

Ecological Infrastructure for Water Security (EI4WS)

Dr Roderick Juba
Senior Knowledge Coordinator
Water Research Commission

Biodiversity Indaba and Investment summit
25-27 March 2024
Birchwood Hotel and OR Tambo Conference Centre



EI4WS Partners

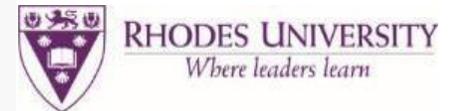
1. Enabling Environment



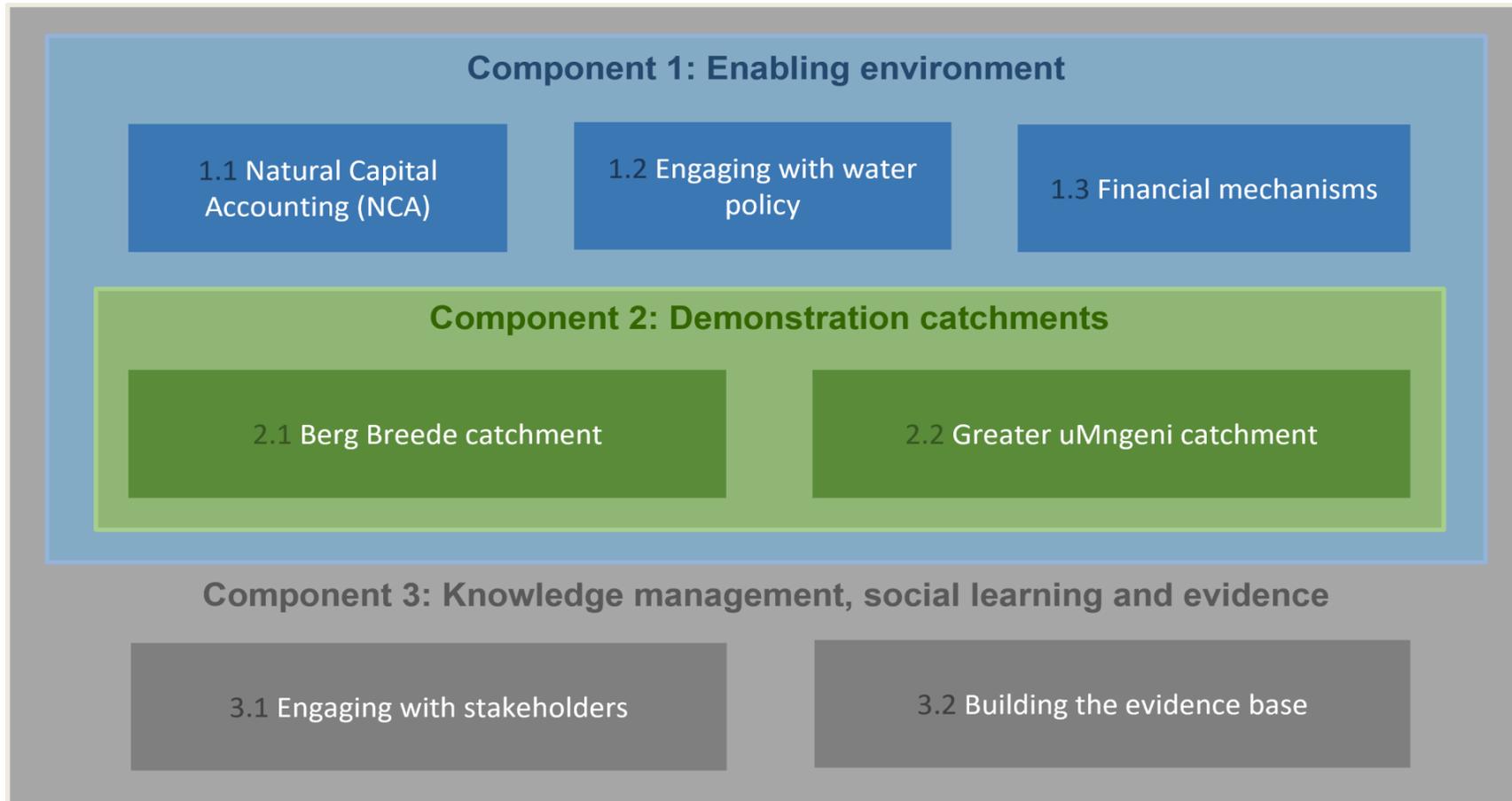
2. Catchment Level Implementation & Restoration



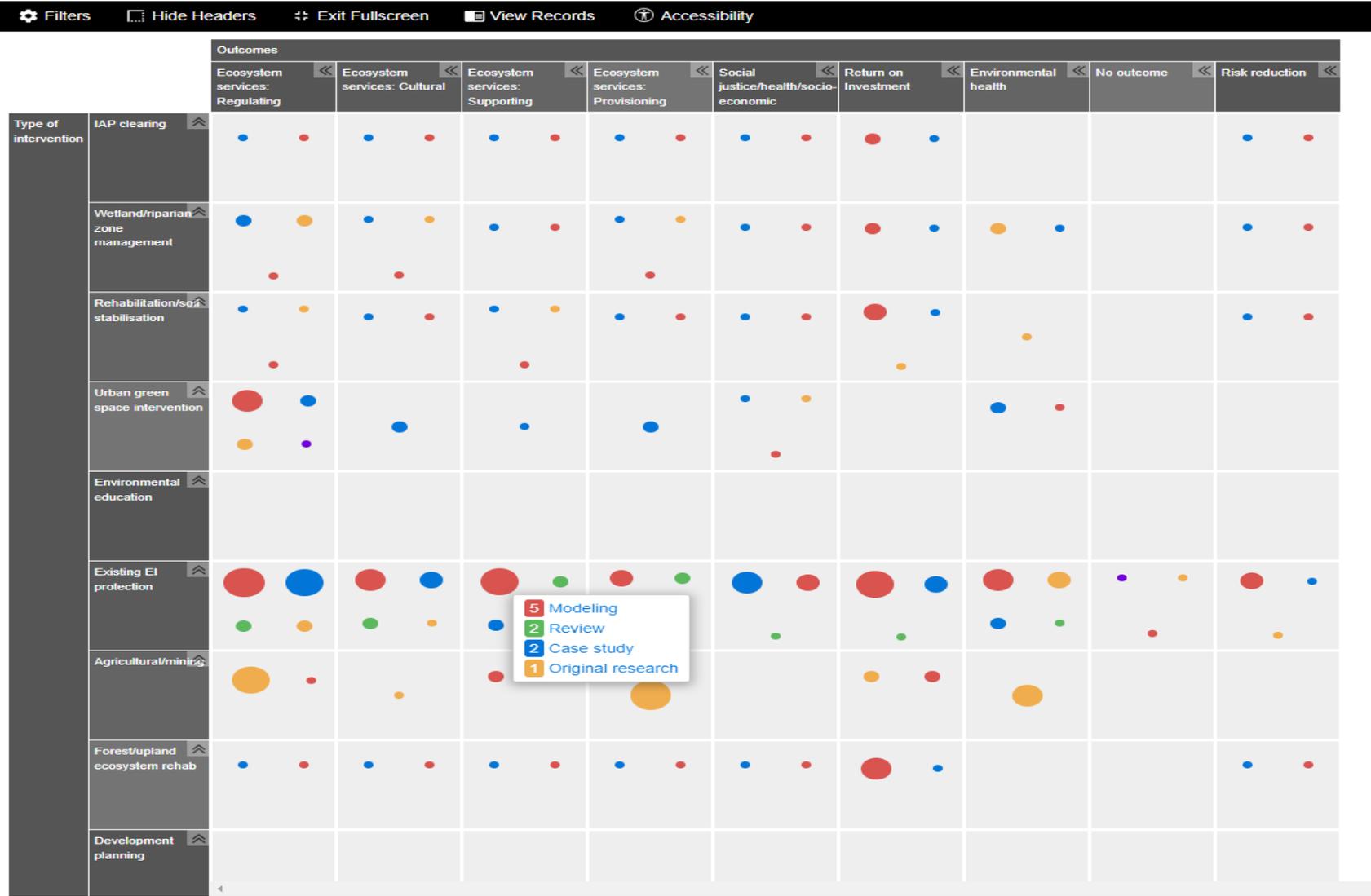
3. Knowledge Management & Social Learning



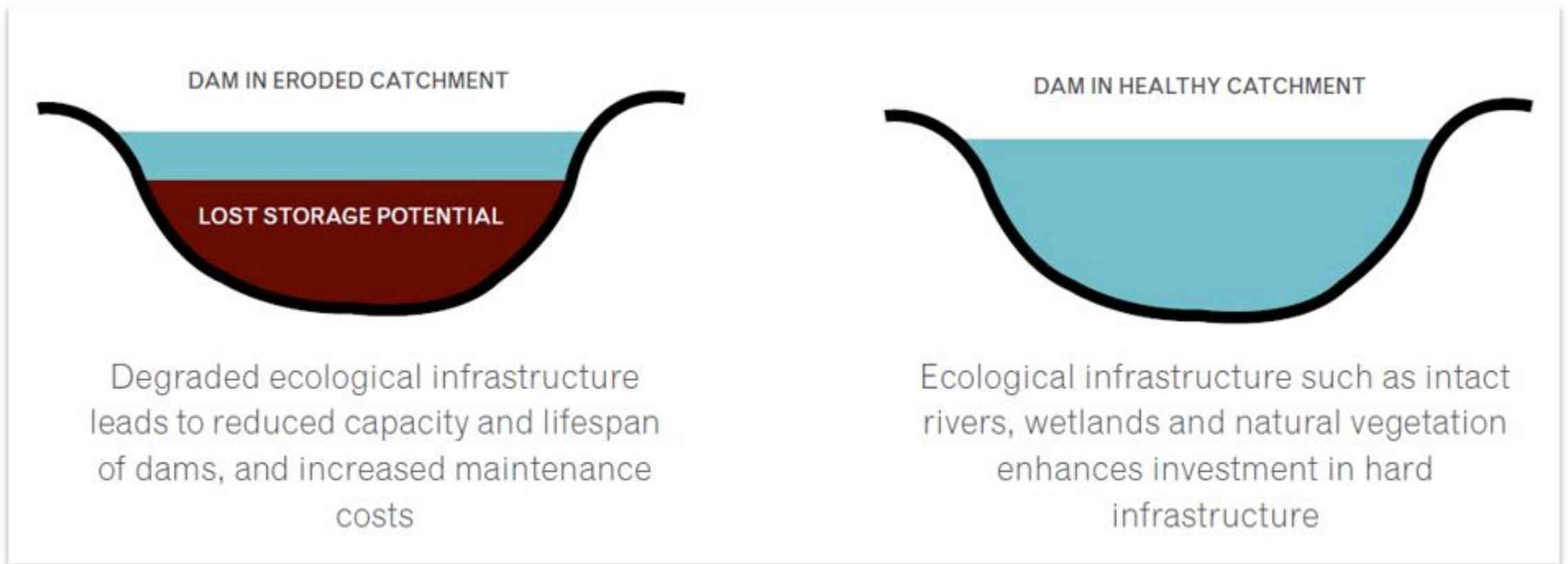
Ecological Infrastructure for Water Security project Overview



Evidence mapping



Healthy catchments reduce sedimentation in dams



Impact of broken-down EI; uMkhomazi Catchment area



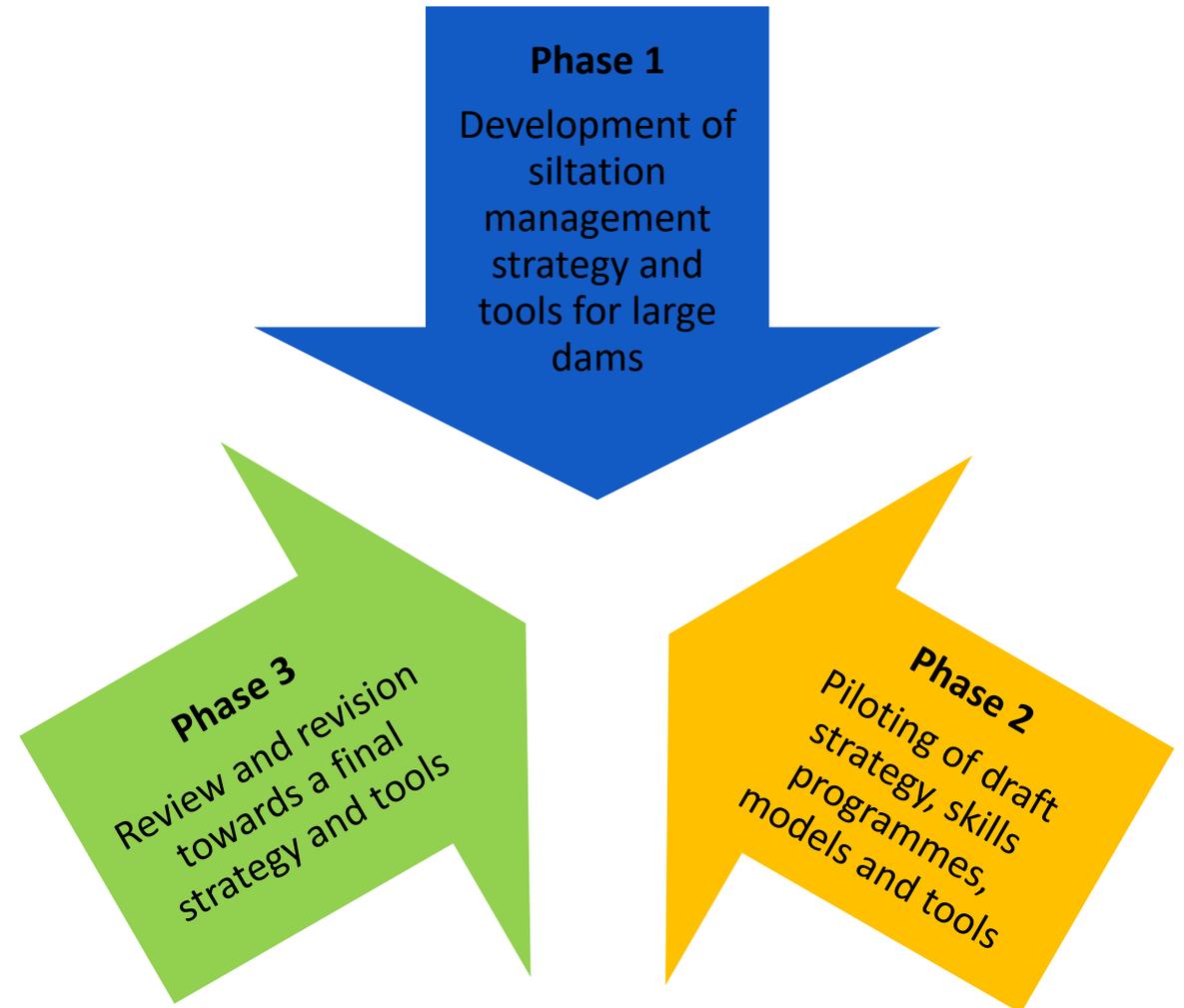
Impact of broken-down EI; Proposed Smithfield dam

Table 2.3: Long term reservoir storage capacity at full supply level and bed levels at the tunnel intake and the dam for both the current sediment yield and if the sediment yield were to double as a result of changes in land use, climate change, and landscape degradation (Adapted from Theron & Basson, 2015).

Sediment yield	Years	Full supply storage capacity (million m³)	Full supply capacity loss (%)	Reservoir sediment trap efficiency (%)	Bed level at tunnel intake location (masl)	Lowest bed level at dam wall (masl)
Current yield	0	252	-	97	881.0	854.75
	50	208	18	94	881.4	854.85
	100	163	36	95	883.9	863.85
2x current yield	0	252.0	-	97	881.0	854.75
	50	161	36	97	893.8	859.3
	100	87	66	88	909.5	913.2

Parallel initiative: National Dam Siltation Programme

- The need for integration between ecological and grey infrastructure is demonstrated clearly through the current state of siltation of some dams in South Africa
 - Critical that long-term planning is undertaken to ensure that the life span of dams is not curtailed by land use practices upstream
- This is currently addressed through the National Dam Siltation Programme (*NatSilt*) hosted by the Water Research Commission.



The role of Social Learning

Coordinate social learning, knowledge management and mediation across the EI4WS. All the other strategy practices depend on the convening and connecting work

The monitoring of arising tensions and contradictions must be done in an ongoing manner, as new tensions may arise as EI4WS practices change, and new leverage points can emerge.

Iteratively frame and articulate understandings of EI4WS as a shared activity that is in development.

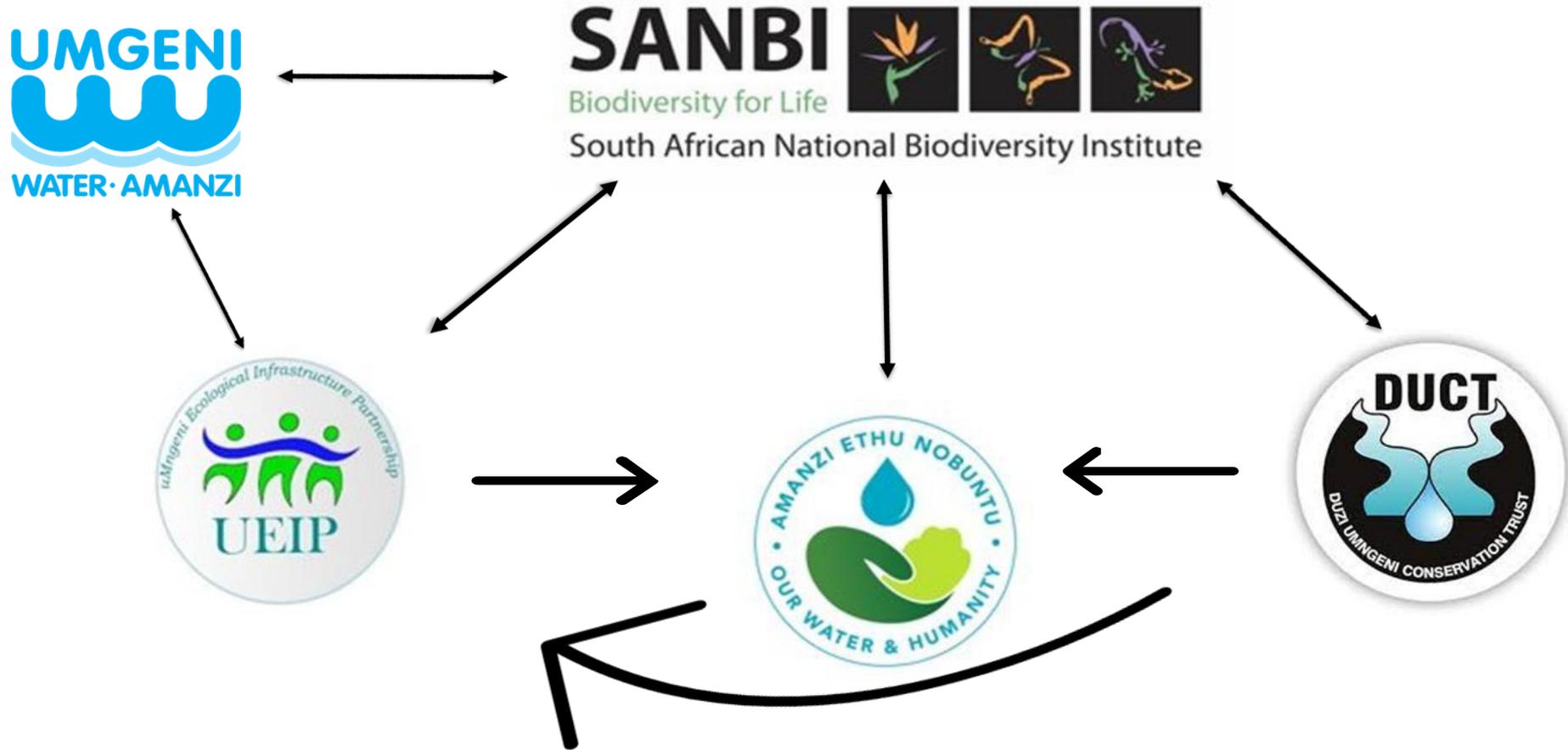


Develop a baseline of stakeholders, and then, via the boundary zone engagements, identify new stakeholders and potentially support and help to develop action competence of newly emerging communities of practice that can support the overall intentions of EI4WS activity development.

This practice centres on activities related to monitoring, evaluation and learning (MEL) in relation to the implementation of the SLKMM strategy.

Develop and support the development of appropriate tools for knowledge mediation and communication across the diversity of stakeholder groups.

Capacity Development-Amanzi Ethu Nobuntu



Capacity Development-Amanzi Ethu Nobuntu

Amanzi Ethu Nobuntu:

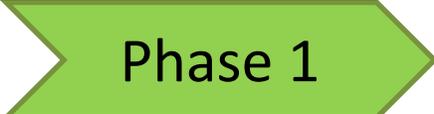
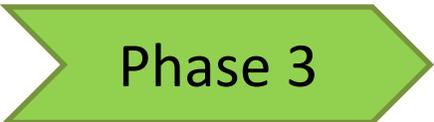
- Water quality testing
- Data management

SANBI

- Learning Exchanges
- Wetland Key Concepts and Wetland Monitoring course
- Career and Personal Development Workshop
- Reporting skills
- Building a tower garden in collaboration with INR
- SANBI Catchment-based Indaba



Amanzi Ethu Nobuntu Phase 1, 2 & 3

			
	300 jobs	3 Months	PES
	600 jobs	6-8 Months	PYEI
	1000 jobs	9 - 10 Months	SEF



Capacity Development



- Kwantu Training
 - Project Management platform for administration
 - For payroll
- MiniSASS Training
- FieldSurvey Training
- Community Garden Training
- Basic Plumbing Training
- Buyback Centre Training
- Yoma training and short courses
- Change Projects
- Career Development training

Key messages

- Cooperation and synchronization across disciplines, communities of practice and institutions is essential
- IEI is critical to overcoming these obstacles
- Need to improve integration between grey and green
 - Largely underway but requires wider engagement
 - How do we link the two more explicitly and deliberately in a practical way?
- We need to emphasise the need for effective co-learning to enhance sustainability of interventions
- We need to act to prevent ecological degradation by putting in place effective regulatory controls
 - Dependent on sound data/ information management, which requires increased and long-term investment
- We need to invest heavily in our current and future capacity for EI-related work

Thank you for listening
roderickj@wrc.org.za

