



A WaterWise Nation
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Water Scarcity and Agriculture in South Africa: The Urgent Case for Innovation



Agriculture's share of water use

62% of total water withdrawals go to agriculture



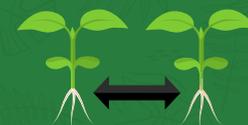
Rainfall decline risk

Up to 10% drop in average rainfall possible, reducing runoff by 50-75



Infrastructure losses

Municipal systems lose large volume of water via leaks, inefficiency



Governance gap

Demand projected to exceed supply by ~ 17% by 2030



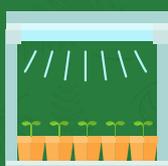
Rural vulnerability

Over 30% of water resources are under stress in rural regions; unequal access



Technology adoption

Smart systems, AI leak detection, water reuse & harvesting are rising



Example innovation

Witsand Solar Desalination Plant – first in SA using solar-powered reverse osmosis



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Challenges and barriers

- Climate volatility: erratic rainfall, scorching droughts
- Aging infrastructure: old pipes, dams, leaking systems
- Poor governance & capacity: overlapping agencies, corruption, weak institutional capacity
- Unequal access: small farmers and rural communities often sidelined

Solutions and pathways

- Smart water management systems (IoT / sensors / leak detectors)
- Wastewater reuse / water recycling (municipal & farm level)
- Rainwater harvesting & storage for farms & communities
- Regenerative agriculture: no-till farming, mulching, soil health practices
- Decentralised, community-driven water governance
- Clean tech / solar desalination / low-water farms

