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Expanded methodology

The Berg Breede landscape was selected as a case study mainly because the University of Cape Town (a partner in the larger community of practice that has produced this special issue) is embedded in and dependent on this landscape for its water supply and other ecosystem services, along with the rest of Cape Town. We strongly believe that it is important for universities to work closely with stakeholders in their own locations to build partnerships and undertake transdisciplinary research to address local sustainability challenges. This is especially so since there are four universities in the area, but little coordination between them in terms of how and where they do their research in the landscape. Furthermore, all four authors have prior experience working in this landscape, three as researchers, and one as a practitioner.

Learning workshops

Case study selection

Over the COVID-19 pandemic period (2021, 2022) we hosted seven initial online workshops (Figure 1) aimed at improving our understanding of how best to conduct meaningful and equitable long-term engaged research and build enduring partnerships between landscape stakeholders to help bridge the science-society (research-practitioner) gap. The workshop series provided an opportunity for collective reflection and learning from previous and current landscape-related research and related activities, in terms of (1) what is required for collaborative, transdisciplinary research, and (2) the challenges and potential enablers to creating lasting partnerships through a third space or other collaborative structures with the aim of maximising the uptake, use and impacts of local research. It is the latter that we focus on in this paper, while the former has been incorporated into a paper¹ on advancing transdisciplinary research.

The first three workshops targeted transdisciplinary researchers from Western Cape academic institutions with research experience in the Berg-Breede landscape. Each of the researcher workshops formed part of an iterative conversation between May and July 2021. The first workshop focused on surfacing concerns and questions that have come up for researchers through working in the Berg-Breede landscape. The second workshop focused on sharing research processes and outcomes that researchers experienced or witnessed through working in the Berg-Breede landscape. The last workshop focused on looking ahead to how these discussions and insights from the two workshops could be integrated into future collaborative work and long-term researcher-practitioner partnerships in the Berg-Breede landscape, as well as linking into teaching, policy and research practice at their respective institutions.

The next two workshops involved practitioners working in the landscape and were used to reflect on and learn from practitioners' experiences of research in the Berg-Breede landscape, as well as to explore how local universities could build long-term partnerships with practitioners and practitioner-led landscape platforms. 'Practitioners' in the context of this paper refers to landscape actors that have a direct mandate to implement interventions regarding landscape management. This includes NGOs, conservancies, fire protection agencies, water users' associations, catchment management agencies, and various actors within

national, provincial, and local government. Many practitioners who participated in this study, especially those within provincial and local government, also had some say in local and provincial policy processes.

For the last online workshop, educators who train sustainability scientists in tertiary institutions were invited, and explored ways that engaged research can be strengthened through teaching at universities and other institutions of higher learning.

All groups were brought together in a final workshop to synthesise, reflect on, and validate the knowledge and understanding from the workshop series.

Numbers of participants varied across the online workshops, but altogether over 30 people participated in the online engagements (there was some overlap between participants for some workshops, and some new participants for others making it difficult to count exact numbers across the whole process). The details of participants are summarised in Supplementary table 1.

This series of online workshops was then followed by an in-person workshop where the objective was to explore further how more regular and mutually beneficial communication, engagement and collaboration between practitioners and researchers could be facilitated. This workshop involved a co-engaged inquiry into potential practical ways of collaboration that would build on the shared understanding developed through the online workshops. One such inquiry that was explored was what a possible 'third space' for transdisciplinary research might look like in the landscape context. A total of 31 people participated in this final in-person workshop.

Workshop	Participant type	Organisation	Number of participants	Total participants	
Researcher Workshop I (May 2021)	Researcher	Cape Peninsula University of Technology	2	13	
	Researcher	Independent researcher	1		
	Researcher	Rhodes University	1		
	Researcher	Stellenbosch University	2	13	
	Researcher	University of Cape Town	5		
	Researcher	University of the Western Cape	1		
Researcher Workshop II (June 2021)	Researcher	Independent researcher	1		
	Researcher	Stellenbosch University	2	11	
	Researcher	University of Cape Town	5		
	Researcher	University of the Western Cape	2		
Researcher Workshop III (July 2021)	Researcher	Cape Peninsula University of Technology	2	9	
	Researcher	Stellenbosch University	3		
	Researcher	University of Cape Town	3		
	Researcher	University of the Western Cape	1		
Practitioner Workshop I (August 2021)	Government	Breede-Olifants CMA	1		
	NGO	Living Lands	1	7	
	Parastatal	Water Research Commission	1		
	Government	WC Department of Agriculture	2		
	NGO	Wildlands Conservation Trust	1		
	NGO	Wolseley WUA	1		
Practitioner Workshop II (August 2021)	Government	Breede-Olifants CMA	1		
	NGO	Cape Winelands Biosphere Reserve	1	9	
	Parastatal	EFTEON/SAEON	1		
	NGO	Living Lands	1		
	Parastatal	Water Research Commission	1		

Supplementary table 1: Summary of online and in-person workshops

Workshop	Participant type	Organisation	Number of participants	Total participants	
	Government	WC Department of Agriculture	1		
	Government	WC Department of Environmental Affairs and Development Planning	1		
	NGO	Wildlands Conservation Trust	1	_	
	NGO	Wolseley WUA	1		
Educator Workshop (October 2021)	Researcher	Rhodes University	1	6	
	Researcher	Stellenbosch University	2		
	Researcher	University of Cape Town	3		
	Researcher	Arizona State University	1		
	Government	Department of Water and Sanitation	1		
	Researcher	Independent researcher	1	_	
	NGO	Living Lands	1	_	
Synthesis Workshop	Researcher	Rhodes University	1		
(December 2021)	Researcher	Stellenbosch University	1	16	
(2000	Researcher	University of Cape Town	8		
	Parastatal	Water Research Commission	1		
	Government	WC Department of Environmental Affairs and Development Planning	1		
	NGO	Birdlife SA	1		
	Government	Breede-Olifants CMA	1		
	Government	CapeNature	1	-	
	NGO	Conservation Outcomes	1		
	Government	Department of Forest, Fisheries, and the Environment	1		
	Government	Department of Water and Sanitation	1		
	Company	Intaba Environmental	1		
Berg-Breede Knowledge	NGO	Living Lands	1		
Exchange and Learning	Researcher	Rhodes University	1	31	
Day (May 2022)	Parastatal	SANBI	2		
	Government	SANParks	1		
	Researcher	Stellenbosch University	4		
	Researcher	University of Cape Town	3		
	Researcher	University of Leeds 1		1	
	Government			1	
	Government	WC Department of Environmental Affairs and Development Planning	3		
	NGO	WWF	2		

Interviews

Six semi-structured interviews with practitioners were conducted to further explore the challenges and barriers to participating in collaborative spaces such as landscape platforms, as well as the benefits and values of participation. We wished to better understand existing third spaces within the Berg-Breede, which could act as a model for a potential researcher-practitioner third space.

Participants were identified using purposeful sampling, based on their attendance at previous engagements of this project, as well as their attendance of existing implementation focused landscape platforms in the Berg-Breede landscape. Snowball sampling was used to identify additional participants. Supplementary table 2 outlines the different landscape platforms that participants were attending and the scale at which they operate. These platforms meet on a regular basis (often quarterly or more) and are focused on coordinating different facets of natural resource management within different spatial contexts within the Berg-Breede landscape. These activities can include alien clearing, fire management, water quality monitoring, environmental education, stewardship initiatives, landscape restoration, etc. These platforms Page 3 of 4

are mainly centred around landscape practitioners and have a focus on coordinating implementation work. While research is at times shared at these platforms, it was clear from conversations during previous workshop engagements that this is not a focus for these platforms.

Semi-structured online interviews were used, with a series of questions that focused on the value of and barriers to participation in such landscape platforms, as well as what the larger impact and role of such platforms are in the landscape.

Participants were often in attendance in multiple platforms, and so Supplementary table 3 shows which of these platforms were attended by the participants interviewed.

Interviews were recorded, transcribed and analysed using thematic content analysis in NVivo.

Name	Geographical extent	
Upper Breede Collaborative Extension Group (UBCEG)	Upper Breede River catchment	
Breede-Sonderend Catchment Collaborative (BSCC)	Lower Breede River and Riviersonderend catchments	
Agulhas Biodiversity Initiative (ABI)	Overberg District Municipality	
Upper Berg River Environmental Network (UBREN)	Upper Berg River catchment	
Boland Groot-Winterhoek Strategic Water Source Area Collective (The Collective)	Boland and Groot-Winterhoek Strategic Water Source Areas	
Greater Cape Town Water Fund (GCWF)	Berg River catchment	
Cape Floristic Region Partnership (CFRP)	Cape Floristic Region	

Supplementary table 2: Landscape platforms in the Berg-Breede landscape

Supplementary table 3: Summary of interview participants and their attendance of landscape platforms in the Berg-Breede landscape

Participant number	Role	Platforms attended	
1	Provincial government	UBCEG	
2	Provincial government	UBCEG, UBREN, The Collective, GCWF	
3	NGO	ABI, CFRP, The Collective	
4	NGO	The Collective	
5	NGO	ABI, BSCC	
6	National government	UBCEG, The Collective, GCTWF	

Reference

 Shackleton S, Taylor A, Gammage L, Gillson L, Sitas N, Methner N, et al. Fostering transdisciplinary research for equitable and sustainable development pathways across Africa: What changes are needed? Ecosyst People. 2023;19(1), Art. #2164798. <u>https://doi.org/10.1080/26395916.2022.2164798</u>