

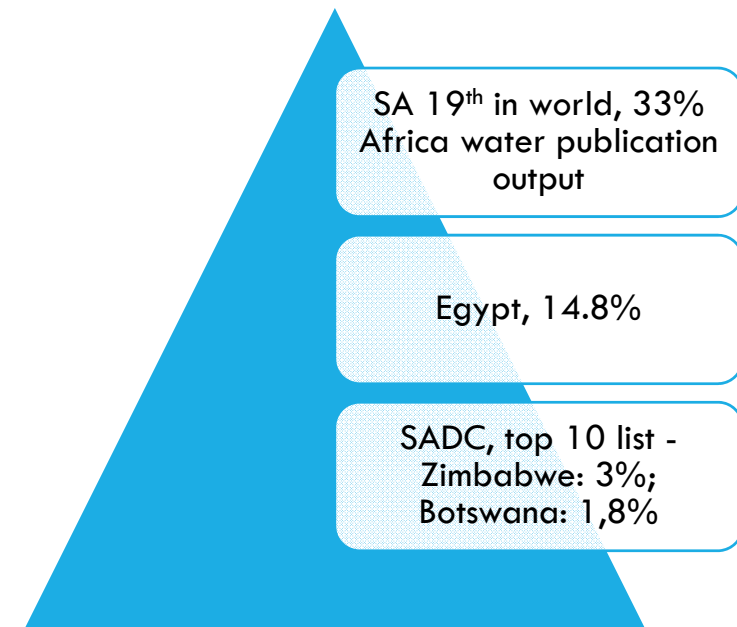
WATER RESEARCH, DEVELOPMENT & INNOVATION (RDI): OPPORTUNITIES AND APPROACHES

SHANNA NIENABER:
WATER RDI ROADMAP
MANAGER



IMPORTANCE OF RDI

- **Transboundary mandate: Resource classification, data collection in a transboundary context (importance of technical relationships)**
- the provision of **evidence that guides policy and implementation** thereof
- the development of **new opportunities** for business and industry
- facilitates a **learning culture** in water sector institutions about the challenges, risks, opportunities and solutions of the water sectors
- faster and more effective **deployment of context-appropriate solutions/technologies**
- insight on how best to **balance protection and use** of the environment
- opportunities to deepen an **industrial sector for water**
- the development of content that guides **education and**



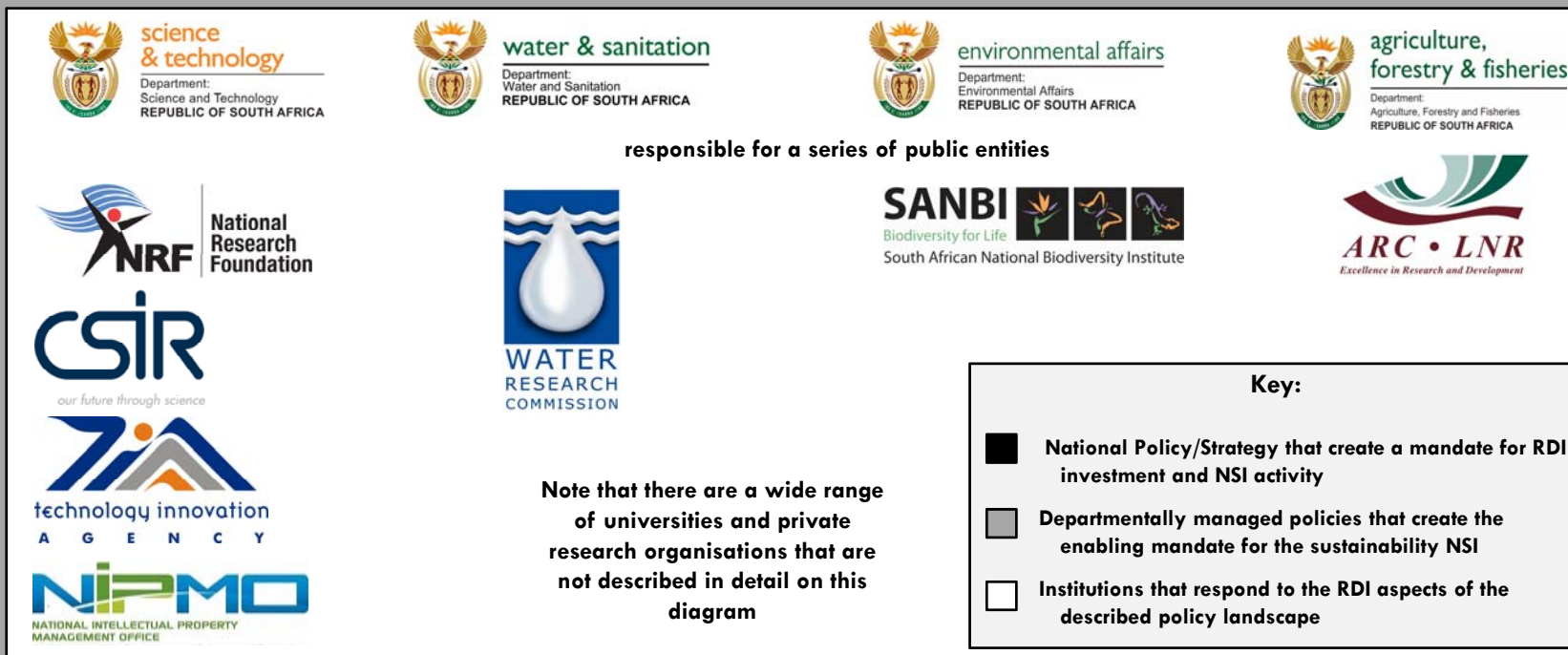
National Development Plan: Skills, tech and innovation are a key driver of an equitable transition to a low carbon economy

Department of Science and Technology

White Paper on Science and Technology (1998)
Lays out the importance of establishing and maintaining the South African NSI

10 Year Innovation Plan (2008) which resulted in the Global Change Grand Challenge and the Energy Grand Challenge:
Unlocking a focus on structuring the NSI around sustainable energy, climate change and society issues

Research Development and Innovation Roadmaps for Waste, Water, ICT and energy and bio-economy (2013-15):
10 year RDI investment plans laying our research gaps, skills and solution deployment needs for the mentioned subsectors



National Water Resources Strategy II (2013): Enshrines the role of research, development and deployment of innovation in Chapter 14

Department of Water and Sanitation

National Sustainable Development Strategy (2011): Enshrines cross sectoral cooperation and thinking around social ecological systems (underpinned by evidence and knowledge)

National Climate Change Response White Paper (2012):
Unlocked the opportunity to host an office of the Climate Technology Centre and Network in SA (UNFCCC initiative) and guides the updating of the Technology Needs Assessment

Environmental Sector Research, Development and Evidence Framework (2012): Framework for ensuring that the environmental sector has sufficient knowledge and evidence to guide a sustainable transition

Department of Environmental Affairs

RDI FUNDING AND INVESTMENT IN SA

2015 estimated RDI expenditure in SA:
US\$ 32 million

- Water levy – WRC administered
- Parliamentary Grants – DST, ARC, etc
- System of higher education (academic salaries, students, facilities) - DHET
- Specific Project investments from public and private partners
- International partnerships
- Utility, municipality and industry demonstrations

CHALLENGES:

- Levy affected by drought
- Later stage innovation investments are a gap
- Ensuring that the right impacts are achieved through these investments

POSITIONING RDI FOR IMPACT: FUNDING ORGANISATIONS

1. RDI Investment planning based on needs
2. Funding models that ensure that resources are spent in a way that addresses needs and drives impact
3. Effective Coordination of the complex institutional landscape/organisational mandates
4. Unlocking investment opportunities for water RDI

Roadmaps

Human Capital Development (HCD)
(M & PhD Skills, catalyse wider skills ecosystem)



Research and Development (R&D)
(Research Calls, Chairs, CoEs)



Innovation (technological and non-technological)
(Demonstrations, Professional collaboration, knowledge brokering)



Signal Water RDI investment priorities



Manage roadmap co-investment, where needed



Profile exciting Water RDI Roadmap aligned activities



Water RDI Ecosystem M&E



Scope new opportunities



Support, coordinate, manage partnerships

Coordination and Implementation Units

wader

WATER TECHNOLOGIES DEMONSTRATION PROGRAMME | A KEystone FOR WATER TECHNOLOGY INNOVATION

POSITIONING RDI FOR IMPACT: RESEARCH INSTITUTIONS

1. Research orientation, methodologies and approaches that position research for impact
 - a) Transdisciplinary research approaches – project level
 - b) Students and academics with holistic training
 - c) Embedded in communities and processes
 - d) Career growth incentives
 - e) New partnerships – Industry, business, finance, entrepreneurs

Rhodes Transdisciplinary Research Hub

- Co-supervision and flexibility to selecting which faculty students should graduate from
- United set of conceptual and theoretical framings
- Incentives built into performance agreements
- Monthly engagement space
- Student training

UKZN: Municipality/Donor/site partnership for sanitation

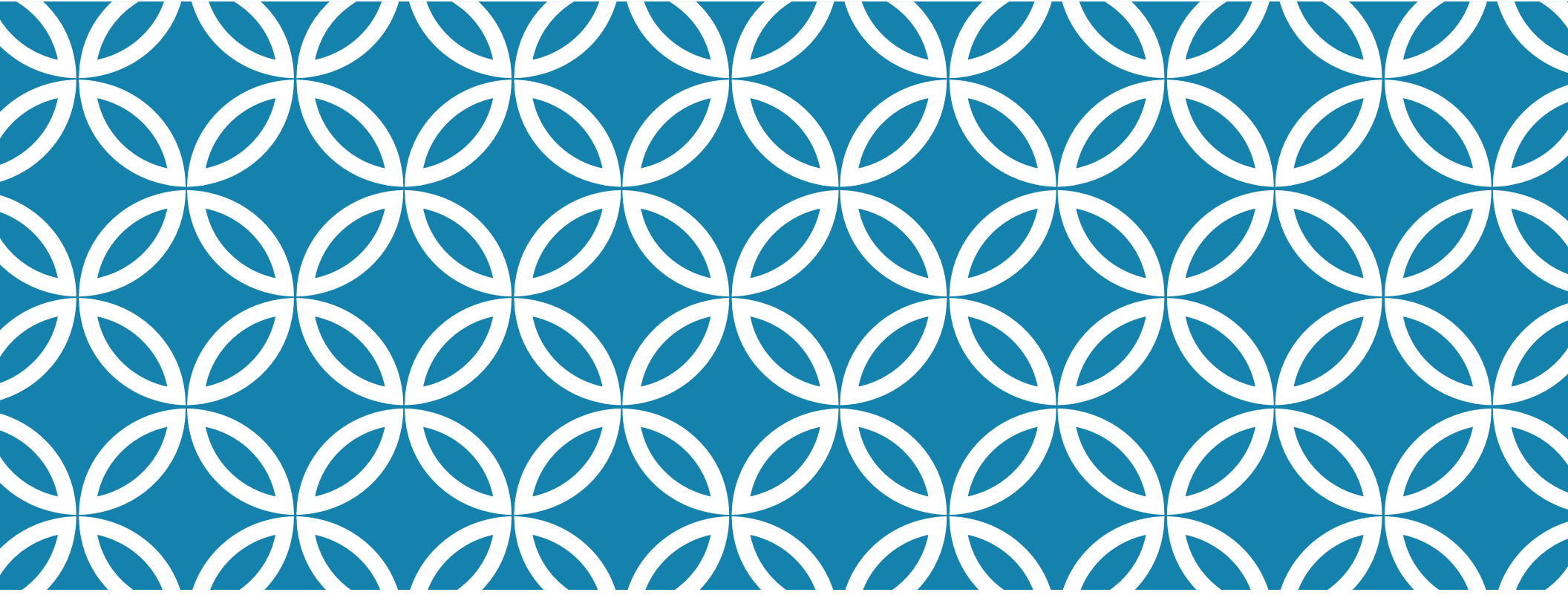
- In field demo
- International and national tech development and comparison
- Students with practical experience

POSITIONING RDI FOR IMPACT: SECTOR SPECIFIC INSTITUTIONS TO POSITION THEMSELVES FOR RDI UPTAKE

- Utilities, Municipalities, Non profit organisations, Non-R&D departments
- Partner with organisations that do RDI planning
- Articulate the commitment your organisation will make to RDI investment, learning, etc.
- Invest in structures that enable learning

Ministry/Department of Environment – R&D Coordination

- Catchment Based Communities of Practise
 - R&D coordination, sharing, co-learning
 - Coordinated stakeholder engagement
 - Agenda setting
 - Leverage new RDI Communities
 - Regular meetings
 - Coordinators appointed
 - Connect Managers, Researchers, Planners



THANK YOU

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