support the strategy:

- Ensure adherence to water conservation practices, land use controls, water reuse standards, etc.
- Align water strategy with provincial disaster risk reduction, land management, and climate policies.

8.8. Review and Adaptive Management

Plan for regular reviews and updates to the strategy:

- Institutionalise a periodic evaluation process (e.g., every 5 years)

- Adapt the strategy based on new scientific insights, climate projections, and feedback from implementation

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