Protecting and Creating Jobs through Better Water Management

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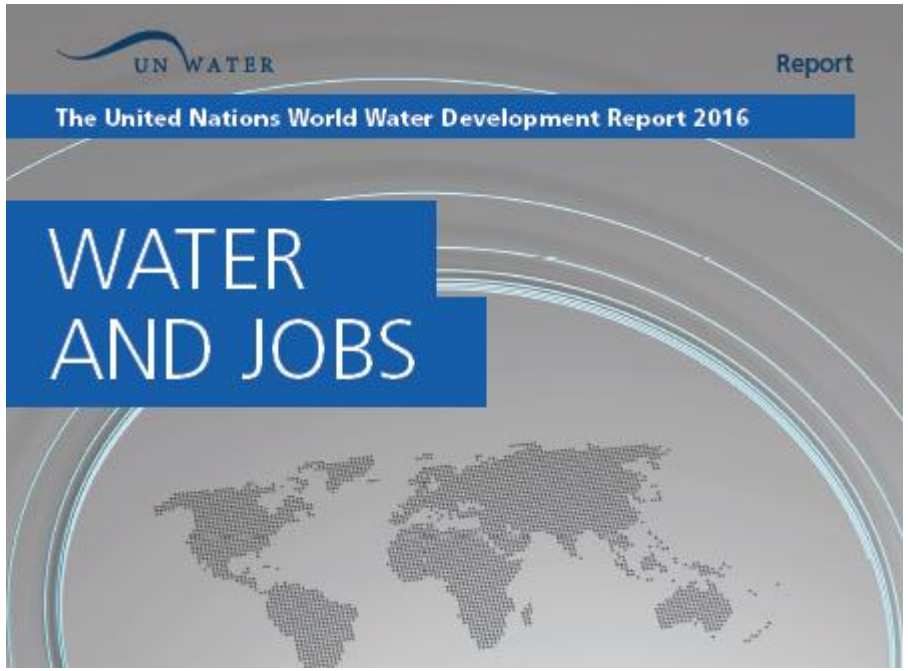
Building capacity for a sustainable future

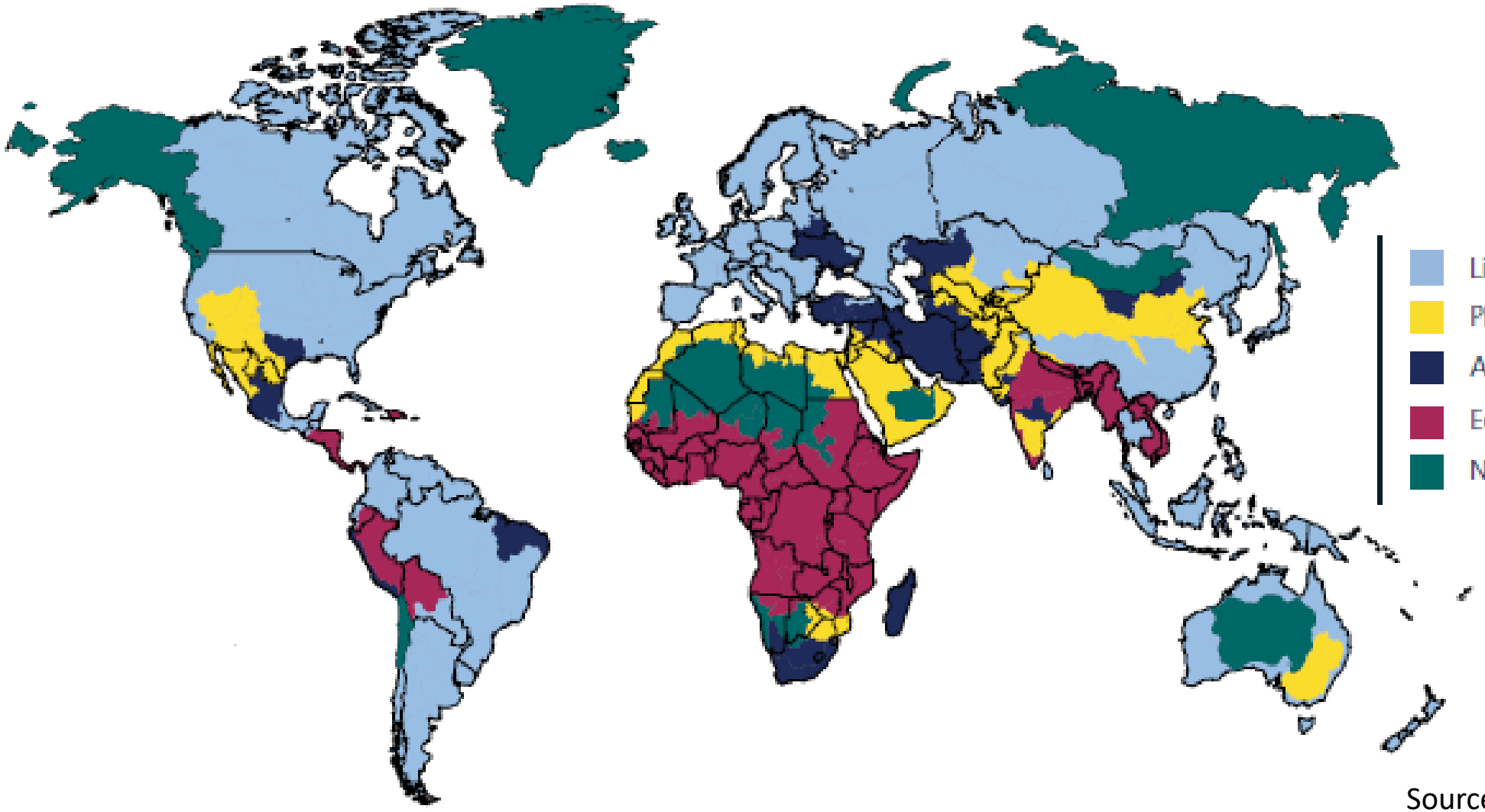
A project of the National Environmental Skills Planning Forum (NESPF)

Link between water and socio-economic development

- Much of the framing of the relationship between water and development in South Africa has been based on the assumption that whilst water is essential for development, its availability is not a constraint on development.
- A UN report on Water and Jobs suggests that 3 out of 4 jobs are highly or moderately dependent on water.
- Mapping this onto South African labour market statistics suggests that over 3 million jobs in South Africa are highly or moderately dependent on water.



Water Scarcity

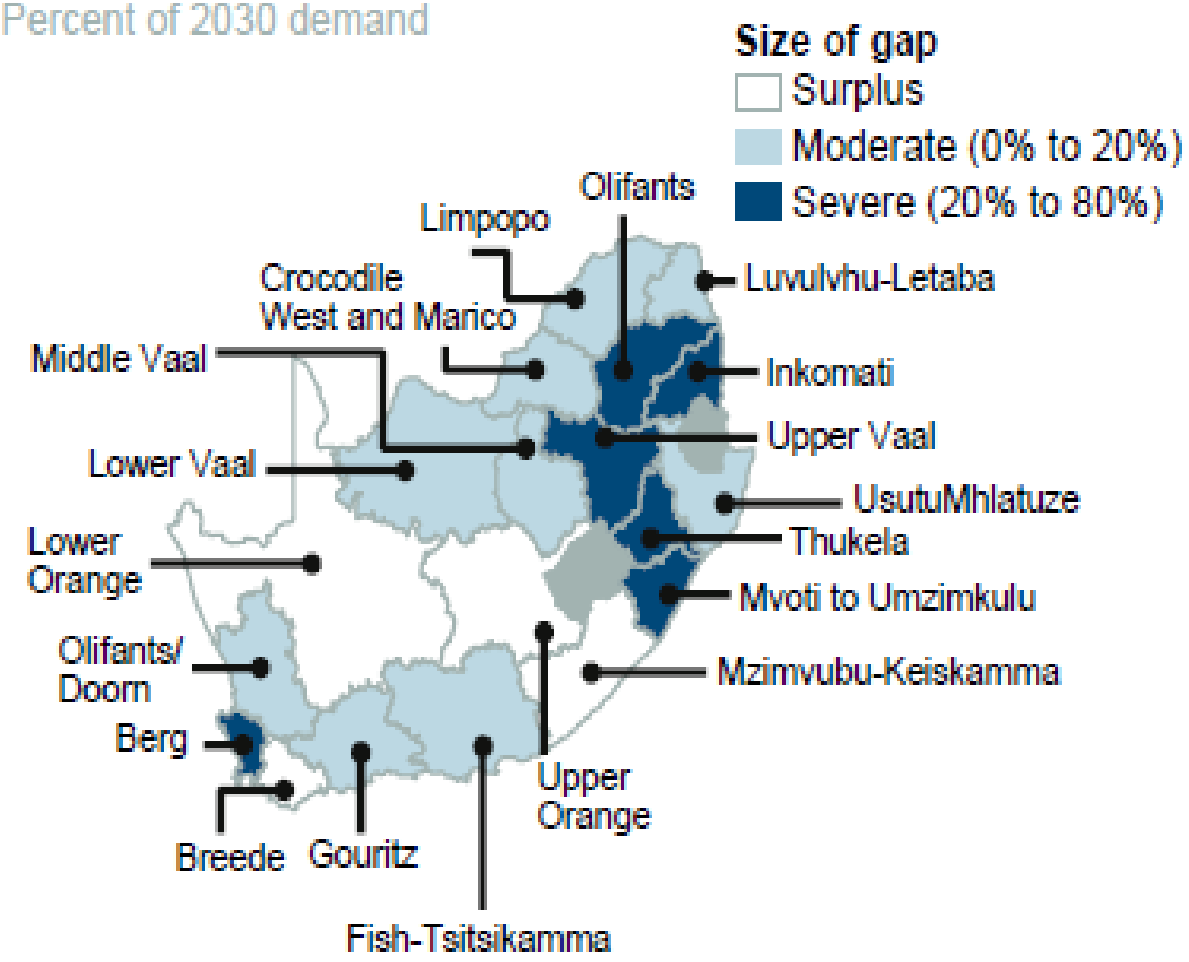


Source: 2030 Water Resources Group

South Africa – Water supply and demand gap

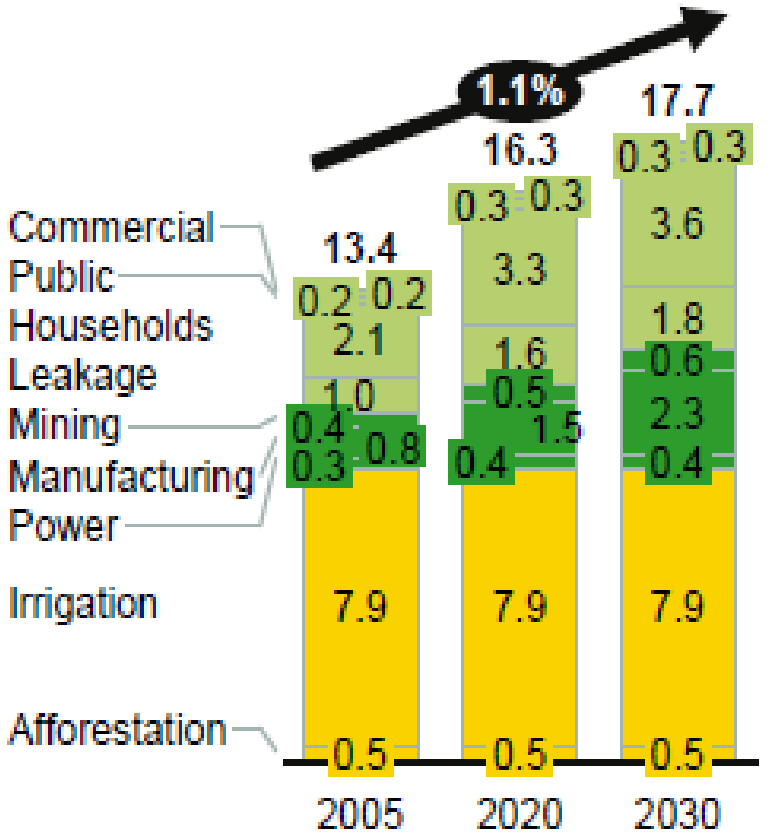
Gap between existing supply and projected[1] demand in 2030

Percent of 2030 demand



Water demand by sector

Billion m^3



1 Frozen irrigation levels and limited ability to increase rainfed land will drive an increase in virtual water trade both between WMAs and internationally with trading partners

SOURCE: Water Research Commission; Department of Water Affairs and Forestry (DWAF); Statistics South Africa; 2030 Water Resource Group

17% deficit by 2030

- The National Water Resource Strategy II estimates that R700 billion will be needed in capital investment in new water infrastructure, in the refurbishment of existing infrastructure and in sustainable water management programmes to respond to water quantity and quality issues over the next 10 years.
- R70 billion will be required per year
- R12 billion allocated to the Department of Water and Sanitation for ‘Water Infrastructure and Development’ in the 2015/2016 financial year.

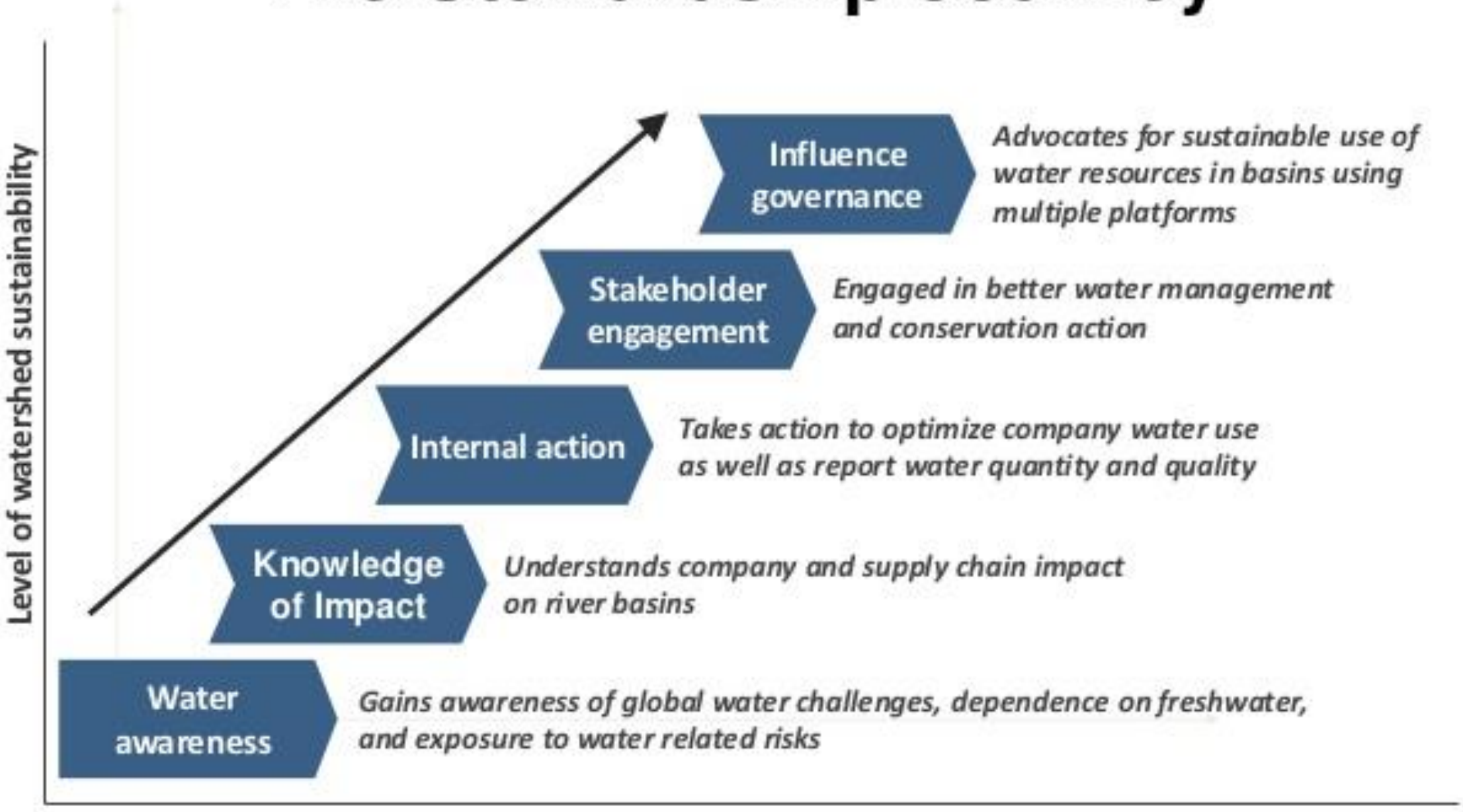
Water provisioning by sector estimated for 2016

	Percentage of total water use	Water use (Million m3)	Employment stats based on QLFS	GDP in R million Stats SA	GDP (in ZAR)per m3 of water used	Jobs per million m3 of water used
Agriculture	57.05%	8900	702 000	76 041	9	79
Power generation	2.41%	376	117 000	67 515	179	311
Mining	3.13%	488	428 000	227 522	466	876
Manufacturing	7.53%	1175	1 760 000	382 006	325	1 497
Trade and services	3.39%	528	10 906 000	1 832 638	3 470	20 652
Domestic	18.15%	2832				
Total water usage	100%	15600	15 146 000	3 023 826	194	971

Based on the projected 17% shortfall on a baseline of 15b m3 litres of water and the aggregate 971 jobs per million m3, failure to address the shortfall could constrain the creation of well over a million jobs.

Source: TIPS, based on Hedden (2016), DWS (2015), and Stats SA (2017); 1995 and 2000 figures from Stats SA (2006)

The Stewardship Journey



Wise Ways Water Care

Civil Society: Mpophomeni Enviro Champs

VALUE-ADDED INDUSTRIES – A CASE STUDY

Innovative Linkages for a Sustainable Future

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

EXPANDED PUBLIC WORKS PROGRAMME

Financing private sector projects

Significant opportunities in the commercial and industrial markets (often <R50 million)

Example projects in industrial market (indicative business case)*		
	Upgrading treated effluent to potable stds	Treating organic effluent to potable standards
Capital costs	R1,000,000	R20-120 million/project
Project size	50 kl/day	200-1000 kl/day
Payback Period	9 months	3-8 years

- Relatively new market – There is a need for innovative financing

* Assuming current tariffs remain in place

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Obstacles to better water management

- Assumption that supply not a limiting factor (e.g. build more dams)
- Catchment management through EPWP/ CSI (e.g. short term jobs)
- Lack of financial instruments for sustainability (e.g. PES)
- Low price of water – low returns on efficiency investments
- Water licensing is not strategic
- Outdated and incompatible data and modelling

Implications for Job Preservation/ Creation

- Very significant impact on agriculture (requires reskilling for just transition)
- Global level SA will lose high water dependency industry (identify and plan for preservation or just transition)
- Reconceptualise EPWP and CSI into core strategic management of water at country and catchment level
- Water efficiency will require significant upskilling of existing jobs
- Enhancing supply and reducing demand are both important parts of avoiding water becoming a limiting factor in our development

Possible Interventions

- Highlight potential implications of 17% water deficit by 2030 (Particularly the implications for jobs and skills)
- Advocate for longer term view of water stewardship projects and jobs
- Develop and implement financial mechanisms for stewardship
- Increase price of water and invest % of income in stewardship
- Develop skills for water efficiency and catchment management
- Put in place an equitable payment for ecosystem service system
- Strategic allocation based on socio-ecological-economic implications
- Make case for developing data-sets and models for water management and allocation

Thank you.

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