

**Participatory Monitoring,  
Evaluation, Reflection  
and Learning (PMERL):  
Meta-Reflection Report  
2018-2019**

**TSITSA  
PROJECT**

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## EXECUTIVE SUMMARY

This meta-reflection report is the final product of the participatory monitoring, evaluation, reflection and learning (PMERL) processes in the Tsitsa Project of the 2018-2019 financial year. Its purpose is to synthesize the insights gained from all the PMERL processes and wider TP activities that took place through the year. These ranged from focus group discussions that resulted in the 'Learning Report' (Cockburn et al. 2018a) and 'Learning Paper' (Cockburn et al. 2018b) to a series of jointly developed 'Theories of Change' workshops (Appendix 1), catchment field trips and meetings, an inaugural Science-Management-Society meeting (SMSM) and facilitated reflections at the Science-Management Meeting (SMM) held in November 2018. .

A qualitative research approach was applied to multiple sources of data to develop this report. This included applying an integrative analysis across data sources to identify 'narrative threads' and 'lessons learnt'. The approach was underpinned by a critical realist understanding of the world, and recognition that the Tsitsa Project is unfolding in the context of a complex social-ecological system in which on-going reflexive praxis and collaborative learning are necessary.

The reflection and evaluation findings were as follows:

Reflections on project outcomes:

- *Organisational outcomes*: participants in the TP perceive the initiative to be having an impact through four main avenues: new collaborations and linkages among diverse stakeholders; progress on internal governance, project management and PMERL implementation; stakeholder engagement in the catchment and beyond; and knowledge outcomes which are being generated, but with somewhat limited impact.
- *Knowledge outcomes* include the following key insights: 1. The dams are coming and cannot be ignored (proposed to be built as part of the Mzimvubu Water Project (MWP)): this is a political and stakeholder engagement challenge which we need to address head-on. yet with insight and appropriateness. 2. Social, cultural and political significance of traditional authorities (senior traditional leaders or 'chiefs' (incorrect name), headman etc.) is becoming apparent. 3. We are developing a good spatial knowledge of the catchment. The knowledge production that has gone into the collaborative and integrated panning process (van der Waal et al. 2017) has generated a lot of spatial data and knowledge. 4. Our understanding of sediment processes is growing; however, data variability remains a key challenge. 5. Existing science on managing rangelands with fire and grazing indicates the importance of understanding contextual dynamics.
- *Social-ecological outcomes*: There is currently limited availability and accessibility of social-ecological monitoring data from the catchment to report on these outcomes, and this requires better integration and feedback between various stakeholder groups within the TP (e.g. researchers and implementers) and on the employment of a catchment coordinator and catchment liaison/monitoring officers. Moreover, many of the activities and intended outcomes of the TP will take time to achieve measurable social, ecological and social-ecological outcomes e.g. the development of participatory, polycentric governance will begin to function and yield equitable livelihood outcomes.

Reflections on processes: common narrative threads which convey TP participants' perceptions and reflections about TP project processes can be summarised as three key themes: coordination, communication and integration challenges; bounding, and identity and scope expansion; and project management challenges.

In summary, four themes of 'lessons learnt' can be summarised: Communication, collaboration and feedbacks are important; we need to put local catchment residents first; understanding the team dynamics among RU implementers along with internal governance and functioning is necessary; and more diverse project funding sources and partners are necessary for sustainability of the initiative.

We urge participants of the TP, and especially our funding partners and the leaders of the TP initiative to take some time to reflect on the following six aspects emerging as important: 1. Managing bounding, identity and expansion of the TP; 2. The (potential) "Developmental Agenda" of the TP; 3. Linkages,

feedbacks, collaborative ties, engagement, tensions: the relational aspects are everywhere and important but difficult to foster; 4. How the 'bringing together' of different stakeholders is hailed by many as a key outcome and success of the TP to date and how this convening process can be deepened and we can build on the momentum; 5. The appreciation within the wider TP network for the multi- and interdisciplinary research being conducted in the TP; and 6. The financial model, flows and allocation, along with deliverology and the need for 'upward reflection' and feedbacks to DEA structures.

In conclusion, participants have reflected on project outcomes and processes and this report which synthesizes these reflections concludes that a significant amount been done and achieved, but much more is needed, and the complex processes could benefit from more 'deft navigation'. Project implementers are concerned that project processes are not optimal to help them achieve what is needed, although some significant steps are being taken in the right direction.

The TP's first meta-reflection report confirms that scientists, managers and residents of the Tsitsa catchment have a need to see knowledge from diverse sources identified, brought together and mediated so that they may engage with it and chart a way forward for the project and the catchment, in the context of its particular challenges and gain insights that will be useful in other catchments, too. This 'knowledge integration' function is a role that has been assigned to the PMERL function in the TP, in order to support learning all round.

Integrating knowledge is not an easy task and to do so across different knowledge forms, and invite and support participation in sense-making, interpretation and collective, social and expansive learning, is not common practice. It is in fact one of the most interesting and necessary intellectual, practical and political challenges of our time. Therefore, the Tsitsa Project remains an important opportunity to continue trialling and testing ways in which to do this, in practical real-world contexts, with practical real-world outcomes. It would be important, however, that we address the process and resourcing challenges identified to make sure that the work is adequately resourced and supported, within and beyond the PMERL team, as a significant collective undertaking, starting with women and youth monitors in the catchment.

# Participatory Monitoring, Evaluation, Reflection and Learning (PMERL): Meta-Reflection Report 2018-2019

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Submitted on 15<sup>th</sup> February 2019

## 1. INTRODUCTION

### 1.1. Purpose of this report

This is the first annual Meta-Reflection Report of the Tsitsa Project (previously known as the NLEIP: Ntabelanga-Lalini Ecological Infrastructure Project). It is an important milestone in the implementation of Participatory Monitoring, Evaluation, Reflection & Learning (PMERL) plan (Botha et al. 2017), as it reports on the first year of PMERL implementation in the Tsitsa Project (TP). The purpose of the report is to reflect on the lessons learnt from the past year. The report intends to go beyond merely reporting on the indicators of the Tsitsa Project and evaluating the progress of the project, exploring ways in which more nuanced reflections and learnings can be captured and inform future planning and implementation (Rosenberg and Human 2018).

This report should be read and understood in conjunction with another pair of documents produced through the PMERL process during 2018: The Tsitsa Project Learning Report (Cockburn et al. 2018a) and the so-called 'Learning Paper' drawn from the Learning Report and published in the peer-reviewed journal *Land* (Cockburn et al. 2018b). This pair of documents discussed lessons learnt through putting the guiding principles of the Tsitsa Project into practice, thus focusing on the conceptual underpinnings of the project and the lessons learnt through praxis. This Meta-Reflection Report provides a more detailed reflection on the 'nuts and bolts' activities and experiences in the Tsitsa Project (TP), offering a first step in what is intended to become an annual meta-reflection process for the TP, and identifies specific lessons and recommendations to guide the activities and management of the TP for the year ahead (2019-2020).

This document builds on the foundations laid in the Participatory Monitoring, Evaluation, Reflection & Learning (PMERL) plan (Botha et al. 2017), and in the 2018-2019 PMERL Inception Report (Rosenberg and Human 2018). It draws on the Quarterly PMERL Reports produced in the 2018-2019 financial year, and consultations with other project implementers and participants (see Methodology).

### STOP & THINK

**Reflection** [*ri-flek-shuhn*]:

1. the act of reflecting, as in casting back a light or heat, mirroring, or giving back or showing an image.
2. a fixing of the thoughts on something; careful consideration.

([www.dictionary.com](http://www.dictionary.com))

**Join us as we stop and pause for a few moments:** we will apply our minds thoughtfully and critically to the activities, outcomes and processes of 2018, reflect on the highs and lows, learn from our

mistakes, capitalise on the growing momentum of the Tsitsa Project and look forward with renewed enthusiasm and direction to the activities of 2019-2020. Keep an eye out for the 'STOP & THINK' Boxes throughout the report in which we highlight key insights or challenges and pose questions for reflection.

## 1.2. Situating the report in the Tsitsa Project Principles and the PMERL plan

The Tsitsa Project is guided by a set of principles which are themselves guided by the project vision (Box 1) (Fabricius et al.). These principles have provided the impetus for the development and implementation of the PMERL plan and its implementation in the project.

Aligned with and in support of these broad guiding principles (see Box 1, extracted from Botha et al. (Botha et al. 2017)), a PMERL framework and plan has been designed (Rosenberg and Human 2018).

### **Box 1: Tsitsa Project Vision and Guiding Principles**

The vision of the Tsitsa Project is: "to support sustainable livelihoods for local people through integrated landscape management that strives for resilient social-ecological systems and which fosters equity in access to ecosystem services" (Fabricius et al. 2016).

Below is a revised set of the Tsitsa Project Principles published in "*The Tsitsa Project Research & Praxis Strategy: Resource Library (Version 2) informing plans for 2018-2021*" (Tsitsa Project 2019). Five principles were originally described in the *Tsitsa Project Learning Report* (Cockburn et al. 2018a) and in the Learning Paper (Cockburn et al. 2018b), and subsequently revised for the Research & Praxis Strategy. While it is useful to maintain a consistent set of guiding principles, our commitment to collaborative, reflexive and adaptive orientation means that the principles are not set in stone but rather are reflected on and revisited on an on-going basis, as we learn from our praxis.

1. Social-ecological principles and resilience thinking
2. Transdisciplinarity
3. A collaborative, reflexive, and adaptive orientation
4. Expansive learning and capacity development
5. Polycentric governance
6. Towards equitable participation
7. Scientific-technical foundation and evidence base

#### **i. A two-fold purpose for monitoring and evaluation – accountability and learning:**

The PMERL plan (also called a framework) is designed to support strategic adaptive management (SAM (Kingsford et al. 2011)), by accounting for the complexity and open-ended nature of the systems or contexts in which the programme is implemented, facilitating and capturing learning and in that way, supporting responsiveness and adaptation, as well as meta-learning. In contrast, most conventional monitoring, evaluation and reporting frameworks tend to focus only on accountability and compliance with targets, with less emphasis on ongoing in-programme and meta-level learning. The ultimate goal is to use monitoring, evaluation, reflection and regular reporting to foster learning on different levels, ranging from the individual project manager, to the Tsitsa Project collective and the broader institutional levels of the Department of Environmental Affairs: Natural Resources Management (DEA-NRM) directorate which funds the TP and implements on-the-ground natural resource management activities in the catchment. The following are key characteristic of the TP PMERL plan:

ii. A participatory and collaborative orientation to learning and adaptation:

The TP involves a diversity of partners and participants who may have different values, worldviews and different forms of knowledge, as well as different experiences in and of the TP. Technical, managerial, scientific, indigenous, experiential, local and spiritual knowledge are all acknowledged as valid and important (Cockburn et al. 2018b). The TP PMERL framework as it progresses aims to increasingly integrate learning and knowledge across all these perspectives. It foregrounds learning as an essential ingredient of PMERL, which seeks to bring together monitoring, evaluation and reflection to promote innovative practices, adaptive management and governance, as well as meaningful sharing of what has been learnt, within and beyond the TP.

iii. Practical and project management implications of the PMERL framework in terms of process and resources include the following aspects:

1. **Agreeable indicators** are needed for biophysical, institutional and social measures and regular monitoring against these indicators, using mostly quantitative and in some cases qualitative data.
2. **More open-ended qualitative, including narrative, data** will also be collected by a Learning Chronicler to allow for emergence, informed by the TP programme theory (or 'Theory of Change' – ToC).
3. **Conducting plus minus three case studies** each year to provide in-depth insight e.g. to explain observed trends in monitoring data or find solutions to emerging challenges.
4. **Driving the monitoring, collection of narrative data and case studies through a PMERL coordinator** who (a) reports to senior management and (b) coordinates a team consisting of the Learning Chronicler, PMERL champions among the project managers, and citizen monitors.
5. **Making sense of and synthesising qualitative and quantitative data from diverse sources** at project level and programme level and reviewing it for its strategic adaptive management significance.

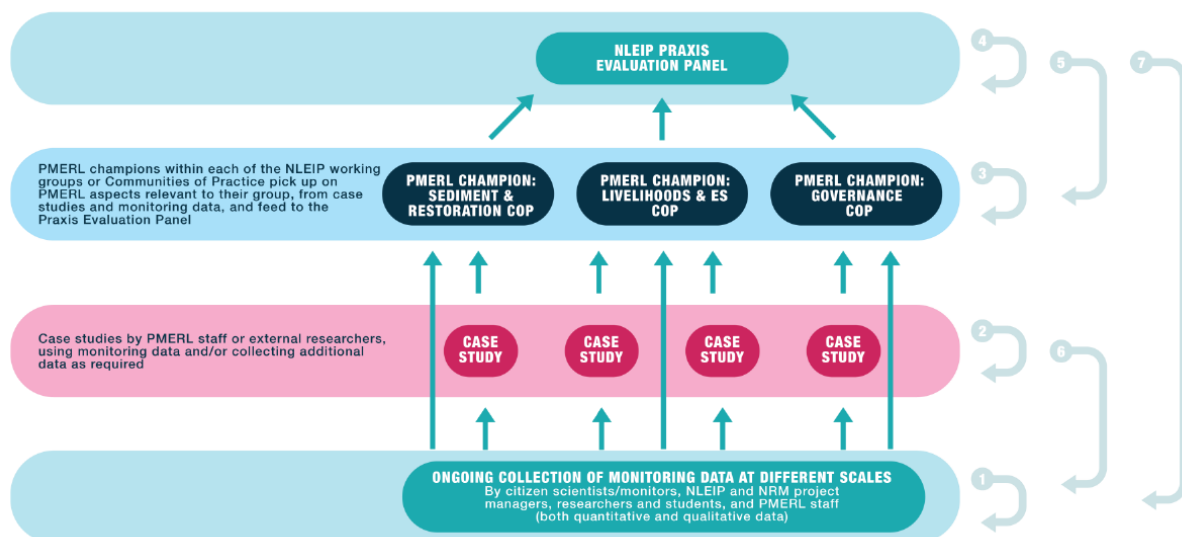


Figure 1: The Tsitsa Project PMERL plan overview, showing flows of information and feedback and learning loops, numbered 1-7 on the pale grey arrows on the right-hand side (Botha et al. 2017).

This report focuses on presenting an overview of lessons learnt in the TP in the 2018-2019 financial year, focusing on data collected according to the plan laid out in points 2. and 5. above. In Section 3.3.2 we reflect on some of the challenges of implementing the PMERL framework fully as described in points 1. – 5. above.

## 2. METHODOLOGY

### 2.1. PMERL activities in 2018-2019: data collection

This report is a culmination of on-going PMERL activities in the 2018-2019 financial year (April 2018 to February 2019), which provided data and information for the report (Figure 2, Table 1). The PMERL team implemented the PMERL process outlined above in Section 1.2, facilitating a variety of reflection activities to support the development of indicators and theories of change for the Tsitsa Project (Figure 2).

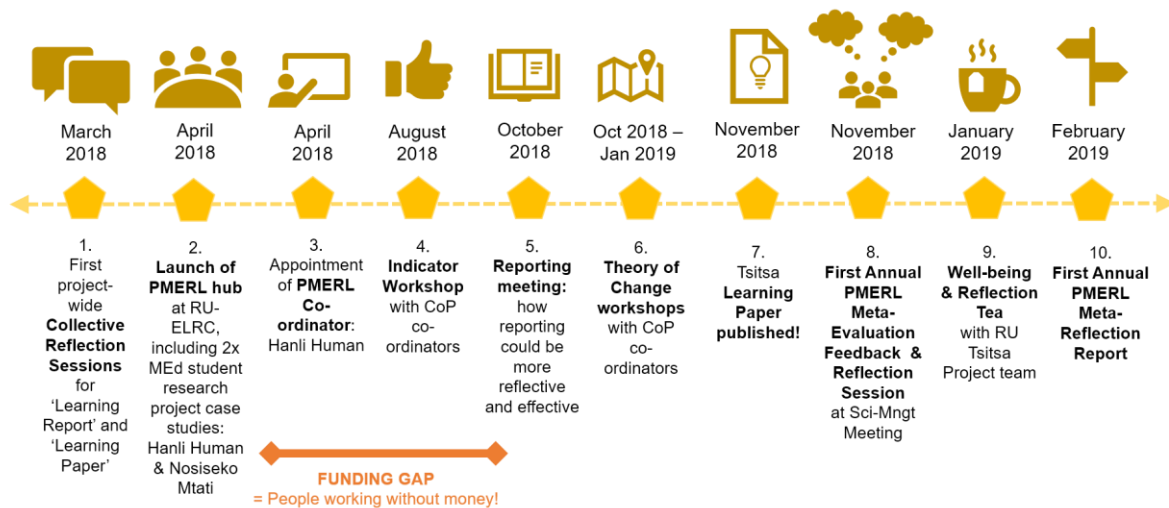


Figure 2: PMERL Activities for the 2018-2019 financial year.

Uncertainties and delays in the release of project funding resulted in a funding gap during which some members of the team continued working without pay. This delay in funding and resultant uncertainty posed some significant challenges to the smooth implementation of PMERL, not only because it hampered the activities of the PMERL team, but also because it slowed down or stopped most of the activities of the TP, leaving the PMERL champions and team with 'nothing to monitor and evaluate' for a number of months. The aspect of PMERL most directly affected by this funding delay is the development of indicators and theories of change for the project. The heavy workloads and limited capacity (in terms of time) of the Communities of Practice (CoP) coordinators of the TP have also hampered implementation of PMERL according to the plan.

Despite the funding delay a PMERL Co-ordinator, Hanli Human, was appointed on a part-time basis from April 2018 to start and manage the implementation of PMERL in the TP. Hanli is supported by a part-time team of Dr Jessica Cockburn, Prof Eureka Rosenberg and Dr Harry Biggs. Together, this group is referred to as the PMERL team, with Prof Rosenberg and Dr Biggs coming into the team as and when needed, as advisors. Hanli Human as well as Nosi Mtati are studying towards M.Ed. degrees under the supervision of Prof Rosenberg. Their research contributes the first two case studies to PMERL.

In order to develop 'agreeable indicators' to monitor the work of the TP, the PMERL team facilitated a series of workshops and meetings among project implementers at Rhodes University, focusing firstly on the development of individual 'Theories of Change' (ToC) (Blamey and Mackenzie 2007, Fagligt Fokus 2015) for each of the thematic 'Communities of Practice' (CoPs) which have been assigned to lead on various aspects of the TP implemented through Rhodes University. The CoPs are at different levels of establishment and are making variable progress on the development of the ToCs and indicators (See Appendix 1 for a report on the Theory of Change workshop process). The process to develop theories of change (also known as programme theories or models of process) has been a useful opportunity for reflection, beyond being merely a technical exercise to map out ToCs and



indicators. It also allowed the PMERL Co-ordinator to get to know the CoP coordinators in a more personal way and to reflect on their experiences of working in the TP with them.

The PMERL team facilitated the first reflection session for the broader TP network at the Science-Management Meeting (SMM) in East London in November 2018. This network extended beyond the TP implementers based at Rhodes University (RU). The reflections at this SMM started off with an input to share the preliminary findings of this report, describing learning insights related to TP outcomes and processes. Following the presentation, we facilitated two reflection activities to elicit feedback and input from the SMM participants. This data was particularly valuable as it gave a sense of the discourses in the wider TP network beyond the TP implementers at RU.

The PMERL team collected reflection notes from all PMERL activities during 2018. We also gathered reflection notes during the reflection process facilitated for the Learning Report and Learning Paper (Cockburn et al. 2018a, Cockburn et al. 2018b), during internal PMERL-team meetings, and during other events held in the TP. All of these reflection notes are a data sources for this report. Where possible, we have asked for feedback on our reflection notes from participants.

## 2.2. Sources of data and information

Data for this report were collected from the PMERL activities described above, and also from a variety of activities and outputs in the wider TP (Table 1). Details about the step-by-step process through which these data sources were analysed are provided in Table 2 and Section 2.3.

**Table 1: Sources of data and information used in the compilation of this Meta-Reflection Report**

Sources of data and information	Included in which analysis step? <sup>1</sup>	
	Step 1: (Reading & notes)	Step 2: (Coding in NVivo)
<b>General TP Documents, Reports, Presentations and Reflection Notes (focus on RU-Tsitsa project activities and outputs)</b>		
Quarterly project reports (By RU implementers)	Y	Y
Newsletters: from Science-Management Meetings (#4 Dec 2017, #5 May 2018) and the Inaugural Science-Management-Society Meeting (Oct 2018).	Y	Y
Presentations at Science-Management/Society meetings (PowerPoint slides: Dec 2017, May 2018)	Y	Y
Tsitsa Project Research & Praxis Strategy: Resource Library (Version 2) (Tsitsa Project 2019)	Y	Y
Integrated Management Plan (van der Waal et al. 2017)	Y	Y
Stakeholder analysis for Lalini (Rivers et al. 2018)	Y	N
Meeting minutes and notes (Human, pers. comm; Biggs pers. comm; Cockburn pers. comm).	Y	N
<b>PMERL Documents, Reports and Reflection Notes</b>		
Reflection notes from 'Indicator & ToC' meetings (Human, pers. comm)	Y	Y
Reflection notes from 'Reporting' meeting (Human, pers. comm)	Y	Y
Reflection data from session at Science-Management Meeting in East London in November 2018 (Human, pers. comm)	Y	Y
Reflection data from Well-being & Reflection Tea in January 2019 (Human, pers. comm)	Y	Y
Notes and reflections from various internal PMERL meetings (Human, pers. comm; Biggs pers. comm; Cockburn pers. comm).	Y	Y
Tsitsa Project Learning Report (Cockburn et al. 2018a)	Y	N
Tsitsa Project Learning Paper (Cockburn et al. 2018b)	Y	N

<sup>1</sup>Note: Due to time and resource limitations, not all documents were included in the detailed coding in Step 2. Inclusion of documents in the 2<sup>nd</sup> step of analysis was determined by the following criteria: significance of document to evaluating outcomes and process and identifying lessons learnt, accessibility of document or set of documents to PMERL team, whether or not the information has been synthesised and reported elsewhere (e.g. Learning Report & Learning Paper).

### 2.3. Methods for data analysis

This report is based on qualitative data collection and analysis across a variety of data sources, aiming for an integrative analysis of insights and reflections on project outcomes and processes in a process similar to that described by Bazeley (2011).

Data were analysed in a two-step process (Table 2) (Saldaña 2013). Step 1 was the first level of data filtering, synthesis and identification of themes. The PMERL team read through the data sources and made notes to pick up significant themes, lessons and insights, focusing on outcomes and processes. In Step 2, we conducted a more structured coding of the notes made in Step 1 to develop categories of 'lessons learnt' and 'common narrative threads' across data sources. This step of coding was done using NVivo software to organise, store and code data. Initially this coding was 'open coding' allowing lessons and narratives to emerge. After that, categories were further refined and organised into themes. The reason for this 2-step process is that there was a large volume of information and limited time and resources to process and analyse all of it. Step 1 gives a general impression across all data sources to capture key insights, Step 2 is a more systematic way of organising the insights and reflections according to themes.

**Table 2: Steps taken in the analysis of data for the Meta-Reflection Report**

Step	Analysis activity, purpose, scope	Guiding framework
Step 1	Reading and reflecting: to get an overview of all material and begin filtering and synthesising. Focus on each individual data source, working sequentially through the full set.	Identify a wide range of emergent themes, insights and reflections, focusing broadly on TP <i>outcomes and processes</i> .
Step 2	Structured coding: to focus the analysis and identify specific lessons and narratives relating to project outcomes and processes. Work in an integrative manner across data sources, identifying over-arching findings.	Identify <i>specific 'lessons learnt' and 'common narrative threads'</i> allowing themes to emerge within these two categories'; and then organising these more specifically into sub-categories/themes.

We used 'lessons learnt' and 'common narrative threads' as two 'organising concepts' to guide analysis and presentation of findings in the Learning Report (Cockburn et al. 2018a) and Learning Paper (Cockburn et al. 2018b). We use them again in this report to maintain some continuity and comparability in the way in which PMERL reports on findings and reflections:

- What are 'lessons learnt'? They are statements which give insight into learnings within and about the project.
- What are 'common narrative threads'? They are statements constructed as quotes to capture common perceptions from participants. The 'common narrative threads' convey the essence of key insight about outcomes and processes in the Tsitsa Project; they are the stories we tell ourselves and each other about the Tsitsa Project (drawing on narrative research approaches (Bold 2012) and (Brand et al. 2014)). These threads are not necessarily a perception or opinion shared by ALL participants but seek to convey distinct views held by at least SOME participants (they are in this sense qualitative rather than quantitative data). The threads should therefore be read and taken together as a collection of the diversity of perceptions which are prevalent among participants, as one might weave a cloth out of different coloured threads.

### 2.4. Philosophical and methodological framework

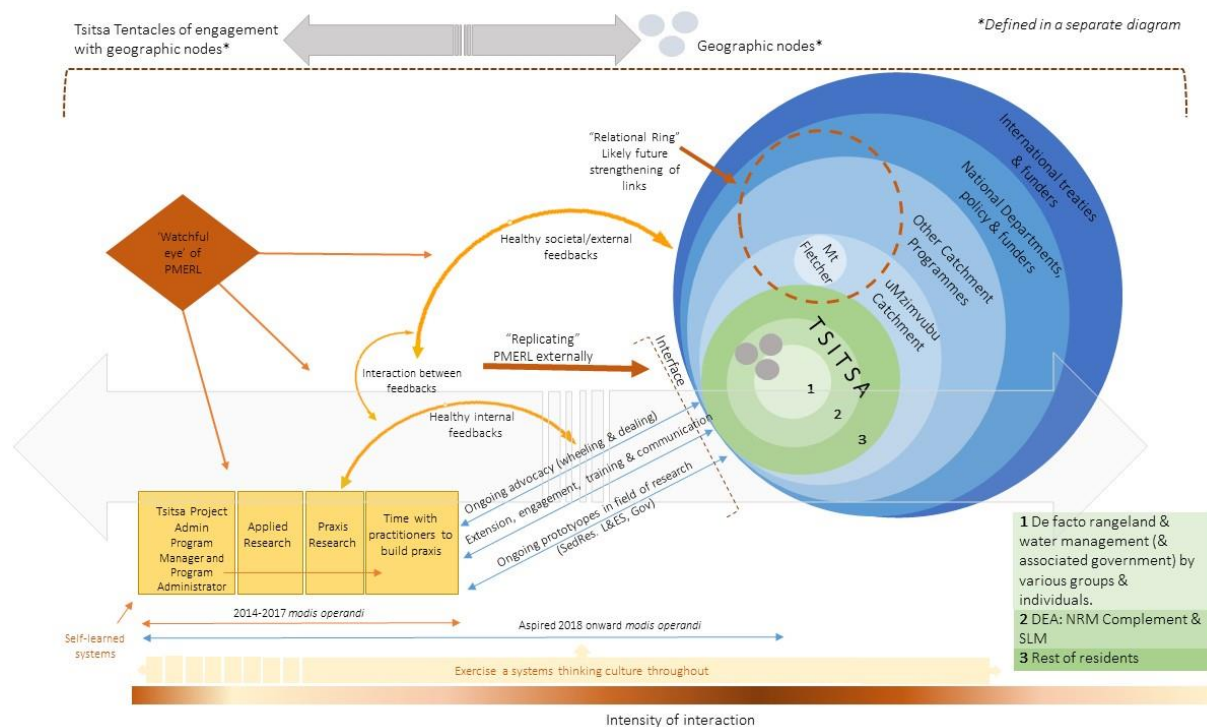
We draw on critical realism as an underlying philosophical framework for this report. Critical realism is well aligned with a complex systems worldview (Mingers 2011), and thus with the overall framing of the Tsitsa catchment as a 'complex social-ecological system' (Cockburn et al. 2018b), and supports deeper

analysis of complex open systems. Key features shared by both critical realist philosophy and complex systems thinking include:

- recognising the world or reality as open system - therefore the researchers are part of the system (Audouin et al. 2013);
- the concepts of emergence, hierarchies, and boundaries (framing) are central (Preiser and Cilliers 2010)
- human understanding of reality is recognised as partial and fallible; we therefore need to be reflexive and modest, learning in an iterative and on-going manner from observations and experience (Palmer et al. 2015).

## 2.5. Note on positionality and the perspective presented in this report

The PMERL team responsible for production of this report (and for the PMERL activities which have fed into it) are aware that the perspective presented here is primarily that of the RU TP implementers. It became clear to us in one of our meetings that some of the RU-TP implementers frequently 'forget' (or may not realise) that the 'TP Team' extends beyond the RU implementers to include not only the immediate DEA partners with whom we interact on a regular basis (e.g. Michael Braack, Dudu Soginga and Michael Kawa) but also other government officials, catchment based implementers such as Working For ... project managers, researchers at other universities, and the catchment residents with whom we are engaging. It may useful to think of this as the 'wider TP network'.



**Figure 3: Tsitsa Project 'Bounding and Identity Diagram': "Whilst still also working on the left-hand side we are increasingly also working in the middle part and the question is how far to the right?" (By Harry Biggs and Kyra Lunderstedt).**

This perception can be explained to some extent in the 'bounding and identity' diagram (Figure 3) which illustrates that the project has developed from Rhodes University outward – and is in the process of expanding. The conclusion reached in the Learning Paper (Cockburn et al. 2018b) that the TP is currently a science-driven endeavour focused on researchers at Rhodes University (where the core funding is housed) also refers. Moreover, the physical distances between Makhanda (Grahamstown), East London (where DEA officials are based) and the Tsitsa catchment itself, reinforce this perception,

making it difficult to build a stronger sense of shared identity among the wide network of TP implementers.

Whilst the PMERL team would like to see a shift to a broader identity for the TP, and a realisation among RU project participants that they are not the only implementers of TP activities, this report is still somewhat biased towards the perspectives and experiences of the RU-based implementers. The reflection sessions at the SMM gave an opportunity to gather insights from the wider TP network, and the PMERL team intends to optimise gatherings of the wider TP network in future to facilitate reflection and gather a wider range of learning insights.

### 3. REFLECTION AND EVALUATION FINDINGS

#### 3.1. Overview of activities and outputs: March 2018 – February 2019

##### i. Activities:

The Tsitsa Project initiated and facilitated a variety of activities and produced significant outputs during the financial year of 2018-2019. This despite the delay in funding which hampered a lot of activities and posed a threat to the project. The activities of the year were planned to start in April, but funding only became accessible in August 2019. Furthermore, to pre-empt similar delays for 2019-2020, the TP team have been urged to complete end-of-year deliverables (such as this report) earlier than planned so that preparations for the new financial year can be made in good time. This means, in reality, that many of the 2018-2019 activities took place within about 6 months rather than the planned 12 months.

The key events that took place this year are described in Figure 4. The main emphasis of events has been on: collaborative and integrated planning (especially through the strengthened B-Team), community engagement (the SMSM in Maclear in October was a key event), multi-layered internal governance, building working relationships with high-level advisors to support the initiative (Strategic Advisory Panel meeting and Field Trip, Figure 5), and a series of workshops and meetings with project participants, to implement the PMERL framework (see Section 2.1 and Figure 2 above).

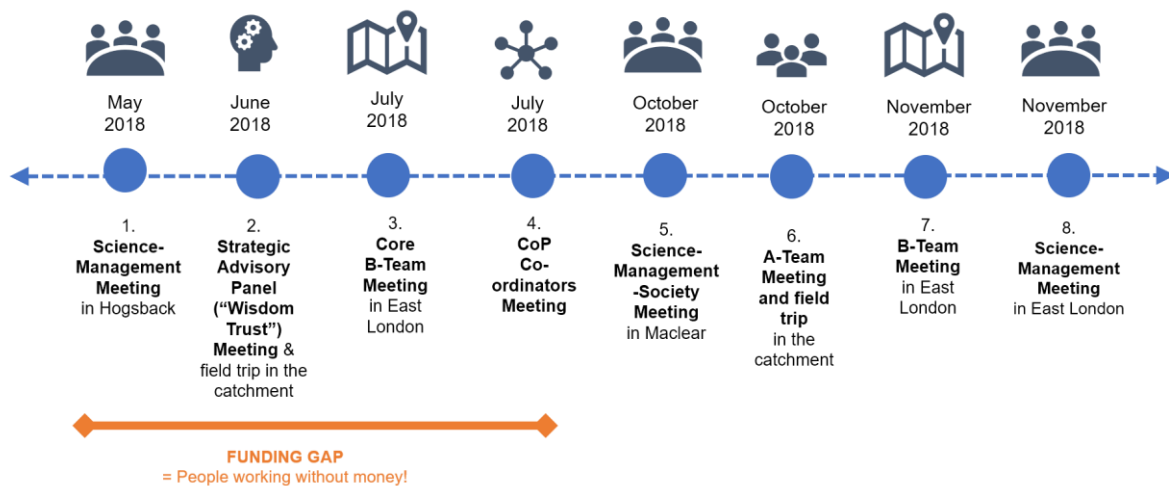


Figure 4: Tsitsa Project significant meetings held in the 2018-2019 financial year.



**Figure 5: Strategic Advisory Committee Field Trip to the Tsitsa Catchment**

## ii. Outputs:

The following significant written outputs were produced in the Tsitsa Project during the 2018-2019 Financial year. This is a selection of key outputs. There is also a full set of quarterly reports from each of the Rhodes University research groups involved in the Tsitsa Project (Rhodes University Department of Environmental Science, Geography Department, Institute for Water Resources, Environmental Learning Research Centre).

- *The Tsitsa Project Restoration and Sustainable Land Management Plan* (Preiser et al. 2018).
- *The Tsitsa Project (previously NLEIP\*) Research & Praxis Strategy: Resource Library (version 2) informing plans for 2018-2021* (Tsitsa Project 2019) (also known as 'Research Investment Strategy RIS Version 2).
- *Tsitsa Project Learning Report* (Cockburn et al. 2018a) and '*Navigating multiple tensions for engaged praxis in a complex social-ecological system*' i.e. Learning Paper (Cockburn et al. 2018b).
- *An overview of the Tsitsa Project* i.e. 'Glossy Brochure' in English and isiXhosa.
- *Tsitsa Project Newsletters: 2x Science-Management Newsletters* (May, November), 1x Science-Management-Society newsletter (October).
- *Tsitsa Project Knowledge Management Strategy* – Draft for comment.
- *Tsitsa Project Communications & Advocacy Plan* – Draft for comment.
- *Tsitsa Project Community Engagement Plan* – Draft for comment.
- *Tsitsa Project Grass and Fire Plan Version 1* – Draft for comment
- '*Tsitsa Project Family of Documents*' diagram (Figure 6).
- *Tsitsa Project Bounding and Identity*' diagram (Figure 3).

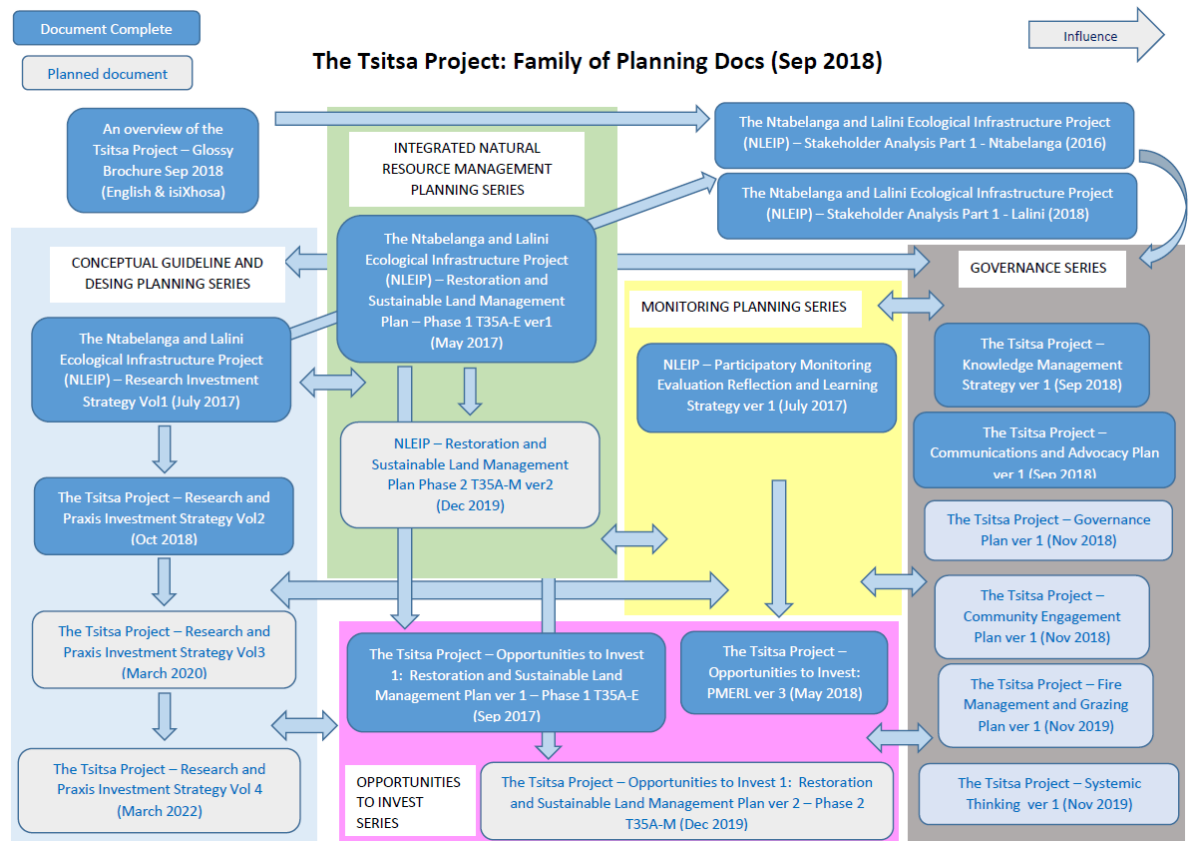


Figure 6: The Tsitsa project ‘Family of Planning Documents’ as at September 2018 (By Harry Biggs, 2018).

## STOP & THINK

### *The challenges of ‘deliverology’: the currency of the Tsitsa Project?*

The term ‘deliverology’ is used quite often in the Tsitsa Project team, mostly accompanied by a feeling of frustration, that the project is driven by deliverables and budgets rather than the vision and objectives of the project. The list of outputs shown above illustrate this ‘deliverology’ well. The financial flows into the RU implementation team depend on team members producing written reports and outputs, and so these become the ‘currency’ of the project. It is understandable that for the funder, paying on the delivery of written outputs is a means of keeping the project accountable and providing an auditable trail of evidence that money is being spent responsibly.

The system is intended as a means of performance management for the project.

*But do these outputs report on and ensure impact? How can the PMERL process help a more critical and careful reflection on deliverology and how implementers can be held accountable?*

The other side of the concern about the TP being driven by deliverables rather than its vision and objectives, is that the written deliverables do in the main refer to some meaningful processes that are enabled with the budget that they release. Generally, these documents capture, prepare for or report on collaborative and integrated planning, community engagement and communication, knowledge management, and learning, all processes aligned with the TP vision and principles.

The ‘Family of Documents’ diagram (Figure 6) intends to create an improved understanding of how the various documents fit together. There is however a sense that these outputs are not as yet optimally used to inform decision-making, governance and management, both internally among the Rhodes TP implementers, and in the wider TP network, collaborative arena and catchment.

Students and researchers in the TP have also been actively conducting research and producing knowledge outputs (not listed above) such as research reports (i.e. Quarterly Reports from each of the academic departments), conference presentations, dissertations and academic journal publications. As the cataloguing and gathering of all these outputs is still a work in progress, we have not compiled a comprehensive list of research outputs here. This will be a key future task of the newly constituted ‘Knowledge and Learning Community of Practice’ within which future PMERL activities and reporting will take place.

For more detailed insights and reflections on research outcomes, which were gleaned from presentations given at SMMs, see section 3.2.1 below.

### 3.2. Reflections on Outcomes

Whilst activities and outputs (Section 3.1) can give an indication of how the TP implementers at RU have been spending their time and the project’s funds, a reflection on the OUTCOMES of the project is necessary to give an indication of the results and impacts of the initiative. This is necessarily accompanied by a reflection on the PROCESSES within the initiative (Section 3.3).

This reflection on outcomes is structured according to three main types of outcomes relevant to the TP and its vision and principles: Knowledge Outcomes (Box 1, Principle 2 and 7), Organisational Outcomes (Box 1, Principle 3, 4, 5 and 6) and Social-Ecological Outcomes (Box 1, Principles 1, 4, 5 and 6). Before addressing each of these types of outcomes in turn, we give a broader overview of what significant outcomes TP participants perceive the TP to have achieved (Table 3).

According to the common narrative threads reported in Table 3, participants in the TP perceive the initiative to be having an impact through four main avenues: new collaborations and linkages among diverse stakeholders; progress on internal governance, project management and PMERL implementation; stakeholder engagement in the catchment and beyond; and knowledge outcomes which are being generated, but with somewhat limited impact. Within each of these themes, a variety of different perspectives is illustrated using narrative threads. The detailed threads demonstrate that for many of these themes, some people feel that the project is making progress, whereas others feel that not enough is being done. This is particularly evident in the feedback on new collaborations (Table 3, Theme 2) and on stakeholder and community engagement (Table 3, Theme 3) (Also see the ‘Stop & Think’ Box in Section 4 reflecting on this tension between doing something but not enough of it.)

**Table 3: ‘Common Narrative Threads’ which give insights on OUTCOMES of the Tsitsa Project**

**Theme 1 – New collaborations and linkages among diverse stakeholders:**

- “The TP is making good progress in engaging local catchment communities and the tribal authorities, but women and the youth need to be engaged more.”
- “The Rhodes University based implementers are slowly starting to build new relationships in the broader TP network.”
- “One of the key successes of the TP to date is the way in which it is starting to bring together different government departments, across the various spheres/levels of government, and across sectors/departments.”
- “Bringing together academics and experts from a diversity of disciplines to generate knowledge about the catchment is one of the strengths of the TP, but better integration among them is necessary.”
- “The TP is strengthening science-management linkages.”

### **Theme 2 - Progress on internal governance, project management & PMERL implementation**

- “Many members of the TP team have heavy workloads and experience stress in their work. People feel stretched to the limit, they feel that the amount of work they could potentially be expected to do is limitless and new things keep being added to their plates.”
- “The internal governance structures of the TP are taking shape and people are beginning to find their place in the team and understanding how everything fits together.”
- “There are some concerns about how financial and human resources are allocated and distributed among the RU implementers. There seems to be insufficient transparency about how decisions about resources are made: different sections seem to have to compete for resources and ‘s/he who shouts loudest, wins’.”
- “The RU implementers are becoming a more cohesive group and beginning to work together quite well – there is a growing sense of shared identity, solidarity with the catchment and commitment to the long-term nature of the TP emerging in the team.”
- “The CoPs are making varied progress towards developing Theories of Change and indicators for monitoring. This will be an on-going process of refinement rather than a task which will be completed by some point in time.”

### **Theme 3 – Stakeholder engagement in the catchment and beyond**

- “Changing the name of the project from NLEIP to the ‘Tsitsa Project’ seems to be a significant and symbolic outcome: it is indicative of the shifting emphasis of the research towards a more meaningful engagement with local catchment residents. It also illustrates the significant power which traditional authorities have, as it came about as a direct outcome of interactions with a disgruntled senior traditional leader.”
- “Development needs to be a clearer and more explicit focus of the TP: socio-economic, rural, and community development. This needs to include an emphasis on employment and capacity building opportunities for the youth.”
- “We need to engage with the dam: Whether the dam-building project goes ahead or not (at this point it seems it is going ahead) we as the TP need to engage with this process and take it seriously.”
- “There is a frustration among some people about the slow pace of tangible impact in the catchment: this relates to a feeling that we might be spending too much money on research and not enough on local community-based actions which would benefit catchment residents.”
- “We still aren’t focussed enough on climate change in our work – it feels like an add-on which we need to embed more purposefully.”
- “Women and the youth need to be better engaged and we need to be careful about supporting the powerful senior traditional leaders at the expense of vulnerable groups.”

### **Theme 4 – Knowledge outcomes are being generated, but their impact seems to be limited**

- “There is a stronger focus on on-the-ground practice and impacts – beyond just research – emerging in the work of the TP. We need to strengthen the links between research and practice so that TP research and NRM implementation on the ground are better connected – both operationally and in terms of inter-personal relationships.”
- “Communication and implementation of research findings needs to be improved.”
- “We have a lot of detailed disciplinary knowledge being generated but it needs to be integrated together so we can get a bigger picture of what we are learning about the catchment and what implications that has for local residents and for natural resource management and governance.”



- “The nature of the funding – often arriving late and in small chunks on “deliverables” basis – dilutes the potential impact the project can achieve.”

### 3.2.1. Knowledge outcomes: What are we learning about the catchment?

Reflections on knowledge outcomes give us some insight into the key lessons we are learning about the social-ecological system in which we operate, based on the scientific research being conducted (a focus on non-scientific knowledge forms is necessary (Cockburn et al. 2018b) and will be brought into the TP soon). This includes the knowledge and insights we have gained about the Tsitsa catchment and about the broader governance and institutional context of the project. The knowledge outcomes are gleaned from meeting notes and reflections, newsletters, and research outputs including presentations at SMM and research reports and papers.

## STOP & THINK

*“When tacit knowledge is made explicit, knowledge is crystallised.”*

*(Nonaka et al, 2000)*

One of the key challenges in the Tsitsa Project is to mobilise the knowledge assets to make knowledge more explicit and share them more widely.

*What is needed to do this effectively?*

The following key lessons emerge from a reflection on the knowledge outcomes of the Tsitsa Project:

1. **The dams are coming and cannot be ignored (proposed to be built as part of the Mzimvubu Water Project (MWP)):** this is a political and stakeholder engagement challenge which we need to address head-on. yet with insight and appropriateness. Additional expertise and research are needed to help us engage effectively with the dam-building process.
2. **Social, cultural and political significance of traditional authorities (senior traditional leaders or ‘chiefs’ (incorrect name), headman etc.) is becoming apparent.** Traditional authorities are powerful (at least in their local context if somewhat powerless in relation to wider political and economic contexts); yet they are understandably sensitive about not being consulted or being side-lined. Meaningful engagement with them is key for the Tsitsa Project and the MWP to succeed.
3. **We are developing a good spatial knowledge of the catchment.** The knowledge production that has gone into the collaborative and integrated planning process (van der Waal et al. 2017) has generated a lot of spatial data and knowledge. Presentations and outputs of the TP have a lot of maps in them. This begs the question: what are we missing that can’t be shown on a map? Some social and cultural knowledge might not be transferrable to a two-dimensional image, and we must be careful not to unintentionally side-line such knowledge.
4. **Our understanding of sediment processes is growing; however, data variability remains a key challenge.** On-going monitoring of sediment processes is needed to develop a stronger monitoring and evidence base for both research and implementation. The citizen technician approach is working well (Bannatyne et al.).
5. **Existing science on managing rangelands with fire and grazing indicates the importance of understanding contextual dynamics.** This calls for an experimental learning-by-doing approach in close collaboration with livestock owners and herders. Much can be learnt from work happening in the UCPP initiative over the hill.

### What might we be missing in terms of our knowledge and understanding?

- There is a widely-recognised need for more **historical research**, as quoted in one SMM newsletter: “by sometime around the late 1980s fences had disappeared together with most forms of natural resource control in the then Transkei, a situation that has persisted” (Science-Management Newsletter #4).
- **Social benefits and values:** we need a more nuanced social understanding of values, future visions of local people: do they actually want to stay and live in the catchment and rely on natural resources? Which of the activities we have planned will benefit local people and in which ways?
- **Agency and capabilities of local natural resource users:** we envision a future where local people are actively involved in management and governance of natural resources. We need a better understanding of who these people are, their current agency and capabilities in terms of natural resource management and governance, and an understanding on the best way of supporting development of agency and capabilities among natural resource users: is it capacity building, is it social learning and collective action, is it empowering them to have a voice in existing institutions?
- **Decision-making links and processes at different levels:** we need a better understanding of how science is used (and whether it is used) to inform decision-making by DEA managers and implementers; we need a better understanding of how local resource users make decisions, and how the TP can support this local-level decision-making through science and collective action research.

#### 3.2.2. Organisational outcomes

We now turn to a reflection on the organisational (or institutional) impacts and results generated through the Tsitsa Project. These relate to the internal functioning of the Tsitsa Project (although the boundary of ‘internal’ may not be entirely clear, see Figure 3).

The following key lessons emerge from a reflection on the organisational outcomes of the Tsitsa Project:

- **Internal governance structures are stabilising somewhat and beginning to function quite well.** We have moved from three to six ‘Communities of Practice’ (CoPs):
  1. Sediment and Restoration (SR CoP)
  2. Livelihoods & Ecosystem Services (LES CoP)
  3. Polycentric Governance and Community Engagement (PG:CE CoP)
  4. Grass and Fire (GF CoP)
  5. Systems Praxis CoP (SP CoP)
  6. Knowledge and Learning (KL CoP)
- **The ‘Strategic Advisory Committee’ (a.k.a. Wisdom Trust) has been formalised** and have come to a general agreement on the terms of reference of this group. The committee operates somewhat like a ‘think tank’ to support the conceptual and strategic oversight of the TP.
- **More active engagement of the B-Team and increasing participation:** Two successful B-Team meetings were held in this financial year. The B-Team is the forum in which collaborative and integrated planning for the catchment takes places, and includes stakeholders from Rhodes University, Department of Environmental Affairs and implementers working for DEA.
- **There are improved working relationships with local municipal and provincial officials:** there is evidence from the development of new inter-personal relationships (e.g. between members of the PG:CE CoP and various government officials), participation in meetings (e.g. improved

participation in 'B-Team' integrated planning meetings and Science-Management and SMSMs, etc.).

- **Improved working relationship with Traditional Authorities in the catchment:** the first SMSM was a watershed moment in the stakeholder engagement processes of the TP. Linked to this is the name change from NLEIP to TP which seems to be a significant symbolic outcome of a shift towards a more citizen and community-focused way of working.
- **The TP team has a better sense of identity and bounding:** whilst the bounding and identity details have not yet been fully agreed-upon, the conversation has started and there appears to be shared recognition that identity and bounding is an important issue. This diagram developed Harry Biggs and Kyra Lunderstedt has been helpful in guiding this conversation (Figure 3).
- **The CoPs are making varied (but steady) progress towards developing ToCs & indicators:** Facilitating workshops for CoPs to develop their ToC and indicators was one of the first activities undertaken by the PMERL team (Figure 2). The Theory of Change for each CoP (implementation hub at Rhodes) is intended to serve as the basis for (a) clarifying what needs to be done and why, and (b) what should be monitored and evaluated (indicators of progress and impact). The CoPs are currently all in different phases of development of their respective ToC and ToA (Theories of Action). This is to some degree related to how well established they are (See Appendix 1 for a detailed report from the PMERL Coordinator on the ToC process). The ToC workshop and follow-up small group meetings served also as opportunities for reflection, during which well-being and better work load management emerged as a concern.

The lack of progress in developing indicators against which to collect baseline and progress data is also a concern. This can be attributed to various issues: no or limited budget for monitoring; and lack of clarity i.t.o. the role and activities of many of the CoPs (and their relatively recent establishment). Poor linkages between the CoPs and the work done by DEA-NRM implementers and uncertainty about catchment coordination, liaison and citizen monitoring, seem to hold back CoPs at RU from envisioning how monitoring will be implemented and what kind of indicators will be suitable. For example, will it be done by scientists, students, or low-skilled workers? Much of the work of the CoPs towards achieving their goals in their ToCs hinges on more effective communication and coordination within the TP and the appointment of a catchment coordinator and a team of local catchment monitors and liaison officers. This has not yet been completed and seems to have had knock-on effects on everyone else's ability to concretize their plans.

- **Communication and coordination within different layers of the TP implementers is an on-going challenge:** communication needs to be more effective and we need to learn 'quality' over 'quantity' communication; co-ordination among the RU implementers and between RU and other partners is improving, but still needs more attention.
- **Well-being and high stress levels among TP implementers (both at RU and in the wider network) is a concern:** many people feel stretched to the limit and there is a sense of not enough clarity in terms of boundaries, roles and responsibilities, etc. - each person's task could potentially be limitless in size but many people are only working part time on the TP - this is not sustainable and needs to be addressed.
- **Impact of financial flows, distribution and management on the project:** this results in stress and uncertainty, impacts on how TP members can build relationships with catchment residents (uncertainty about when they will be able to come back, when they might be able to offer employment, etc.) and influences overall productivity and ability to achieve impact. The current financial model and the bureaucratic demands and 'deliverology' constrain the efficacy of the project and the team's ability to do their work (See 'Stop & Think' box below).
- **Knowledge management and knowledge integration in support of learning and improved feedback loops** emerged as key themes and focus areas during 2018. Recognition of links

between PMERL and Knowledge Management resulted in an agreement to form a 'Knowledge and Learning CoP' which incorporates knowledge management, PMERL, and capacity development.

The reflections at the SMM in East London in November 2018, shed a somewhat different light on the processes in the Tsitsa Project (Box 2). The discourse around 'development' was particularly strong in this stakeholder community and appreciation for polycentric governance efforts was expressed.

## STOP & THINK

### *The challenges of 'deliverology': the currency of the Tsitsa Project?*

The term 'deliverology' is used quite often in the Tsitsa Project, mostly with a sense of frustration, because of a sense among implementers that the project is at this time driven by deliverables and budgets rather than by its vision and objectives. The outputs listed above illustrate this 'deliverology'. The financial flows into the RU TP depend on team members producing written reports and outputs, and so these become the 'currency' of the project. For the funder, paying on the delivery of written outputs is a means of keeping the project accountable and providing an auditable trail of evidence that money is being spent responsibly. The system is intended as a means of performance management for the project.

*But do these outputs report on and ensure impact? Does the overriding focus on the deliverables perhaps prevent other forms of outcomes to be achieved? How can the PMERL process help a more critical and careful reflection on deliverology?*

### **Box 2: Reflections and feedback from participants at the Science-Management Meeting in East London in November 2018**

The reflection session at the SMM seems to have been a success based on informal feedback from participants and the quality of inputs received as 'reflection data'. Importantly, this is the first time we have formally gathered feedback from the wider TP network and it gives a valuable perspective on the work of the TP. Interestingly, the main comments made are in most cases 'two sides of the same coin' in that people commented both positively (well done!) or negatively ('do more!') on three main issues:

**Knowledge production, integration, implementation and communication:** participants commended the TP on generation of new and important scientific research in the catchment, and others urged the TP to improve how various disciplinary knowledge types are integrated into a bigger picture and to communicate and implement the knowledge better.

**Collaboration among diverse stakeholders, particularly across spheres of government and at the science-management-society interface:** participants see this is a significant positive outcome of the TP, and many urged the TP to continue widening and deepening the stakeholder engagement work as this is a key success factor for the initiative.

**Rural community development and meaningful engagement of local catchment residents:** again, some feedback on this was positive and complimentary, whereas others noted that we 'need to do more'. Interestingly, many people highlighted the developmental potential of TP, and that it can and will only work with meaningful socio-economic development focused on local residents, particularly in terms of employment and capacity building of the youth.

### 3.2.3. *Social-ecological outcomes*

The social-ecological outcomes of the TP relate to the impacts and results on the ground in the catchment, i.e. are a reflection of how we are doing in terms of achieving our vision. This relates to social, socio-economic livelihood outcomes, biophysical or ecological outcomes, and emergent social-ecological outcomes. There is limited availability and accessibility of social-ecological monitoring data from the catchment to report on these outcomes. This is by and large because the CoPs, in particular the Knowledge and Learning CoP, have not yet started to engage with the practical NRM activities in the catchment by Working For ... teams, contractors, Take Note, Gamtoos Irrigation Board, etc., and outcomes emerging from these. The PMERL process should develop links and feedback loops to these activities and implementers in order to be able to reflect and report on the social-ecological outcomes on the ground, as well as the knowledge held by these TP participants. Moreover, many of the activities and intended outcomes of the TP will take time to achieve measurable social, ecological and social-ecological outcomes e.g. the development of participatory, polycentric governance will begin to function and yield equitable livelihood outcomes.

## STOP & THINK

### TOWARDS SOCIAL-ECOLOGICAL OUTCOMES

***What might social-ecological outcomes in the Tsitsa Project look like and why is it going to take time not only to develop effective monitoring and evaluation processes to assess these, but also to achieve them in practice?***

In the TP's overall Theory of Change (Botha et al. 2017) there are important blocks of outcomes – for instance under “SES - resilient outcomes” the following are listed (Tsitsa Project 2019): healthy land cover; access to quality ecosystem services; reduced dam sedimentation; a healthy dam; improved relationships, social capital and sense of agency amongst stakeholders; shared sense of identity and place; participative governance. From this list it becomes apparent that the outcomes sought in the TP are neither purely ‘social’ or purely ‘ecological’ but intertwined social-ecological outcomes i.e. they emerge from social-ecological interactions.

The TP Theory of Change goes on to suggest the above “SES outcomes” together hopefully will lead to 1. Equitable access to natural resources and improved livelihood options and well-being, as well as, 2. Downstream benefits (for dam beneficiaries).

In a sense the above two are bundled descriptions of intended macro-benefits to livelihoods. A lot of factors will need to work together favourably to actually realize these in any objectively evaluated terms, as they are so-called ‘emergent properties’ of various interconnected elements of the complex SES which is the Tsitsa catchment.

There are also multiple finer-scale levels of “SES outcomes” that can be easily generated (for instance, with the help of the various “theories of action” in Appendix 1 for various communities of practice working in particular sub-domains), probably together making up the broad ones listed above.

It is therefore important to bear in mind that developing a suitable and agreed-upon approach to monitoring, evaluating and learning within the SES takes time, as does the realisation of tangible SES outcomes from the various actions being implemented in the TP.

*Since it is so challenging to monitor, evaluate, and achieve SES outcomes in complex SES, maybe the TP should be identifying ‘road markers’ along the way to avoid frustrations about what might seem to be a lack of performance of the project? What might these ‘road markers’ look like? The ToCs of the individual CoPs give some possible ideas (See Appendix 1).*

### 3.3. Reflections on Processes

The previous section on project outcomes shows that while a considerable list of outputs have been produced, there is a general sense that actual outcomes and benefits are still limited; there is furthermore a sense that this can be attributed to a number of sub-optimal project processes. The next section will now focus in on project processes. Below we reflect on these first within the wider TP (3.3.1), and then specifically with a focus on the PMERL processes which have been implemented in the last year (3.3.2). In reflecting on these processes, the following guiding questions were considered: “*What are we learning about how the Tsitsa Project works, and about how we work together?*”

#### 3.3.1. Organisational processes within the broader Tsitsa Project

The following key lessons emerge from a reflection on the organisational processes of the Tsitsa Project. This includes lessons about the internal governance and working relationships of the project,

and also about how we work with stakeholders in the broader catchment, and in the broader science-practice community. Table 4 outlines a set of common narrative threads which convey TP participants' perceptions and reflections about TP project processes, summarised as three key themes: coordination, communication and integration challenges; bounding, and identity and scope expansion; and project management challenges.

- **The role of scientists and managers in the Tsitsa Project is different from their conventional roles;** this places additional demands on them, pushing them out of their comfort zones (Cockburn et al. 2018b). We have found that collective reflection opportunities carry the risk of becoming 'gripe' sessions, but also the potential to help project implementers in the university and in the catchment develop a sense of solidarity, 'we are in this together' and a sense of hope that challenges could be tackled. We will invest in building facilitation skills to help us make sure that reflections are more of the latter, safe spaces that are also productive in helping implementers move forward with new vigour and new solutions.
- **Transformative learning and reflection processes are needed to support the work in the project** (Cockburn et al. 2018b). We need to find smart ways to integrate reflection into existing activities, events and reporting processes so that they ease rather than increase meeting and reporting burdens. For example, if people leave a meeting with new, clear ideas on how they can do their work better (e.g. with others) then they will be working smarter, not for longer hours, and the investment in the reflective meeting, would have been worth their while.
- **Progress has been made in stakeholder engagement and in putting in place the enabling conditions for polycentric and participatory governance processes.** The TP network is beginning to find ways to navigate the bumpy terrain between all the institutional cultures, knowledge systems, and power dynamics at play (Cockburn et al. 2018b).
- **On-going reflections on the 'Bounding and Identity' of TP is a necessary and important process** (Figure 3).
- **Inter-personal relationship and trust-building is a key enabler but also a significant challenge.** These processes play a significant role in broadening collaboration across spheres of governance, research and practice (Cockburn et al. 2018b).
- **A shift towards more practical on-the-ground activities is necessary and beginning to take place:** "many more practical on-the-ground issues were being addressed by NLEIP now (or at least these were now being brought out and discussed)" (Science-Management Newsletter #4).
- **Financial flows, distribution and management of resources (financial and human) is an on-going source of frustration and concern for the project team.**

A number of factors related to the funding flow make for challenging conditions. These are: constant uncertainties about when the funding would arrive and what the associated conditions / requirements would be; the manner in which funding is distributed in smaller chunks; and the extensive delays in the arrival of funding. While all projects have management challenges, the challenges raised here are significant and result in tangible limitations to what can be done. They introduce an almost overriding focus on project management, which is not conducive to research and innovation, and perhaps most importantly, take the focus away from the needs in the catchment, to 'the needs of the project'. These challenges are generated both within DEA and within RU (e.g. requirements restricting our ability to fund catchment-based monitors).

These administrative and bureaucratic constraints should however be viewed with a broader perspective, recognising that limited financial and human resources are a world-wide reality and not likely to be resolved soon or easily. Therefore, this can only be solved in practice by more effective approaches rather than more resources. The overarching 'solution' is therefore likely to be an improved and more deft navigation of the challenges of perceived 'insufficient resources' rather than a provision of "more" of everything.

**Table 4: ‘Common Narrative Threads’ which give insights on PROCESSES within the Tsitsa Project**

**Theme 1 – Coordination, communication & integration challenges**

- “Community and stakeholder engagement are on-going challenges in the TP and they are very important processes for the success of the initiative.”
- “The PMERL processes being facilitated in the TP are important and relevant: participants are willing and keen to participate in reflection activities, becoming more open to learning from mistakes and to adapt their work accordingly.”
- “Better integration across the activities and outcomes of various CoPs, disciplines and sectors is necessary. There is some progress in this regard, but additional resources (human/financial) – or perhaps more creative and careful use of existing resources – is needed to deepen and wide integration and links between different knowledge and action domains.”
- “Effective communication is difficult but very necessary: there is a growing frustration about ineffective communication – sometimes there is almost too much communication and at other times people feel ‘left out of the loop’. An approach to internal and external communication that focuses on ‘quality over quantity’ is necessary.”
- “Sometimes it seems as if the different groups and sections of the project are splintered in different directions, perhaps as a result of the particular funding arrangements (total funding cut into several smaller budgets per CoP and further cut into smaller amounts per quarter and deliverable)... our impact is as a result, ‘less than sum of our parts’, lacking the impact that could be expected from the size of the funding investment.”
- “It sometimes feels difficult to build collaboration beyond RU team: while there is a growing sense of cohesion and shared identity among the RU implementers, engaging effectively with others beyond RU is difficult. The geographic distance between the RU team and others (e.g. in the catchment and also DEA officials in East London) makes this collaboration more difficult and it’s difficult to build a stronger sense of collective identity across the various spheres of the initiative (science, management, community, and other relevant stakeholders).”
- “It still seems as if we are not doing enough on the ground to benefit community members, and maybe we are still spending too much budget on research. On the other hand, DEA NRM teams are active on the ground doing restoration work and employing local people i.e. they are doing work on the ground. This seems to speak to a disconnect and a lack of interaction between the researchers and DEA NRM teams on the ground.”

**Theme 2 – Bounding, and identity and scope expansion**

- “The TP needs to carefully reflect on and manage its bounding (i.e. limits or boundaries of its work) identity (who are we and what we are doing here) and the expansion of the scope of the initiative – geographically and practically (how far the project expands geographically and what issues it addresses).”
- “The imminent construction activities associated with the dam (road-building and potentially also eventual dam-building) make it even more important for us to consider our bounding and identity – we may need to develop a collective position on the dam process.”
- “Some participants within the initiative are becoming closely committed to the catchment residents and their work in the project and are developing a shared identity as ‘TP people’.”

**Theme 3 – Project management challenges**

- “The bureaucracy, ‘deliverology’ (i.e. deliverable driven funding model) and uncertain and opaque financial flows impacts on the management and potential impact of TP activities.”
- “It sometimes seems as if there is insufficient transparency regarding budgets and funding, i.e. there might be some ‘unwritten rules’ about how funding decisions are made, including how



funding is allocated to different parts of the project... this may however be more of a communication problem than a transparency problem *per se*.” (See Theme 1 above)

- “‘Upward reflection’ (i.e. to DEA) seems critically necessary but somewhat difficult. Whilst reflective practices are beginning to be embedded among RU implementers and horizontally to other stakeholders in the wider TP network (e.g. at Science-Management-Meetings and on field trips) it seems like some senior DEA officials are too busy to participate in reflection and that the bureaucratic and institutional constraints ‘at the top’ are beyond the PMERL mandate of the TP. However, if the TP is to bring about the change we envisage, then these higher level bureaucratic and institutional constraints need to be questioned and adjusted.”
- “Despite project management challenges, there is a strong sense of appreciation among the TP team for a space that has been created for innovation, new thinking and a more generative way of working with diverse stakeholders than many have experienced elsewhere.”

### 3.3.2. PMERL processes: reflections and way forward To

To reflect on the PMERL PROCESSES, we asked ourselves the question: *What we are learning about PMERL through implementing it, and what can we do to adapt the work of PMERL to better serve the TP and help participants in their work towards achieving the TP Vision?*

The PMERL team have noted that a more reflective culture is beginning to emerge within the wider TD network (Table 4), however most of the PMERL activities have involved mostly RU-based TP implementers, and we need to find ways to extend participation and collaboration to the broader stakeholder groups. One way of doing this would be to for the CoPs to begin implementing more collective, practical, on-the-ground activities with tangible benefits to local people from which we can learn and adapt our approach. i.e. action research activities, and planning for this in 2019-2020 financial year is already underway.

Upon reflection the PMERL team have identified five areas in which PMERL implementation can be further developed to support the TP, each of which will be discussed in turn below.

#### i. A well-being approach to PMERL

The PMERL team is actively working to shift perceptions of M&E from being about policing or ‘the big stick’ to a well-being function that supports collective reflection and a more supportive environment. This will be put into action through hosting regular (likely on a quarterly basis) *Well-being and Reflection Teas*. These teas will aim to facilitate a process where TP participants can reflect and learn from their own and others’ activities and challenges and collectively plan a way forward without putting the additional stress of writing more reports (or adding sections on reflection to existing reports) on the team members. Rather, it aims to do more while at the same time limiting additional time required to do so. Simultaneously, it can serve the purpose of offering colleagues support in the workplace which can benefit their productivity. These teas can also serve as a valuable feedback opportunity where the team can learn about what has been done in the past quarter, how were previously identified challenges addressed, what were learnt from these activities and how the team is moving forward.

#### ii. A more reflective approach to reporting

Whilst the PMERL team is conscious of burdening TP participants with additional reporting requirements or changes to reporting, adjusting the way in which reporting is done is a potentially powerful means of embedding a more reflective culture with the project. Possibilities for how to go about this will be investigated in the new financial year, in line with the other suggestions for ‘way forward’ with PMERL. Similarly, to enhance knowledge exchange and integration, participants need to be able to allocate more time to reading each other’s reports or at least sharing key insights from quarterly reports with one another e.g. at the Well-being and Reflection Teas.

### iii. Integrating knowledge and learning

Through the newly formed 'Knowledge and Learning CoP', PMERL aims to begin working more actively on the much-needed integration of information, research outputs, and other forms of tacit and explicit knowledge for the TP. Moreover, integrating the practical restoration (and other related) work in the catchment into the PMERL processes and structures; how this is best done, must be determined through careful consultation with the relevant entities including DEA: NRM and others working in the catchment. The approach will be invitational. The aim will be to 'do more' with what is already being collected and reported.

### iv. Extending the citizen monitoring component

In order to begin generating more on-going data on social, ecological and social-ecological processes and outcomes in the catchments, PMERL aims to push and support the extension of the citizen monitoring work currently undertaken by the Sediment and Restoration CoP to include a wider range of monitoring activities across other CoPs as well. This will need to be carefully linked into the above-mentioned knowledge integration processes and will require facilitating feedbacks based on knowledge generated and reported in and about the catchment.

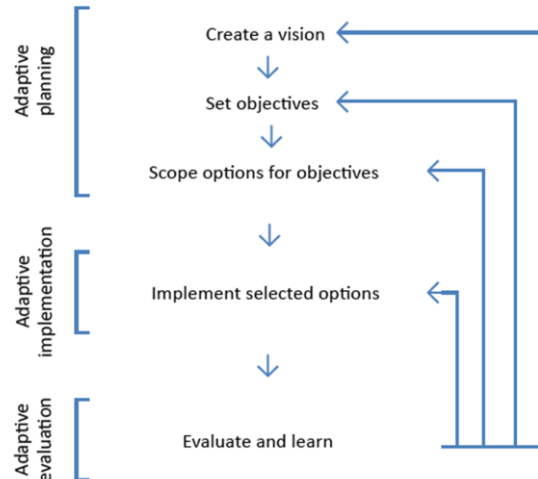
### v. Facilitating and promoting improved feedbacks among system and project components

To support improved knowledge integration and learning and to extend the citizen monitoring component will require facilitating improved feedbacks within the catchment and the TP network as a whole (See 'Stop & Think' box below). The term feedback is used here to refer to the communications and interactions between various components of the project management structures (or system) and the participants within them. Promoting feedbacks means developing specific habits of mind for each individual participant and as a collective. It also requires PMERL to play an active role in facilitating opportunities for feedback to occur between different stakeholders and parts of the project structure. These could include for example the 'Well-being and Reflection Teas' introduced above, presentations of PMERL lessons learnt at the Science Management Meetings (SMM), PMERL and KL CoP contributions to the Science Management Newsletters on feedback received from the participants through reflection activities, the PMERL Annual Meta-Reflection Report and sections in the PMERL quarterly report with highlights of lessons learnt during that quarter.

## STOP & THINK

### FEEDBACKS, FEEDBACKS, FEEDBACKS!

How do we develop the habit of mind of checking feedbacks?



Promoting and facilitating feedbacks is one of the key functions of a PMERL system. Feedbacks (or feed-forwards and feed-backs) are the lifeblood of adaptive learning, a central principle of the way the TP has agreed to try to work. For any given adaptive situation, the diagram shown above (Pollard and Du Toit 2007, Roux and Foxcroft 2011) drawn from the application of strategic adaptive management (SAM)), helps prompt refreshing ideas about where to check for missing or defective feedbacks (shown as arrows on the diagram).

One does not necessarily need every single one of these feedback loops for each situation, but enough of them to ensure cohesion of any adaptive learning process applied to any implementation. The feedbacks also do not all need to be formalised in the sense that they are measured, reported on and strictly evaluated. Oftentimes it is enough to have one or two key ones formalised (perhaps as per PMERL plan) but then to supplement these in an ongoing intuitive, almost “subconscious” mode – just developing the habit of putting oneself through the checks of the various types. Very often just doing that reveals a key missing feedback and its effect, which can often be corrected. Mostly, feedback-checking is about developing the habit of always checking intelligently for feedbacks, and a likely meaningful question in any process or systemic repertoire might be “Were any key feedback/s at any levels missing or not functioning properly, and what did you do about it/them?”. Such a habit of mind helps to continuously keep adaptive learning going and makes for continuity in the effective functioning of processes, even in building systemic connections.

*How, then can one develop these feedback-checking habits of mind?*

Firstly, keep the diagram above in mind. If you use it a few times, you will soon know it by second nature and doing this will become painless and informative. Secondly, wherever you find shortfalls in your evaluation (“needs more of ...” or “... should improve”) ask yourself whether there are not feedbacks missing in the ecology of the system - the way you believe it interconnects and works. You will often find it helps you develop an approach to the shortfall (or for that matter, an excess) or helps to develop a different perspective, helpful in another way (Text by Harry Biggs).

## 4. SUMMARY OF LESSONS LEARNT AND REFLECTIONS

Having presented reflections on the outcomes and processes of the Tsitsa Project, we now synthesise the various insights gathered and provide a summary of key learning insights, based on the findings presented in Table 7, from which four themes of ‘lessons learnt’ can be summarised: Communication, collaboration and feedbacks; put local catchment residents first; team dynamics among RU implementers; internal governance and functioning; and project funding, diverse partners and sustainability. Below we then discuss in further detail a few cross-cutting reflections.

**Table 7: Lessons learnt from various sources of data (See Table 1, 2): “We have learnt that...”**

### **Theme 1 – Communication, collaboration and feedbacks are important**

- Effective and good quality communication and collaboration are key, but it is difficult to get the balance right and language (both jargon and English, isiXhosa, etc.) is a key issue.
- There is a need for better and more thoughtful co-ordination between partners.
- Feedback loops need to be put in place more effectively, and participants need to be prompted to look for and create these.
- There is a need for more strategic, thoughtful and collective planning and project management.

### **Theme 2 – We need to put local catchment residents first**

- A catchment co-ordinator and liaison team are still urgent and important requirements.
- There is a strong and growing realisation that project needs to involve, focus on and benefit catchment residents, i.e. a developmental agenda is there but could be strengthened.
- Capacity development and employment for local catchment residents needs to be prioritised e.g. citizen monitors/technicians.

### **Theme 3 – Attention should be paid to team dynamics among RU implementers; and internal governance and functioning**

- Well-being matters and PMERL can play a role in supporting participants in this.
- “It takes more than 1 person to make a CoP”: the on-going development and opening up of CoPs should be supported and encouraged, as this will enable better integration, collaboration and feedbacks.
- It is important to offer capacity development and training for the RU implementers and the wider TP network. And provide induction and materials for ‘newbies’ who join the network.
- Knowledge management and integration is a key challenge – the KL CoP will be taking this up as a key focus of 2019-2010.

### **Theme 4 – More diverse project funding and more diverse partners are needed for project sustainability**

- For the Tsitsa Project to make progress towards its vision and for the initiative to be sustainable, a more diverse set of funding sources and project is needed.
- The TP should actively seek out new partnerships to address current gaps in terms of capacity and expertise e.g. Developmental issues relating to building of dams, mainstreaming climate change into TP, developing web-based knowledge management platforms, etc.

#### **1. Reflecting on and managing bounding, identity and expansion:**

This is an important topic which features strongly in the discourse and narrative of the TP in 2018. One of the challenges appears to be managing the interface of the RU implementers – who are beginning to develop a sense of cohesion, internal governance and identity – but needs to work beyond its comfort zone and find ways to better connect, and improve feedback loops, between itself and the wider TP network. The appointment of a catchment coordinator will assist with this immensely, but all other RU

implementers also need to take responsibility to engaging more widely. The CoPs were set up with this expansive purpose in mind, and so should be actively engaged in widening the circle. When the participants in the TP team use the term 'WE', let's reflect on who we consider to be 'WE' and who 'THEY' are.

## **2. Reflecting on the “Developmental Agenda” of the TP:**

There are different discourses among RU implementers and broader TP network regarding the potential “developmental agenda” of the TP. Even if among the RU implementers we may not see it as clearly or discuss it as explicitly, in meetings with the broader network (i.e. SMSM, SMM, Strategic Advisory Committee, etc.) the expectation, assumption and hope that the TP is fundamentally a developmental initiative is there. We need to work with this. A lot of the suggestions from participants at the SMM in East London related to increasing the community development potential of the TP, with particular reference to youth development, employment and capacity development of catchment residents.

## **3. Reflecting on linkages, feedbacks, collaborative ties, engagement, tensions: the relational aspects are everywhere and important but difficult to foster.**

We are making good progress on the relational aspects of the TP but must continue to actively facilitate this and foster systems thinking, feedbacks, etc. among participants. Early in 2019 the Systems Thinking CoP is offering introductory training on “Systems Thinking” for TP participants and this kind of activity should be encouraged and supported. Further development of each of the CoPs to bring in a wider range of stakeholders and improved integration is also important in this regard. Finally, PMERL's intentions to facilitate collective reflections on a quarterly basis through the 'Well-being and Reflection Teas' should also be useful in building better linkages, shared understandings and feedbacks.

## **4. Reflecting on how the ‘bringing together’ of different stakeholders is hailed by many as a key outcome and success of the TP to date.**

Whilst among the RU implementers there is a realisation that we need to connect ‘outwards’ more, from ‘the outside’ (e.g. perspectives shared at SMM meeting reflection, and reflected in the Bounding and Identity Diagram (Figure 3)) there is growing appreciation for the convening role that the TP is playing in bringing all relevant actors together, from community, to various levels and departments of government, to various tertiary education institutions (See ‘Stop & Think’ box below on these outside in/inside out dynamics).

## **5. Reflecting on the appreciation within the wider TP network for the multi- and interdisciplinary research being conducted in the TP.**

Important information is being generated, and different disciplinary expertise are being brought together. However, there are also ways in which the potential of this research to improve conditions in the catchment and help the TP achieve its vision, could be developed further:

- Better integration across knowledge to develop a bigger picture (including local and indigenous knowledge, and diverse disciplinary knowledges);
- Better communication of research findings to various stakeholders; better involvement of diverse stakeholders in formulating research priorities and questions;
- More involvement of local people in research activities i.e. capacity building, employment, etc.;
- More involvement of social sciences;
- More careful communication in terms of use of technical jargon, offensive or biased language ('political correctness') etc.; and
- Create a more interactive, conversational setting at SMMs for people to engage more deeply and socially on the presentations and get to know each other.

## 6. Reflecting on the financial model, flows and allocation, along with deliverology: Need for 'upward reflection' and feedbacks to DEA structures

The process model of directing the significant amount of funding that gets allocated for the TP into smaller and smaller streams (via departments, CoPs, quarterly deliverables and a handful of catchment-based monitors) should be critically considered. How do we ensure that this is an effective way to resource the work needed to create the impact needed? What are the limitations of this funding model and how do we overcome them?

### STOP & THINK

#### REFLECTING ON PROCESS: TWO INTERESTING DYNAMICS TO CONSIDER

##### 1. The outside-in/inside-out dynamic between the RU TP implementers and the wider TP network: This quote from a reflection note captures it to some extent:

*"The core of TP appears somewhat 'stuck-in-the-middle' and unable to effectively engage both 'lower down' i.e. at grassroots level in the catchment, or higher up with more senior government levels (e.g. need for DWS and DEA to convene around the dam). The core TP group strive for polycentric governance and in some way are well placed to support this 'from the middle' but appear to lack convening power to actually get this going effectively... or maybe it is just taking time."*

##### 2. The 'doing X well' versus 'not doing enough of X' dynamic:

Some people perceive something (e.g. "collaboration among different stakeholders" or "socio-economic development focus of the initiative") to be going well, and others think we are not doing enough of that thing. At least 'X' is in the picture, it seems to be some kind of tension, and so an opportunity for growth and learning?

*These two dynamics are about certain 'movements' going on in the TP, they illustrate the iterative and interactive nature of change processes afoot. Could we use these as "process indicators" in the project – dynamics to track and learn from as the project continues to grow and change?*

## 5. CONCLUSION AND RECOMMENDATIONS: ADAPTING OUR PRAXIS

The purpose of the meta-reflection report, as the final product of the collective PMERL processes of the 2018-2019 financial year, is to synthesize the insights gained from all the participatory monitoring, evaluation and reflection processes that took place through the year. This first report has succeeded in synthesizing reflections, based on several processes facilitated through the year and in which the Rhodes University implementation team and to a lesser but significant extent, management and society groups, also participated. This ranged from focus group discussions that resulted in the 'Learning Report' (Cockburn et al. 2018a) and 'Learning Paper' (Cockburn et al. 2018b) to a series of jointly developed 'Theories of Change' workshops (Appendix 1) and an inaugural Science-Management-Society meeting (SMSM).

These reflections are not homogenous in nature and at times opposite views are held, depending on the position from which the reflection is made. Participants have reflected on project outcomes and processes and this report which synthesizes these reflections concludes that a significant amount been done and achieved, but much more is needed, and the complex processes could benefit from more 'deft navigation'. Project implementers are concerned that project processes are not optimal to help them achieve what is needed, although some significant steps are being taken in the right direction.

The TP's first meta-reflection report confirms that scientists, managers and residents of the Tsitsa catchment have a need to see knowledge from diverse sources (scientists, managers and wider society) identified, brought together and mediated so that they may engage with it and chart a way forward for the project and the catchment, in the context of its particular challenges and gain insights that will be useful in other catchments, too. This 'knowledge integration' function is a role that has been assigned to the PMERL team within the Knowledge and Learning CoP, in order to support learning all round.

While in the past year (effectively six months of work) we have not been able to start this process, we have taken significant steps to prepare for this 'knowledge integration, reflection, and learning' work. The PMERL coordinator and advisors undertook to work closely with the newly established 'Knowledge Management' function (in a Knowledge and Learning CoP) and we have started to articulate the importance of a sound ontological basis for the knowledge integration and mediation work, in several conference presentations and papers (e.g. see Cockburn et al., (2018b)).

The development of an organisational process with PMERL champions (Figure 1, Botha et al. 2017) and the 'bounding and scoping' diagram by Biggs and Lunderstedt (Figure 3) are important tools in the knowledge synthesis, integration and reflection process anticipated.

In preparation for the 2019-2020 report, the organisational resources that are in place (not just in the PMERL team but in the TP as a whole) and needed should be reviewed to make sure that a sound process can be undertaken in this year. In particular, it is important that catchment residents and implementation managers, as well as interested researchers from all participating universities, have an opportunity to participate in articulating relevant knowledge and reflecting on the information and insights that will be brought together through this process. Opportunities to link with what is already happening should be identified and optimised, in order to optimise the opportunity to reflect together on what is known about natural resource management in this catchment, its present and past, in order to plan for a more sustainable and equitable future.

Much emphasis will be placed on working with knowledge sources in the catchment, including residents (building on the research and community engagement work of Nosi Mtati) and project implementers. There is as yet no process for bringing the monitoring and evaluation of the practical restoration activities in the catchment into the Tsitsa PMERL process, and such a process must be crafted with the DEA:NRM as a matter of priority, in a way that eases rather than increases the reporting burden.

Another priority will be the process of gathering, integrating and communicating a reasonable amount of the academic research that had been done or is underway in the catchment. It has not been possible to find all the studies, as there is a fair amount of resistance among some researchers (not funded as part of the TP) to share their work. Our advice is to be pragmatic and to rather make available, for sense-making and learning purposes, those studies that have been shared, rather than to continue trying to make a full collection of what has been done. That is, bring available research into use, as soon as possible (Kyra Lunderstedt will continue with this Knowledge Management task with the support of PMERL within the KL CoP).

Integrating knowledge is not an easy task and to do so across different knowledge forms, and invite and support participation in sense-making, interpretation and collective, social and expansive learning, is not common practice. It is in fact one of the most interesting and necessary intellectual, practical and political challenges of our time (Lotz-Sisitka et al. 2015). It is therefore relevant that this work is situated in a university-based Education faculty and Centre with significant experience in this regard, where considerable work is being done on developing monitoring and evaluation and social learning systems that support such learning-into-action. The Tsitsa Project remains an important opportunity to continue trialling and testing ways in which to do this, in practical real-world contexts, with practical real-world outcomes. It would be important, however, that we address the process and resourcing challenges identified to make sure that the work is adequately resourced and supported, within and beyond the PMERL team, as a significant collective undertaking, starting with women and youth monitors in the catchment.

## 6. ACKNOWLEDGEMENTS

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