

Final Report:

STRENGTHENING THE UPPER UTHUKELA WATER PARTNERSHIP ZA06370.A, ID852

1 June 2022 – 30 April 2024

***STRENGTHENING THE PARTNERSHIP FOR THE NORTHERN DRakensBERG STRATEGIC
WATER SOURCE AREA, WITH A FOCUS ON THE UPPER UTHUKELA CATCHMENT***

Prepared for:



Contact: Samir Randera-Rees

srandera@wwf.org.za

Prepared by:



Contact person: Brigid Letty

bletty@inr.org.za

31 March 2024

Table of contents

1	Introduction.....	1
1.1	Background.....	1
1.2	Outcomes and scope.....	1
1.3	Project outcomes	1
2	Project achievements	2
2.1	Description of process towards achieving objectives.....	2
2.2	Establishment of the water source forum partnership and housing of the secretariat	3
2.2.1	Online core team meeting	3
2.2.2	Physical meeting of the upper uThukela Partnership in May 2023	12
2.2.3	Online NDC core team meeting on 23 August 2023.....	16
2.2.4	Field trip to Stulwane for NDC members.....	22
2.2.5	Online NDC Core team meeting in March 2024	27
2.2.6	Meeting in Bergville in March 2024.....	36
2.3	Situation assessment, stakeholder mapping and analysis.....	38
2.3.1	Situation assessment	38
2.3.2	Stakeholder mapping and analysis	38
2.4	Strategy development and creation of CoPs	42
2.4.1	Strategy development process	42
2.4.2	Draft NDC strategy	43
2.4.3	Progress towards establishing communities of practice	49
2.5	Three hectares of rangeland under restoration and management.....	51
2.5.1	Project sites.....	51

2.5.2	Restoration work at Stulwane	53
2.5.3	Restoration work at AmaSwazi	59
2.5.4	Monitoring activities	67
2.6	Other activities	81
2.6.1	PepsiCo site visit	81
3	Lessons learnt and recommendations	82
4	Conclusion	83

1 INTRODUCTION

1.1 Background

The Institute of Natural Resources NPC (INR) was appointed by WWF to work with Mahlathini Development Foundation and the Centre for Water Resources Research (CWRR) at University of KwaZulu-Natal, to establish a partnership in the Northern Drakensberg Strategic Water Source Area (SWSA), with a focus on the Upper uThukela Catchment. This project built on the outcomes of the Living Catchments Project, an initiative of the South African National Biodiversity Institute (SANBI). The project team acknowledges WWF-SA for supporting this initiative and acknowledges PepsiCo as the primary funder.

1.2 Outcomes and scope

The anticipated outcomes and scope of the project were:

1. A functional water source forum with a coherent vision, strategy and implementation process.
2. Involvement of a range of key role players in the development of coherent policies, strategies, targets, programmes, governance structures and monitoring and evaluation (M&E) for improved water stewardship.
3. Communities of practice (CoPs) focused on different thematic areas within the process (e.g. governance, stewardship implementation and funding, built and ecological water infrastructure, climate change adaptation and mitigation, M&E).
4. Targeted improvement in a set of chosen stewardship indicators.
5. Rangeland restoration and management to demonstrate benefits in terms of increasing infiltration and reducing run-off.
6. Development of frameworks for blended finance and long-term sustainability.

1.3 Project outcomes

The agreed outcomes of the project were:

1. Establishment of the water source forum partnership and housing of the secretariat.
2. Baseline information gathering and communication (situation assessment), stakeholder mapping and analysis.

3. Strategy development and creation of CoPs (annual work programmes, meetings, reports, communications).
4. Three hectares of rangeland under restoration and management.
5. Development of a consistent M&E system.

2 PROJECT ACHIEVEMENTS

2.1 Description of process towards achieving objectives

A key element of the process towards achieving the objectives was stakeholder engagement and formation of partnerships.

The process towards achieving the restoration-related objectives relied on partnerships with WILDTRUST at AmaSwazi and Mahlathini at Stulwane. Furthermore, partnerships with teams working in the uMKhomazi Catchment allowed for sharing of skills and expertise related to the installation of brushpacks and planting of vetiver along the brushpacks to increase their lifespan.

The establishment of the water source forum partnership together with the development of a strategy and an M&E system all required stakeholder engagement. A core team of active stakeholders were important for making progress with the deliverables. They provided guidance to the convening team between face-to-face meetings with the broader group of stakeholders.

Even the situational assessment drew on the knowledge of stakeholders. The draft document was shared with members of the core team and this substantially broadened the content of the document. The intention is to house the situational assessment as well as the various papers, articles and reports on the partnership's website in a repository to support knowledge access and sharing.

Overall, the project made substantial progress in establishing a partnership, though the process of developing a more detailed strategy, especially detailing the objectives of the different CoPs, will need to be taken forward by the core team building on a foundation provided by this project. In terms of the restoration work, it proved challenging to meet the 3 ha target and a decision was taken with the WWF project manager to rather stabilize the

brushpacks that had been installed with lines of vetiver to extend their lifespan rather than expanding the area under restoration.

2.2 Establishment of the water source forum partnership and housing of the secretariat

This process of establishing the partnership was initiated through the Living Catchments Project (LCP) of the South African National Biodiversity Institute (SANBI), and has been continued through an initiative championed by WWF. A coordinating team comprising the Institute of Natural Resources NPC (INR), Mahlathini Development Foundation (MDF) and the Centre for Water Resources Research (CWRR) at University of KwaZulu-Natal, has led the process of operationalising and sustaining the partnership.

The objectives and outcomes of each of the meetings or workshops are summarised below to track the progress towards establishing the partnership.

2.2.1 Online core team meeting

An online meeting for stakeholders identified by the convening team took place on 11 April 2023 from 10h00 – 13h00. The organisations represented were Centre for Water Resources Research (CWRR) at University of KwaZulu-Natal (UKZN), INR, Northern Drakensberg Nature Reserve, Peaks Foundation, AmaZizi Action Group, Mahlathini Development Foundation (MDF), South African Earth Observation Network (SAEON), WWF, Expanded Freshwater and Terrestrial Environmental Observation Network (EFTEON), Maluti Drakensberg Transfrontier Park, MDTP), WildTrust and Endangered Wildlife Trust (EWT). Representatives from Department of Water and Sanitation (DWS) and the Department of Forestry, Fisheries and the Environment (DFFE) sent apologies.

Recap of the role of WWF in partnership building

Samir Randera-Rees, who manages the Strategic Water Source Area (SWSA) programme for WWF (See Figure 1 that shows mechanisms for securing SWSAs) highlighted that this is a national priority for DFFE and DWS. WWF works in a SWSA by sourcing funding and directing it into catchments that are of interest to their corporate partners – including PepsiCo and Coca Cola in the upper uThukela catchment. WWF would like to see all activities being under the partnership, with organisations collaborating and co-learning.

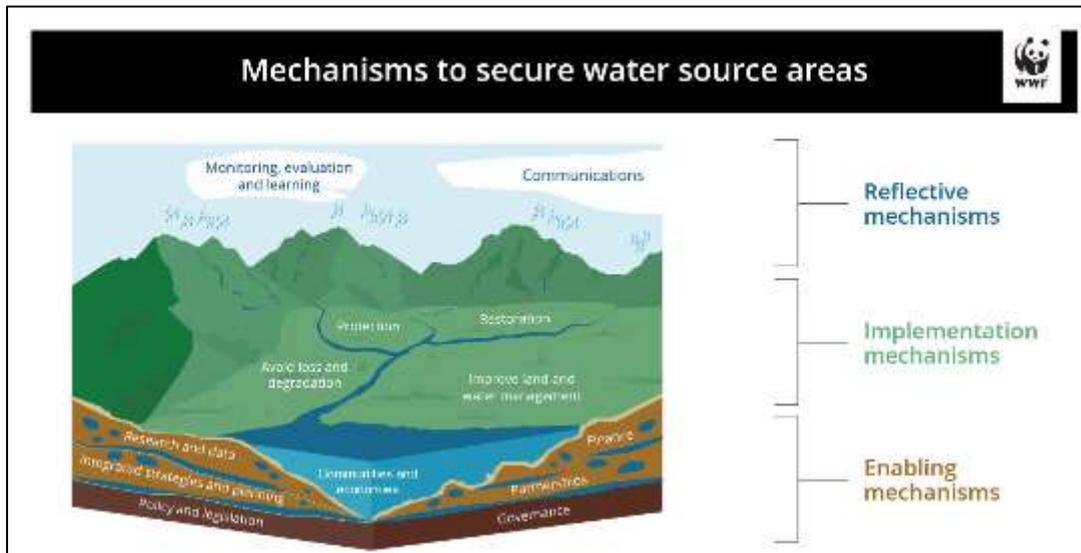


Figure 1: Mechanisms for securing water source areas.

Update on previous stakeholder engagements

Rebecka Henriksson from CWRR at the University of KwaZulu-Natal (UKZN) provided an overview of the series of meetings and engagements that had taken place towards establishing a partnership (See Figure 2 and Figure 3).



Figure 2: Overview of stakeholder engagement process towards establishing a partnership.

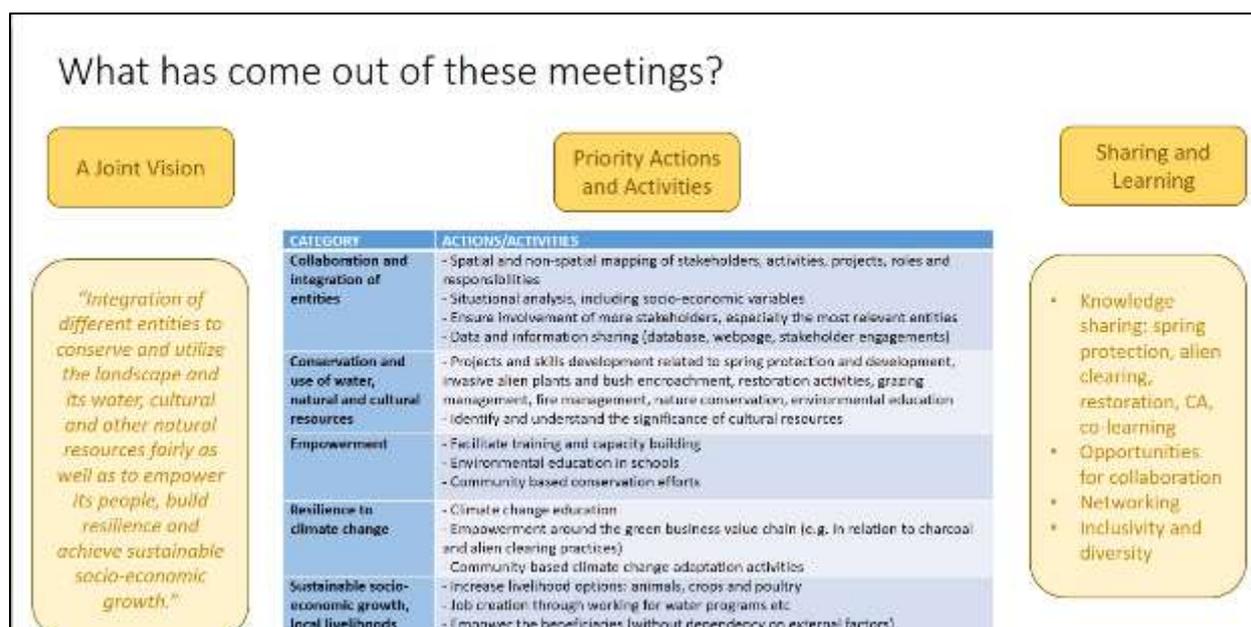


Figure 3: Outcomes of the engagement process.

Upcoming scoping study for a Water Fund

Kirsten Oliver from WildTRUST informed the meeting that they have secured a partnership and funding through The Nature Conservancy (TNC) and Coca Cola to undertake alien plant removal and rangeland management. As part of the process they are also engaging with Pegasys, a consulting company, with the scoping and hopefully full-scale development of the upper uThukela Water Fund.

Carbon finance options

Andrew Barker (who is a Board Member of Alpine Heath and associated with the Northern Drakensberg Protected Area initiative) said that they are looking at working with an organisation from Australia (WeAct) to see whether there could be a source of finance for grassland management.

Input about EFTEON

Kathleen Smart from EFTEON undertook to unpack some more information about EFTEON and the team that is working in the Northern Drakensberg. EFTEON will also be looking at social ecological systems (See Figure 4).

- **Social Ecological Systems**
 - Theory of Change
 - Quantification of the availability of ecosystem services
 - Rates of utilisation of those services
 - Value and functioning of regulatory services
 - Quantification of ecosystem dis-services
 - Impact
 - Resource use and availability
 - Understanding decisions around the managing resources
 - Understanding drivers of change
 - Understanding impacts (integrated)



Figure 4: EFTEON’s work on Social ecological systems.

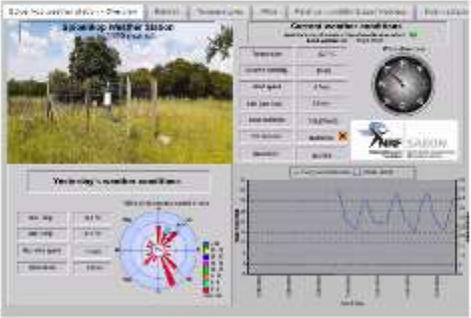
From a catchment partnership perspective, EFTEON would like to consider membership and a fee input as well as providing a range of support, including:

- Support for collaboration
- Technical support for research process
- Financial support for meetings
- Co-learning and data sharing (for intervention, management, etc.)

SAEON has a website where they already host a lot of information and an open access data base, being maintained by the technician in the Greater Cape Town Landscape (See Figure 5).

Northern Drakensberg online

Spioenkop AWS: <https://lognet.saeon.ac.za/SpioenkopAWS/index.html>




Improved connectivity means remote checks are possible- daily data checks and data updates to the observation database ("ObsDB")

Abri de Buys, EFTEON Chief Technician (Greater Cape Town EFTEON landscape)



Figure 5: EFTEON website that provides open access to information

There was some discussion during and after the presentation:

Information from Cheryl Lombard (Peaks Foundation)

Erna provided some context, highlighting that she had invited Peaks Foundation to participate, since there seem to be two forums in the catchment, with different focal areas, but potentially opportunities for alignment. Cheryl Lombard gave a brief description about Peaks Foundation, which is a non-profit organisation

Information from Ian Little (Endangered Wildlife Trust)

Their work is north of Harrismith (less so in KZN) – as well as some other parts of South Africa. They support a nature-based approach to landscape management. They submitted a proposal to the International Climate Initiative (IKI) and the first phase is to develop the implementation plan in detail and will lead into a five-year project. The collaborating partners are UNEP, UNDP, UNESCO and CSIR. The programme will include restoration interventions plus establishment of a biosphere reserve.

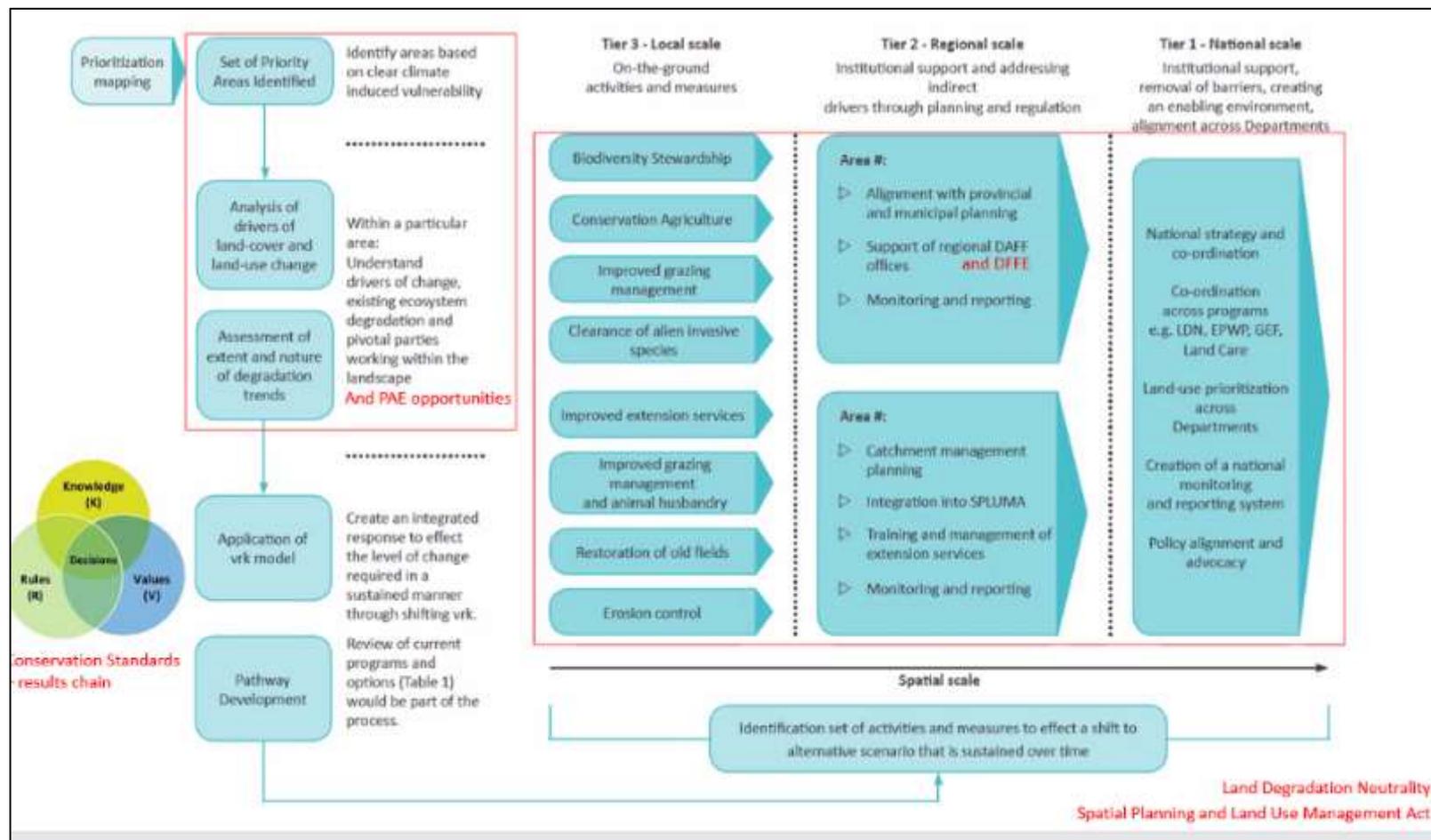


Figure 6: This is the National EbA Guidelines – shared by Ian Little.

Development of the value proposition for the partnership

Brigid Letty (INR) made a presentation about the draft value proposition, which is represented by Figure 7. She highlighted aspects that required input from the core team, specifically the name of the partnership, the benefits for and commitments of partners, the geographic spread, the nature of the partnership and associated operational model.

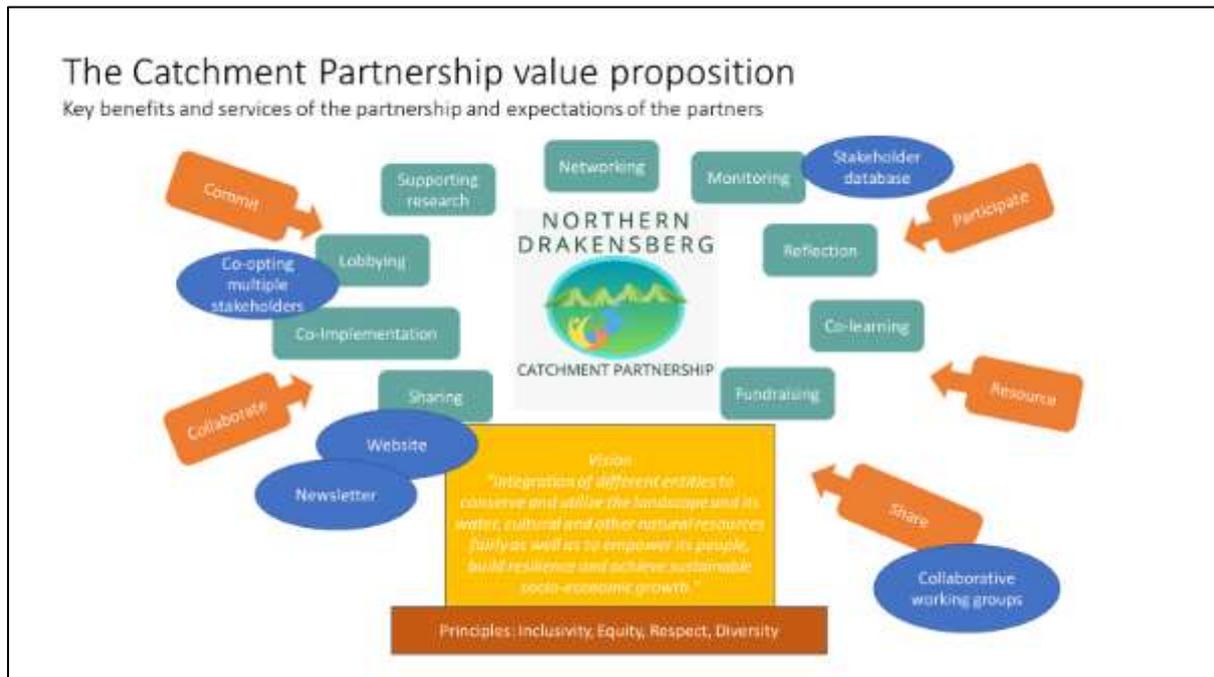


Figure 7: Graphical representation of the value proposition for the Upper uThukela Catchment Partnership.

The outcomes of the discussions included:

- Aspects to be addressed by the partnership: Marketing the area, supporting economic growth and (Green) Tourism.
- Geographic spread of the partnership: Perhaps the focus should be on the broader SWSA area because it allows for more collaboration, but Kirsten highlighted that the Water Fund might just cover a smaller area (i.e. the Upper uThukela Catchment). Joyce later added that the spread should take into account the need to accommodate other surrounding areas that are important for biodiversity management.
- The partnership might address the challenge of engaging with government – providing a platform for effective collaboration.
- Lobbying and activism is another role of the partnership, for example for water services. There was some discussion about the use of the terms, which perhaps depends on whom you want to talk to since lobbying is often more subtle and influencing in the background rather than being active.

- An agreement to be signed by partners was discussed. An MoU would show areas of collaboration and could be accompanied by a 5-year strategy.
- In terms of the leadership of the partnership, it was suggested that the coordinating & administrative role should not be rotated and the organisation taking on this role needs to know that they are assuming all roles including resourcing the partnership.
- There was discussion about having a membership fee, but there was a concern with this approach that it might make some partners reluctant to participate.
- It was suggested that an alternative to a membership fee would be to provide space for any partner that is willing to resource a particular activity, to do so.
- Samir suggested that it's a balancing act at early stages, since we want enough commitment (e.g. MoU) but not so much that people are chased away. Thus, we should make participation as easy as possible at this stage. Then at later stage, increase the level of commitment, based on benefits of the partnership being demonstrated. The UCP has been challenging because 37 organisations signed up but most do not participate actively or speak, even if they attend, but it has created legitimacy.
- There could be tiers to engagement – participate versus sign on as funding members playing a more active role.
- Division of labour between partners might work (e.g. communication, funding, etc).
- Kathleen suggested that a continued dedicated coordination function is required for the partnership, and that a formal constitution would give the group and the coordinator legitimacy.
- EFTEON, as a partner that can provide services to enable research and data storage capability, would find it beneficial if the MOU / membership would bypass some processes to engage in the catchment (i.e. a “passport” to work in the space). They will make a commitment to the group to come into communal spaces to reflect and share data digitally. As a member of SAEON/NRF, it is much easier for EFTEON to do a sponsorship of x meetings / year plus a membership fee.
- Andrew highlighted that finding a single document that can satisfy many stakeholders in challenging as we need to accommodate everyone's needs and what they can contribute. Thus, it is better to focus on principles rather than detail. Solid governance foundation is necessary, especially if fundraising. In terms of locality, it makes sense to protect as SWSA and then within this there might be activities that focus on certain portions.
- Kirsten raised questions that the value proposition and operational model must consider: What is the objective of a partnership as an entity.... And who drives it? And how do they get funded? And what do they do? And how does the responsible body resource it moving forward? Samir responded that all WWF funding proposals have a portion of the budget for partnership building as a sustainability and governance mechanism.
- There was discussion about whether the partnership should function as a catchment management forum (CMF). Samir highlighted that since the CMF is chaired by government, which inevitably brings with it expectations from stakeholders, and

people speak to government rather than to each other. A partnership that is not seen as a government-led structure will provide more space for innovation. It was suggested that the partnership should be a member of the CMF, which allows the partnership to retain its independence.

- Erna added that to take the comments forward, we should not formalise the partnership with an entity, and rather have a generalised MoU with a focus on sharing. Then through this develop small communities of practice (CoPs) that can focus on action.
- Regarding leadership and governance, it was suggested that the partnership could have two co-chairs and an operational secretariat that reports to them. Individuals could be allocated specific portfolios such as communications, research, etc, but thought will need to be given to how they are resourced.
- Kirsten talked about the need for synergy with existing committees such as partnership committees sitting on protected areas.
- Kathleen said that EFTEON could contribute paid man-hours of their team to support activities such as convening meetings or serve on the committee. They could potentially also provide transport for local stakeholders to attend meetings.
- Samir asked Andrew whether he knows of a company that might have appetite to fund the secretariat. His response was that there might be interest from the AHA group. Andrew added that the partnership can start to attract its own funding and that we could call the core team a developmental team that identifies what needs to be done and see this as a process, even considering the biosphere.
- Rebecka had a question for Samir about long term funding prospects if we get a well established partnership, given that WWF has been funding the convening team. He responded if we establish a strong partnership it increases our chances of fundraising – for implementation and coordination. Even the coca cola scoping study could support the partnership.
- Kirsten suggested that there will be initiatives bringing in opportunities – such as the Water Fund, so the committee needs to see ‘who will do what’ for a particular year.
- Erna added that we need a generic low cost core team that can be held as a secretariat that undertakes partnership-related activities within their own work programmes. The formal structure can come in later when we get to ‘doing things’. For now, ‘integrate and volunteer’ should be the principle. Activities of the secretariat need to be taken on voluntarily by members when funding is lean and then when funding is secured, funded persons are included, to undertake specific activities. Perhaps partnering organisations can undertake to get some funding under their portfolios for collaboration.
- Discussion about the name led to the suggestion: Northern Drakensberg Collaborative (NDC).
- Regarding the agreement, it was highlighted that MoA is a legal document but an MOU is not. It was suggested that the latter would be more appropriate.
- There was a question about how incoming funds would be handled and for the moment they would be held by partner organisations.

Planning for the May workshop

Erna Kruger (Mahlathini Development Foundation) took us through the last session of the day focusing on the workshop to be held in May 2023.

2.2.2 Physical meeting of the upper uThukela Partnership in May 2023

The 4th Multi-Stakeholder Meeting of the Upper uThukela Catchment Partnership / Northern Drakensberg Collaborative took place on Tuesday 23 May 2023 from 09h45-15h00 at the Alpine Heath Resort & Conference Facility outside Bergville. The workshop was attended by more than 65 participants and included a number from outside the upper uThukela Catchment, from the Free State side of the Northern Drakensberg Strategic Water Source Area.

The programme started with feedback from the previous workshops and meetings before Samir provided a recap of the WWF programme and their interest in supporting the establishment of partnerships. Cheryl Lombard (Peaks Foundation) introduced the nature of their organization and its networking functioning. Kirsten Oliver from WildTRUST, gave a presentation about the proposed Water Fund for the Upper uThukela area. She highlighted that the focal area for the Water Fund is the proposed community nature reserve that WildTRUST has been supporting, and will include both the Mnweni and uThukela rivers. WildTRUST is partnering with TNC, Nature for Water (<https://nature4water.org/>) and Pegasys, and has also partnered with Coca Cola, who are supporting rangeland, wetlands and riparian work. Kirsten shared their initial thoughts on their current challenge of how to make the water fund fit together with the Northern Drakensberg partnership. Kirsten highlighted that the Water Fund (Upper Tugela Water Fund / Upper Tugela Catchment Investment Programme) just covers a small portion of the area covered by the Northern Drakensberg partnership. Furthermore, the Water Fund is more focused in implementation towards water security using nature-based solutions.

Commitment to value proposition and operational model for partnership

Brigid (INR) facilitated a session bringing stakeholders up to date with discussions that have taken place regarding the name and logo for the partnership as well as the value proposition

(services/benefits that the partnership offers) and commitments that are required from its members (see **Error! Reference source not found.**).

Due to time constraints, there was limited opportunity to discuss the operational model beyond mentioning aspects to be considered. And time was given to allow partners to reflect on what resources that could bring to the partnership. Highlighted why the move towards the name, and the commitment statement. We circulated copies of the statement for discussion.

Some of the key points related to partners resourcing the partnership that emerged from discussions, and which were captured on flipchart paper, were:

- EFTEON to support meeting costs and transport of local stakeholders to meetings
- Peaks Foundation willing to provide website support
- Cheryl at Peaks Foundation also highlighted that the collective includes a vast array of experience and expertise (e.g. business people, government representatives) who can contribute with skills such as financial management, strategic planning, and other.
- Ezemvelo willing to provide advice and technical support
- The point was raised that all organisations can contribute their time and participants should request their managers to allow them to participate or should provide time for their staff to attend
- DFFE can provide herbicides and assist with bush encroachment assessments and developing management plans
- EDTEA representatives highlighted that there is currently a call out from the [Operation Vula Fund.](#)
- Endangered Wildlife Trust – assisting community member to participate, become self-sustaining so as to be able to get more support (i.e. fundraising)
- DWS – can contribute skills, expertise, volunteering and facilitation
- The manager of Golden Gate National Park made a few points:
 - With a collaboration, the output must be more than the sum of the parts (i.e. more achieved working collectively than independently)
 - There is a need for them to be able to work outside their boundaries because they are providing employment for youth, but its restricted to the park
 - We need to blow the whistle – where does the water come from?
- Amazizi Wilderness group, community-based NPO asked for assistance with capacity building related to fundraising so that they have resources to use to create awareness in the community about water quality and to fund some activities to address pollution entering water systems
- UKZN and other universities – can support co-generation of knowledge and co-sharing, but it is important that communities and other stakeholders are involved in the co-design of research priorities
- A point was raised that having no resources can also be a resource because it leads to innovative ideas about how to do things differently

There was a discussion about the process that has been followed in starting to develop a memorandum of understanding (MoU) for the partnership, and then taking a decision to step backwards and rather develop a one-page commitment statement that allows organisations to commit to being part of the process of developing the partnership, including co-developing an MoU that meets the needs of the members. There was also some discussion about how we improve the level of sharing and interaction between members of the partnership. Due to legislation around sharing personal information, we need permission from partners to share their emails and their numbers. One option suggested was to use a Googlegroup to allow email sharing, which hides individual emails, and we can have a process of collecting cell numbers for whatsapp whereby those who do not want to are excluded. The commitment form will be shared via email and local organisations such as WildTRUST will assist with printing and circulating the commitment forms to ensure that all members are able to access it. Moving forward we will use the gmail address for the partnership, which is: northerndrakensberg@gmail.com

Another point was raised by a representative of the Bakoena Royal Council, who highlighted that the MoU for the partnership needs to consider the land administration dynamics of different stakeholder groups.

Communities of practice

Rebecka facilitated the session that introduced the idea of establishing working groups (they could be called themes, communities of practice (CoPs) or sub-committees). We had intended to break away into working groups to identify proposed interventions but time did not allow for this. However, we did add working groups based on earlier discussions: (1) the MoU development; and (2) Capacity building and awareness raising – including fundraising; (3) Collaborative implementation – including financing options.

Rebecka highlighted that some people might be interested in different themes/working groups, either as participants or leaders, so the convening team will be engaging the partnership members via email to take this forward. She undertook to make a GoogleGroup and then circulate a form indicating interest in working groups, as well as giving consent for mobile phone numbers to be included in the whatsapp group. For those without email, the conveners will send the form via organisations working in communities so that all can participate. Rebecka then talked about the core advisory group and asked that participants

come to her after the session if they would like to be a member of the group – there were requests from participants from EDTEA and DFFE to be included in the core team. Rebecka highlighted that this is only an interim structure that is supporting the process of establishing the partnership. Brigid reminded new participants to fill in the location of their work on the map before leaving today – continuing the participatory mapping process that was started at the previous multi-stakeholder workshop that was held in November 2022 in Bergville.

Update on the PepsiCo project progress

Mbongiseni Shongwe (WildTRUST) talked to the targets for clearing (hectares, person-days, replenishment figures) and progress against these targets. Mfundo Myende (INR) then explained how the restoring complements the clearing work of WildTRUST at AmaSwazi and uses material from clearing to build structures on contours to slow water and hold sediment.

Update on progress with Northern Berg Nature Reserve

Andrew Barker, who is a trustee at Alpine Heath gave a presentation on the process of establishing the Northern Berg Nature Reserve (Figure 5). They have managed to get a group of landowners together to establish a nature reserve. It is being supported by Conservation Outcomes (multiple properties and landowners covering 6777 ha).

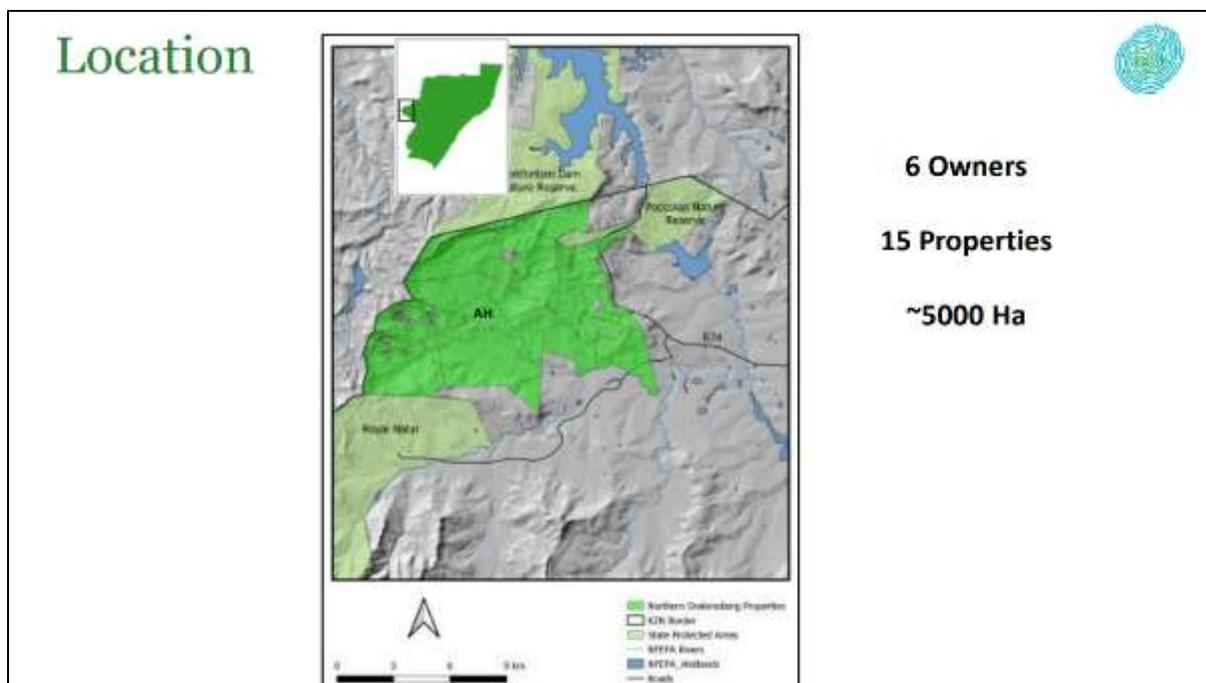


Figure 5: Location of the Northern Berg Nature Reserve

Update from EFTEON about their work in the catchment

Kathleen Smart (EFTEON) introduced her colleagues who shared what they are doing in the landscape, and also provided an update on other activities (Figure 6). Weather stations have been installed with Mahlathini and the Ecochamps at Ezimboveni, so they will make a link available for public to see the information. EFTEON PhD student from UFS, Toka Mosikidi, will be doing biomonitoring using instruments that record sound from which they can measure biodiversity. They will need partnerships with nature areas and protected areas to do the monitoring. Sachin Doarsamy, who has recently joined EFTEON, is a botanist and will be leading work related to the Socio-ecological Observatory for Studying African Woodlands (SEOSAW). He has started at Spionkop and will now identify other sites. This is related to tracking changes in African woodland (including bush encroachment), possibly due to human disturbances, fire intervals, temperature and climate change.

Update on EWT about the Grassland Biosphere Reserve

There was a short input from Bradley Gibbons from EWT about the process of establishing a grassland biosphere reserve. He showed a protected areas expansion map based on protecting high priority areas.

2.2.3 Online NDC core team meeting on 23 August 2023

A meeting of the NDC core team took place online on 23 August 2023 from 11h00 – 13h30. It was attended by Erna Kruger (Mahlathini Development Foundation), Brigid Letty (Institute of Natural Resources, INR), Zinhle Ntombela (INR), Rebecka Henriksson (Centre for Water Resources Research, CWRR), Corrina Naidoo (SAEON), Ian Rushworth (Ezemvelo KZN Wildlife), Michael Malinga (Mahlathini), Anton Lombard (Peaks Foundation), Samir Rander-Rees (WWF), Sachin Doarsamy (EFTEON), Kathleen Smart (EFTEON), Cheryl Lombard (Peaks Foundation) and Ralph Clark (Afromontane Unit at University of Free State, AMU). Apologies were received from Minesh Sookamdev (DFFE), Jacky Jay (DFFE), Bawinile Mtolo (Mnweni Wilderness Group), Kirsten Oliver (WILDTRUST), and Joyce Loza (MDTP)



Figure 8: NDC core members that participated in the online meeting on 23 August 2023

Zinhle Ntombela (INR) welcomed everyone to the meeting and facilitated a round of introductions.

Update on process of establishing the partnership

Brigid Letty (INR) took the participants through the process to date with formalising the partnership. This included the drafting of a commitment statement that some partners have already signed. She took them through the online Google Form that had been circulated to obtain feedback about the logo, working groups, etc. She took everyone through the slide that captures the value proposition of the partnership, which now included a set of proposed partnership pillars for discussion. There was an input to revise the pillar 'Action and Implementation' to 'Action, Implementation and Feedback'.

There was some debate about the process for setting up a whatsapp group but in the end the majority felt that we needed to ask participants prior to adding their contact details to the group due to the requirements of the POPI Act. The decision is to address this at the next physical meeting, with a form that can be signed by participants giving their consent.

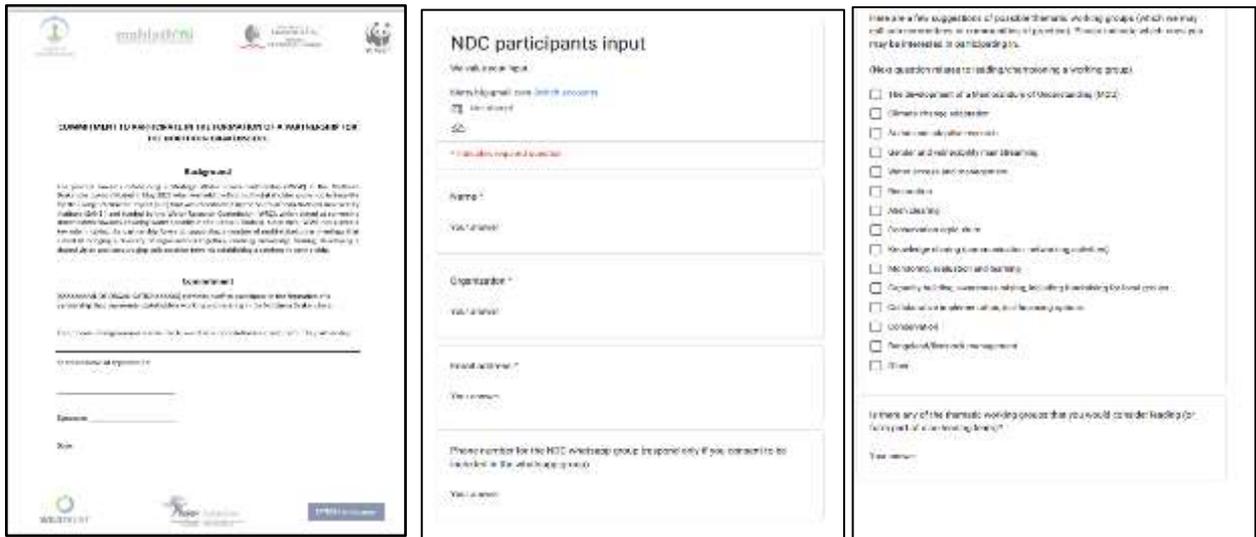


Figure 9: Commitment form and online Google forms that had been circulated to NDC members

There was a discussion about the need (contractually) for the development of a strategy for the partnership. There was agreement with the points made in the presentation about keeping it high level.



Figure 10: Summary about the NDC partnership strategy

The issue of the boundary of the area covered by the partnership emerged again. It was suggested by Samir Rander-Rees (WWF) that there could be three clusters of activities, with linkages between the clusters:

- Free State (Upper Wilge) – which includes Witsieshoek and QwaQwa, which is where UFS is very active.
- Upper uThukela
- Upper Vaal / grasslands area – where BirdLife and EWT are active.

Andrew Barker suggested that we do not have to have a very defined boundary, but as the working groups start, we might have to distinguish between core and peripheral areas.

Update on CoPs / working groups

Rebecka Henrikssen (CWRR) and Brigid co-facilitated the session about taking the working groups/themes forward. However, there was insufficient time to discuss the working groups in detail beyond presenting the slide below. A slide in the presentation also covered the matter of how to ensure the sustainability of the partnership in the long term.

Proposed themes/working groups

- Crosscutting themes: Fundraising, gender, knowledge sharing (RH willing to lead last)
- Each needs a vision to inform the strategy
 - Partnerships - collaboration, learning, capacity building, governance - ??
 - Research, monitoring and evaluation - SAEON
 - Landscape management (alien clearing, rangelands, restoration etc.) - INR
 - Rural livelihoods (agro-ecology, water access, climate adaptation) - Mahlathini
 - Conservation (protected areas, species conservation, stewardship etc.) – Conservation Outcomes /WildTrust (they have a GreenTrust Project focused on Mweni Stewardship area)
 - Water access and management - ???

Figure 11: Slide showing proposed working groups and possible leaders

Sustainability of the partnership

- How do we proceed beyond end April 2024?
- Role of EFTEON?
- *Possibility that PepsiCo may want WWF to prepare a 6-year proposal to maintain the clearing areas, landscape view, biodiversity interest, plus restoration of cleared areas to full functionality, agroecology, the partnership, some stewardship post declaration.....to support biodiversity focus.*

Figure 12: Slide showing initial thoughts about ensuring sustainability of the partnership in the longrun

Some outcomes of the discussions:

- Andrew Barker suggested that water is a cross-cutting issue for all working groups (not its own group). Erna responded that while it is definitely cross-cutting, it potentially requires focus because it is a thorny issue, and big (institutional/economic/political aspects), and requires involvement of water services authorities, political actor. The Water Fund may address it to some extent. Kathleen Smart echoed Erna's sentiment.
- Question of whether to include a group focused on cultural / tourism resources (such as prehistoric species in the area)
- Kathleen confirmed that SAEON would be happy to take the lead on the Research, Monitoring and Evaluation Working Group.
- Ralph (AMU) had an input related to the value proposition and the networking role. The AMU wants to support networking across the whole of the MDTP and Lesotho. He and Cheryl Lombard plan to meet about this.
- Ralph highlighted that it is always a good idea to outline benefits from association in this - what will partners get in terms of benefits of association compared to existing networks?
- Ralph suggested that the NDC should consider how they complement EFTEON as well as MDTP and prevent overlap between different initiatives, for example, he highlighted that there is a partnership that covers the Maluti-Drakensberg Transfrontier Park (MDTP), which covers an extensive area. There was a point raised by Samir that the MDTP partnership does not appear to be very active though as a whole and rather there appear to be smaller partnerships that operate within different parts of the Drakensberg that can feed into the broader MDTP. Samir suggested that a discussion is needed with Joyce Loza (**Action item: INR Team**) about this, and we need to make a business case of what we are offering through the NDC. Samir added that we need to prepare a fact sheet for the partnership (**Action item: INR**)

Inputs from partners

There was an opportunity for NDC members to provide updates on ongoing activities. Unfortunately, Kirsten Oliver (WILDTRUST) was not able to attend the meeting so could not provide an update on the Water Fund Scoping Study.

Update on the situational assessment report

Brigid provided an overview of the situational analysis report prepared for WWF and obtained some additional inputs from Meeting participants, in addition to those shared ahead of the meeting by Ralph Clark and Ian Rushworth. Ian Rushworth (Ezemvelo KZN Wildlife) provided input. He highlighted the following points:

- Restoration work was done by himself, plus Ecochamps.
- He had thought it was the whole NDSWSA and about water.
- Need recognition of the water security issue – world heritage site – main role is water production, state has thus invested in it – now seeing benefits of visions of the 1930s/40s.
- Linked to this – the colonial government recognized plantations were going to impact, so catchment experiments were set up in cathedral peak – longest running burning experiments – outputs have helped us understand relationships between burning, woody species and water. Climate change data. Data that led to the WfW programme ... linking alien trees to water production.
- Protected area maps need to be revised.
- Land degradation and historical policies – look at the positives.....
- Environmental degradation – 2000s study about tenure and soil carbon.
- Invasive alien species – need to capture extent of the problem – he can contribute. Emerging spread.
- Big threat – *Pinus patchela* – spreading from original plantings, now a massive problem in the mountain areas. Wattle also, despite efforts.
- Figure 24 in the report refers to Lespedeza.... Seems to be spreading everywhere. He's concerned about it being promoted as a crop.
- Environmental degradation – alien plant control done by government. Also, Ezemvelo's own budget.
- Don't make the assumption that the protected areas are safe. Just no resources available. R6/ha operational budget this year. Need to protect what is still intact.
- Check figures around pump storage schemes. Percentages might have all changed.
- Look for newer documents that are available – the MDTP doc (just signed off) – get it from Ian.

- Stewardship – get the details for the additional areas.

Planning the Stulwane field trip for September 2023

The next session focused on planning for the field trip to Stulwane. Erna Kruger (Mahlathini) facilitated a discussion about the proposed field trip for NDC members. The decision was to limit it to a single day rather than having it over two days to accommodate a physical meeting. Later it was suggested that we could have a core team meeting the following day, together with a discussion about the website.

The field trip was scheduled to take place on 27 September 2023, being hosted by Mahlathini. The plan was for stakeholders to meet at the community hall at Emmaus and then travel through to the community where different groups would focus on different aspects based on their interests. This was seen as a practical way of initiating the working groups.

Proposed September field trip

- **Date and venue**
 - 27 or 28 September
 - Stulwane
- **Programme for the day**
 - Start at Emmaus Hall (9 am) with powerpoint (30 minutes)
 - Broad introduction to the Mahlathini/UKZN/EFTEON approach
 - Participatory innovation, ESS mapping, Community resources management planning
 - Divide according to WG? 10h00
 - Partnerships
 - Research, monitoring and evaluation
 - Landscape management – Restoration, Community work
 - Rural livelihoods – CA, livestock integration
 - Conservation
 - Water access and management – spring protection & local water access management
 - Lunch: 13h00
 - Afternoon discussion and partnership activities 13h45
 - Closure: 15h30

Figure 13: Summary of the proposed plan for the field trip

It was suggested that the monitoring and evaluation could be covered within the other working groups, rather than having its own group. Zinhle then closed the meeting and thanked everyone for participating.

2.2.4 Field trip to Stulwane for NDC members

The key purpose of the day was to provide a space for members of the Northern Drakensberg Collaborative (NDC) to share experiences in the field towards consolidating the partnership's

key themes / working groups. Since the field trip was initiated by a session at the Emmaus community hall, there was also opportunity for team members of the MAPWAPS project (full title: Mapping woody invasive alien plant species and their impacts in strategic water source areas) to provide input as they wanted to use the opportunity to update NDC members.

The event was attended by the following organisations: African Conservation Trust (ACT), WILDTRUST, Mahlathini Development Foundation, Institute of Natural Resources (INR), Agricultural Research Council (ARC), Ezemvelo KZN Wildlife (EKZNW), Endangered Wildlife TRUST (EWT), KZN No-till Club, Expanded Fresh Water and Terrestrial Earth Observation Network (EFTEON), University of KwaZulu-Natal's Centre for Water Resources Research (UKZN-CWRR), Maluti-Drakensberg Transfrontier Programme (MDTP) and community members from AmaZizi, AmaNgwane and AmaSwazi.

Apologies were received from representatives of Department of Forestry, Fisheries and the Environment (DFFE), University of the Free State (UFS), Northern Drakensberg Nature Reserve, Peaks Foundation, WWF, Conservation Outcomes and the Department of Water and Sanitation (DWS).

The following summary of the field trip was prepared by Hlengiwe Hlongwane (Mahlathini Development Foundation): On the 27th of September 2023, there was a Northern Drakensberg Collaborative engagement in Emmaus Hall, with different stakeholders from different organisations working in the Uthukela catchment, and a field visit to Stulwane to see the work Mahlathini DF.

MapWaps project update

The day started with introductions, then a presentation from Stellenbosch PHD and master's students, Liam and Thandeka, working on the MapWaps project, which is a project that is in the Uthukela catchment (and other catchments in SA) that is funded by the WRC and maps out woody alien invasive species (Wattle, Gumtrees and Poplar) and estimate their water impacts in strategic water areas, as well as their economic impacts. This project will run from the 12th -26th of October in the Uthukela catchment and those interested to join the work are invited to do so on these days.

Introduction to the work of Mahlathini

A presentation from Mahlathini by Temakholo Mathebula followed, which gave an idea or an image of who Mahlathini is, how it works and what it does, from establishing learner groups, doing farmer-led experimentations, collaborations, and relationships in the areas MDF works in. An Ecological map created with the communities pointing out water natural resources such as water sources, grazing lands, wetlands, other key areas that need intervention such as erosions, alien plants, etc. was used as an example of the processes that MDF go through with farmers. The presentation then got into more detail about what came out from the discussions that MDF-WRC had with the two communities (Ezibomvini and Stulwane), which included the identification of key areas, their importance, interventions required, and stakeholders involved, and then the outcomes of those discussions and plans made which is the community working together voluntarily to clear pollution and invasive alien species and doing Restorations. There was also a brief description of the other work that MDF does, such as the water access projects, CA and its principles, livestock integrations and organic intensive home gardening.



Figure 14: Presentation From Mahlathini, by Temakholo Mathebulo

Field trip activities

After the two presentations, the meeting moved to Stulwane, starting off at the Restoration site, where there are brush packs built to reduce the erosion, restoration of vegetations and run off pans to measure and compare run off between bare soil and soils with grasses/vegetation. Lizzy Buthelezi, an MDF eco champ explained to people when they

started working on the restoration site, how it looked like before, how they built the brush packs and tools used to make contours, and the purpose of it.



Figure 15: Restoration site visit at Stulwane

From the Restoration site, we went to the protected spring, on our way there, seeing and having small discussions about the ditches by the road that were dug by the community for the new water access project. At the protected spring, people were impressed by how natural the spring was kept after protection and the ditch/contour that was dug above the spring to prevent the spring water from getting contaminated by run offs. The new water project was further explained, that extraction is to be done from two streams and reticulated down to two sections of the stulwane community for multi-purpose use, following the laws around water and its extractions.



Figure 16: Visit to the protected spring in Stulwane.

From the spring and water access, the day was closed off by visiting the Msele household to see the CA and intensive homestead gardening components. There was a table set up, next to Nelisiwe Msele's Tunnel displaying fresh produce, seedlings made by one of MDF farmers to show the homestead food gardening component, eggs produced in the household also by a farmer to show the poultry component, fodder grasses samples (black oats, tall fescue and white oats), bales and bale making machine to show the livestock integration component, the animal drawn planter, and dry maize cobs to show the CA trials component.

Mr Madondo briefly took the visitors through CA principles as had been previously mentioned in the MDF presentation, showing them the tools that are used in the minimal disturbance of soil principles and showing maize from the trials as result. Then explaining of the use of the tunnel, trench beds and showing the organic fresh vegetables that were harvested are still growing inside the tunnel, the drip irrigation system which allows the use of grey water, a tower garden next to the tunnel, with stone column in the middle to allow the use of grey water as well. People were impressed by the organic production of vegetables and even bought almost all the vegetables that were displayed such as spinach, parsley, cauliflower, and spring onion. Following are pictures from Nelisiwe Msele's HH.



Figure 17: Display of climate smart agricultural practices and products including no-till planter and manual baler



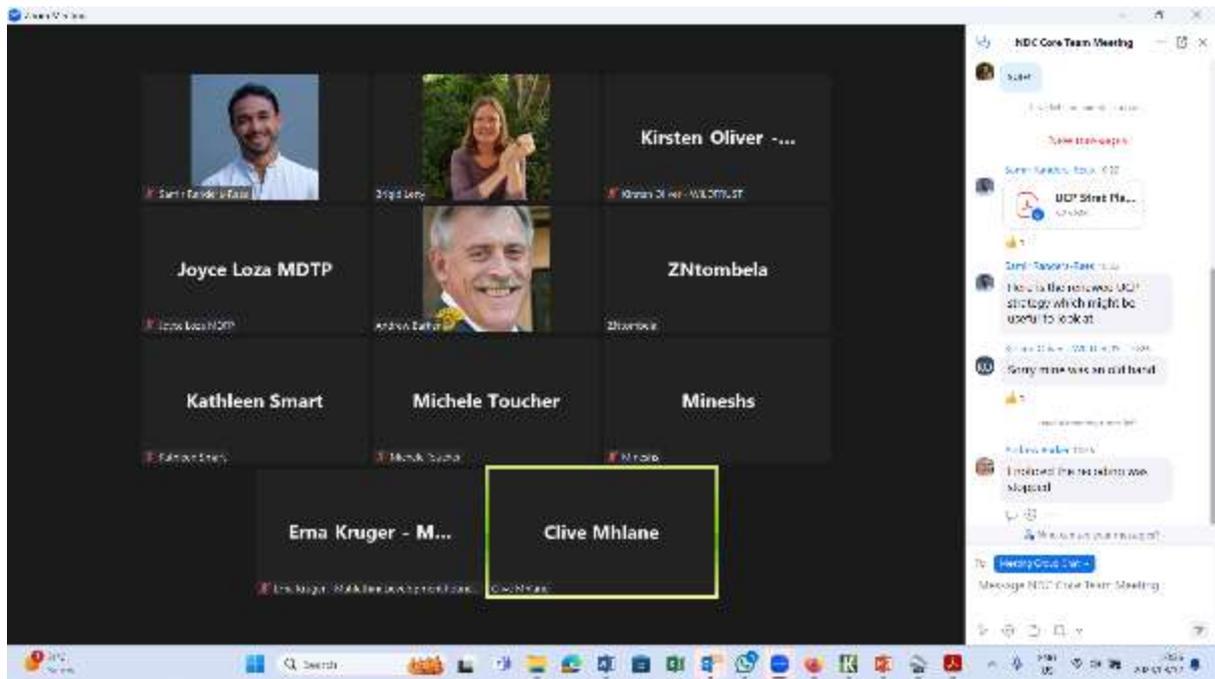
Figure 18: Lungelo Buthelezi explaining Mahlathini’s climate smart agriculture programme

Following the sharing of information about climate smart agricultural interventions, there was opportunity for a short exchange around the day’s activities before closing for lunch, which was prepared by members of the local community.

2.2.5 Online NDC Core team meeting in March 2024

An online meeting took place on 12 March 2024 ahead of the face-to-face meeting in Bergville later in March. The main purpose of the objective was to share the initial M&E framework before taking them to the Bergville meeting.

Zinhle Ntombela (INR) welcomed everyone and allowed them to introduce themselves. Samir Randera-Rees (WWF) highlighted that he has changed his hat and is now moved into a position managing Nedbank GreenTrust and corporate relationships, especially PepsiCo. Londiwe Dlamini, who is taking over the management of the Landscape was with ERS in Matatiele today so sent her apologies.



Zinhle ran through the agenda and explained that it covered the process of taking forward the strategy, as well as indicating that input is needed regarding the website. She highlighted that there would then be a chance for core team members to share information or ask questions of others in the room, before moving into the plans for the March meeting and finally talking about the way forward beyond the PepsiCo project.

Strategy development process

Brigid Letty (INR) made a presentation about the strategy development process, M&E and the website. Thereafter there was active discussion, with participants raising concerns that it is not yet clear what the purpose of the partnership is and that this needs to be confirmed before moving on to developing an M&E system.

M&E cont. • Monitoring and evaluating the benefits that the platform provides for its members

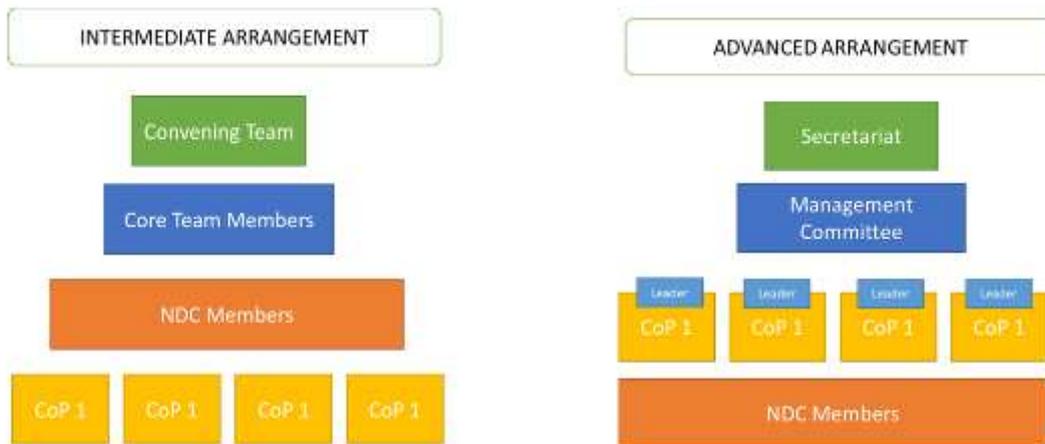
Partnership benefit	Indicator
Supports research	Partners involved in research
Engages in lobbying	Partners engaging with decision makers/policy makers
Co-implementation	Partners collectively organizing events
	Partners collectively writing proposals
	Partners collectively implementing projects
	Evidence of information being shared between partners
Sharing	Evidence of information being shared with other platforms
	Record of events that allow for networking
Networking	Social media
	Email exchanges
	Website access
	Extent that platform monitors projects
Monitoring	Extent that platform monitors itself
	Evidence that platform members have reflected on the platform
Reflection	Evidence that platform members have reflected on activities of members
	Events that have allowed for co-learning
Co-learning	Exchange of training materials
	Evidence of learning through action
	Number of calls investigated
Fundraising	Number of submissions made
	Number of submissions successful

Samir went on to see that the thinking behind it is sound and if we can establish a culture of M&E as well as a framework, this will set us up. He wanted to share from his experience, that it needs to be done well right from the beginning. He added that it helps to have a few core indicators that everyone gets behind and that many people can feed into to, such as setting up a shared dataset so that information such as areas cleared or jobs created (where there are multiple people working on something) can be monitored. Samir suggested that each working group should have a few core metrics that people can feed into on a regular basis.

Joyce Loza (MDTP) said that she was wondering who we envisage as part of the collaboration and asked whether we were thinking about formalising the collaboration with an MOU or a terms of reference that outline the rules of engagement and the roles and responsibilities of partners. She went on to say that for government, we need delegated officials who make sure that there is a succession plan put in place so that we don't find ourselves not having representation when someone resigns or retires as this affects continuity.

Kathleen Smart (EFTEON) went on to say that she recognised the good statements made by Samir and Joyce and that this relates to moving from an intermediate to advanced arrangement, and that we perhaps need to assign the roles to the structures in the slide, which would also guide the transformation process.

Governance arrangements



Andrew Barker said he felt we may be putting the cart before the horse and we need to know what the strategy is before we put together indicators, that we need to be clearer on we want to achieve. To some extent the pillars give us direction, but what need to be clear on we want to achieve.

Erna Kruger (Mahlathini) said she felt that we have a strategy and vision and things people think are important, and ways to collaborate and share but we don't know 'what that will look like'. We haven't yet set up the working groups. We have a framework but we need to see how the beast evolves, based on the energy that exists amongst members. She said that at this point we are just a loose group of stakeholders so we need to start by identifying some actions.

Samir went on to say that he's somewhere in between, lots still needs to emerge, but with pillars and working groups, we need to know where we want to go with them, as that will then affect the metrics. He said that we still need to think about the value proposition and what we are bringing to them.

Kirsten Oliver (WILDTRUST) said she thought that we need to consolidate things, and have a timeline for going forward, as for the body of the partnership. She thinks some collective databases would be very useful, to see what is being achieved in the landscape – this would contribute to having an understanding of what is happening. In terms of the Water Fund, the NDC will coordinate what comes out of feasibility study, so there is a need for a more

structured format for this partnership. It needs to be more formalised, rather than just coming together when invited for a meeting.

Reflecting on the partnership pillars, and referring to governance, Joyce said she felt there was a need to confirm what people are doing – on an integrated map (which we did initiate at a previous meeting in Bergville) – but then to consider how we get that map integrated into the IDP so we know what people are doing and that it's getting political support and recognition and informing planning documents such as spatial development frameworks.

Zinhle added that initially we kept it loose and we circulated commitment statements that we asked people to sign. But now, as we need to transition, we need more commitment from the partners to make sure it moves forward. She said that as the strategic group, perhaps we need to not let it sit until the meeting on the 20th and present some thoughts there.

Joyce said that we need knowledge development – need to monitor learning exchanges and learning exchanges conducted, and ensuring there are mechanisms in place for knowledge management – perhaps a data hub on the website.

Andrew responded to Joyce's comments about IDP saying that we definitely need to have political recognition. He suggested that we ask Samir in terms of other SWSAs about how this is being achieved – can we learn from them? He also went on to say that if we need commitment, then its commitment for what? He needs to be able to present this to constituencies and be able to list specific activities that they need to participate in. What will we share, how can we share? This needs to emerge from the strategy.

Samir shared the UCP strategy plan. He said that there is plenty to share and we can facilitate co-learning but noted that while UCP is a great example, their M&E has not been strong enough to demonstrate the impact of the partnership. Furthermore, the strategic plan from UCP is 10 years into the partnership and ours is much earlier and needs to be much higher level, without deep action plans and timelines, but it is useful to have a roadmap of some sort.

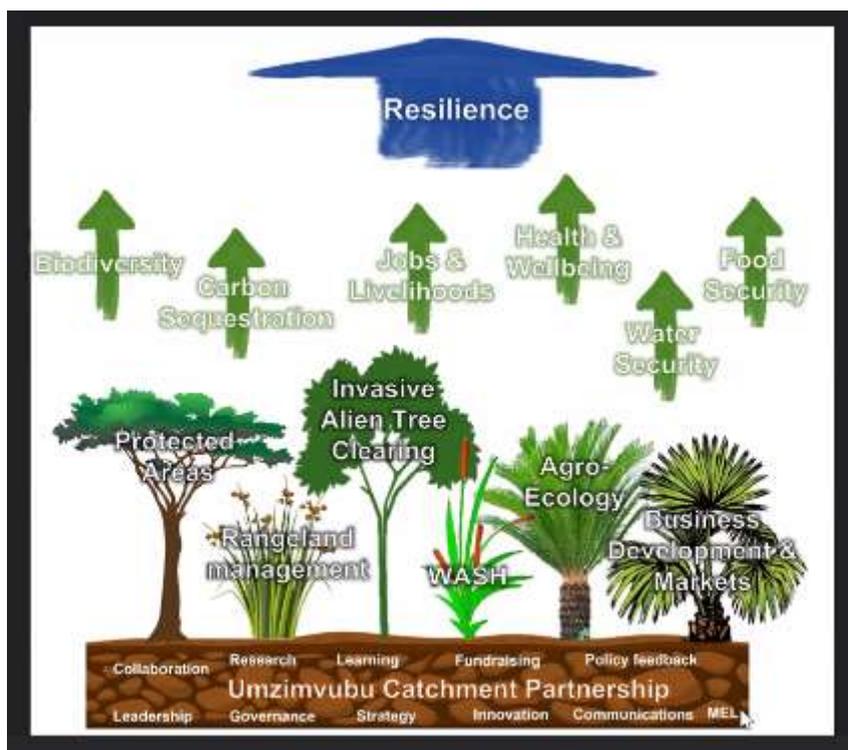


Figure 19: Diagram from the strategy document of the Umzimvubu Catchment Partnership.

Samir shared a diagram from the UCP strategy. He used it to explain that when we tell the story of the partnership, we want to show that its leading to action on the ground and changes in livelihoods, land, etc. This is what makes funders open their eyes.

Erna suggested that we collectively populate the slide with the partnership pillars in terms of the activities and outcomes to give us something tangible to take forward. Samir said we need to differentiate between the what and the how – for each pillar. Need a concise description and then say how to achieve it.

The following table provides a summary of what was proposed for each of the pillars.

Table 1: Inputs made during the online meeting regarding the partnership pillars

Pillar	Description
Governance & strategy	JL: To strengthen integrated catchment management through collaboration amongst partners (and monitor this ito of an integrated map that shows where people are working, their areas of focus (measure whether areas are also finding recognition in the IDPs and long term environmental management and SD frameworks, and annual IDPs). The map should find expression in the IDP.

	<p>EK: internal governance of the partnership, also intervening in different levels of governance within the catchment (Water management, agric, conservation areas) – will feed into the CoPs. The partnership needs to be developing strategies to improve governance in each of these areas – so partners need to work together on these. Needs inputs into policy (CMFs, municipal thinking groups, etc.)</p> <p>SR: recognising that governance systems are not functioning well and the partnership can help to strengthen them by establishing a governance that can assist mandated parties to solve governance issues in a collective manner.</p> <p>Creating a united outlook for the landscape that all parties can buy into and support and contribute towards.</p>
<p>Networking & communication</p>	<p>JL: Education and awareness creation – combining resources that are shrinking. Study tours for decision-makers – might lead to access to resources.</p> <p>Networking - speaks to ones above and below- use other existing CoPs (ARU – established a structure in 2022 – would allow for networking and sharing)</p> <p>Interacting with UCP partners as part of networking</p> <p>Networking with funders</p> <p>EK: a central function of the partnership – to be led by the group that takes over from the convener team.⁴</p> <p>SR: different levels – facilitating it between partners to contribute to learning, outwards – beyond the catchment to funders, government -tell the stories from the catchment and garner support; then networking into the landscape since not everyone can be at every meeting, so need to communicate to communitys, TAs, land owners, etc</p> <p>networking transboundary</p>
<p>Learning & sharing</p> <p>NEED TO INCLUDE RESEARCH MORE EXPLICITLY</p>	<p>Records of learning exchanges, knowledge development, knowledge exchange (how many for the year). Updating of existing website with knowledge that has been developed or shared by role-players.</p> <p>EK: on different levels – local, facilitated through the collaboration on different themes; regional sharing between different stakeholders in region and then national sharing to introduce new ideas into the system.</p> <p>SR: Facilitating learning to allow people to do things better and achieve more impact.</p> <p>Sharing – talks to communications and M&E. sharing resources and information and our knowledge facilitates learning and implementation.</p>

	Need to recognize that we want to set a research agenda for the catchment that everyone can feed into, to avoid extractive research, built for purpose, that contributes to the vision for the landscape.
Action, implementation & feedback	<p>EK: Map of stakeholders and projects – need a process for updating it and keeping people in the loop with that. A platform that says these are things that should be happening – who has the energy to take forward.</p> <p>Within collaboration - have sessions around specific topics and see how they interact with other themes.</p> <p>SR: about identifying the needs, threats from the landscape and designing solutions that respond and solve them. Harnessing collective power and skills from the partnership – recognizing that together we can do more and do it better.</p>
Resourcing	EK: Fundraising, own effort, what partnerships are willing to bring at any point. Need more specific inputs (next steps)

NDC website



We then had a discussion about the NDC website.

AP: EK to write something to describe more about the NDC for the website.

Kirsten said we need to be clear on the purpose of the website, for example whether it will house data and the format that the data will be in.

There was discussion about possible names for the website domain. Options that were proposed were:

- Northerndrakcollab (.com or .co.za or .org)
- NorthernDrakensbergCollaborative
- NorDraCol - keep it short as it becomes an email address and you don't want it too long
and go for 'org.za'
- NDrakCollab

Questions were raised about the future. Clive Mhlane (DWS) asked who the admin would be moving forwards and Kirsten asked who would continue paying for the domain. Brigid highlighted that these would be discussed during the later session in the agenda.

Prep for March 20th

There was discussion about the plans for the meeting in Bergville.

BL to circulate revised slides to core team ahead of the 20th event to get final input (AP: BL)

Way forward beyond PepsiCo

The main points to be discussed were:

- An event in June beyond the PepsiCo project timeframe.
- Website maintenance and associated costs.

Kathleen asked for clarity regarding the purpose of the June meeting. ZN said that since we won't exhaust the partnership strategy discussion on the 20th perhaps June will allow us to continue the discussion and keep the momentum going. She asked what funding is required going forward on a yearly basis, not just for holding the June event.

Zinhle added that the coordination role came up in discussion with Londi, but it was not clear who will coordinate events, remind people, report on activities, etc. This coordinating person needs to work closely with Londi. Kathleen asked whether our vision is to have a funded, dedicated coordinator and whether partners need to fund them. Brigid highlighted that while there is no funded project we need to decentralise roles and not assume one organisation can cover everything. Michele Toucher (SAEON) asked for some time to come back to us with what people think they contribute.

Joyce suggested that we document the coordination responsibilities and circulate prior to the meeting on the 20th so that people can then identify where they fit in and volunteer for specific roles.

AP BL to prepare the summary ahead of the 20th.

Kathleen said that if we go event by event, the volunteering of resources can be passed around for an event or two, alternatively we try to have an approach that allows for continuity. She questioned whether EFTEON's financial contribution might be better spent on having a coordinator than on catering for an event.

Erna went on to say that there is a high likelihood of getting funding in the longer term, so for now let's just see this as a short term stopgap. She referred to the Lewis proposal as one possible source of funding.

Closure

Zinhle ended saying we need to make some space for this discussion in the meeting at Bergville the following week.

2.2.6 Meeting in Bergville in March 2024

This meeting that was held in the Bergville Sports Centre Boardroom had the following agenda, which allowed for sharing of information by members while allowing for discussion about the NDC strategy as well as the way forward beyond the PepsiCo project.

1. Welcome and introductions – Zinhle (30 min)
2. Draft strategy and website for discussion – Brigid (60 min) 10h00-11h00
3. Updates on any ongoing initiatives: 11h00 – 13h00
 - a. Liam Cogill (MAPWAPS) 20 min
 - b. Pearl Gola (SANBI) 20 min
 - c. Siphon Ndaba (Cannabis project) 20 min
 - d. Minesh Sookamdev (DFFE herbicide programme) 20 min
 - e. Kirsten Oliver (The Water Fund) 20 min
 - f. Lucas van der Vijver (Research) 20 min

Lunch 13h00-14h00

4. Way forward beyond WWF PepsiCo project 14h00-15h00
5. Closure – Zinhle (10 min) 15h00-15h15

The programme was very full, but there were substantial discussions between participants over lunch at the end of the day. Some key outcomes of the meeting were that EFTEON and WWF committed to supporting the event in June 2024. There was agreement amongst participants (indicated on the attendance register) to share emails and mobile phone numbers to enhance sharing and networking. The suggestion was that we should have Whatsapp subgroups that allow for development of action plans for working groups/CoPs.

One of the representatives of traditional authorities that attended the meeting requested a space in the June programme to share input about activities that they would like to undertake and for which they need support.

There was a suggestion for a specific CoP on water access and a discussion around the implications of changes in policies of DWS. Clive Mhlane (DWS) highlighted that there was a consultation process around changes to legislation. Pearl Gola (SANBI) asked that the NDC members be informed about other policy documents that are being prepared or revised.

It was evident that a system needs to be in place to allow for stakeholders to update the maps that show where different organisations are active.

There was much discussion about communities accessing herbicide from DFFE via Minesh. Since it needs a coordinator that can commit to ensuring that the chemicals are handled safely, there is a need to organize people in order to be able to operationalize this.

Commitment statements were circulated and a number were signed at the event and returned to the convener team.



Figure 20: Sharing of information by partners at the workshop in Bergville on 20 March 2024.

2.3 Situation assessment, stakeholder mapping and analysis

2.3.1 Situation assessment

A report was drafted and circulated to the core team members for inputs. It was revised based on the inputs received.

2.3.2 Stakeholder mapping and analysis

Based on the Water Governance Indicator framework¹ of the Organisation for Economic Co-operation and Development (OECD), we have categorised stakeholders according to the following groups. It is important to note that a specific organisation may fall within more than one of these groups.

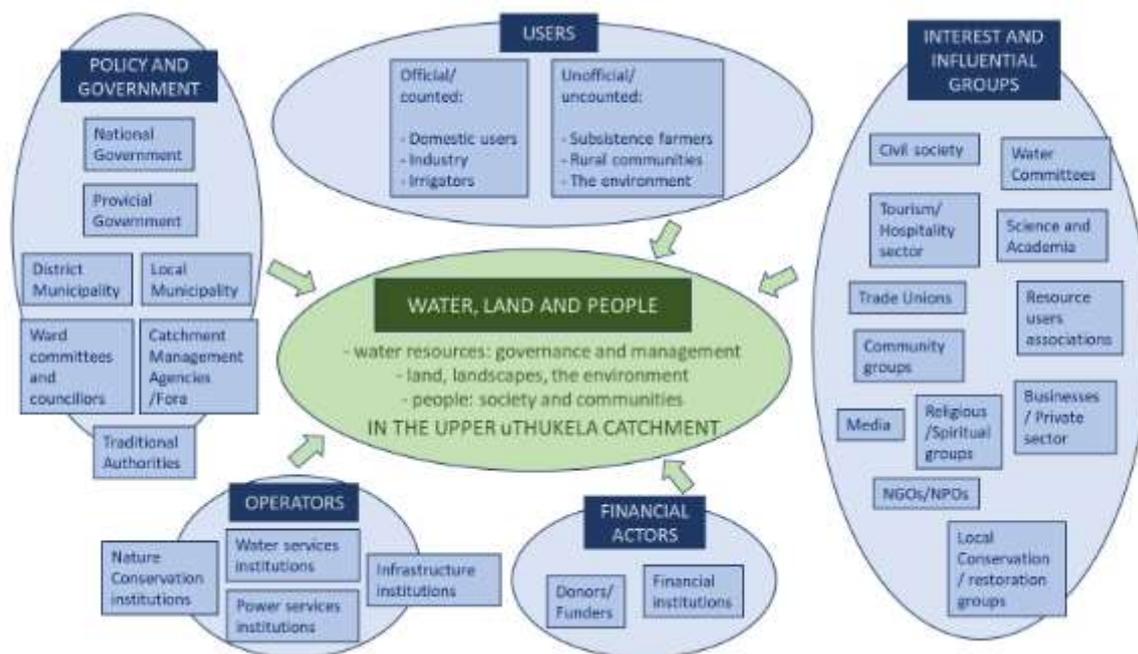


Figure 21: Different stakeholder groups involved in water governance (OECD, 2018).

¹ OECD 2018. OECD Water Governance Indicator Framework Available at: <https://www.oecd.org/regional/OECD-Water-Governance-Indicator-Framework.pdf>

Stakeholder participation

Over the series of workshops that took place over the 2021-2022 period, prior to the PepsiCo funded project, more than 100 stakeholders representing more than 60 organisations have been represented and this number expanded during the 2023-2024 period, especially due to the expansion of the geographic area to include the broader Northern Drakensberg SWSA. Participants have come from the following categories policy and government, operators, financial actors, interest and influential groups and users.

The stakeholder engagement process led to a common vision and relevant activities as shown in Figure 3.

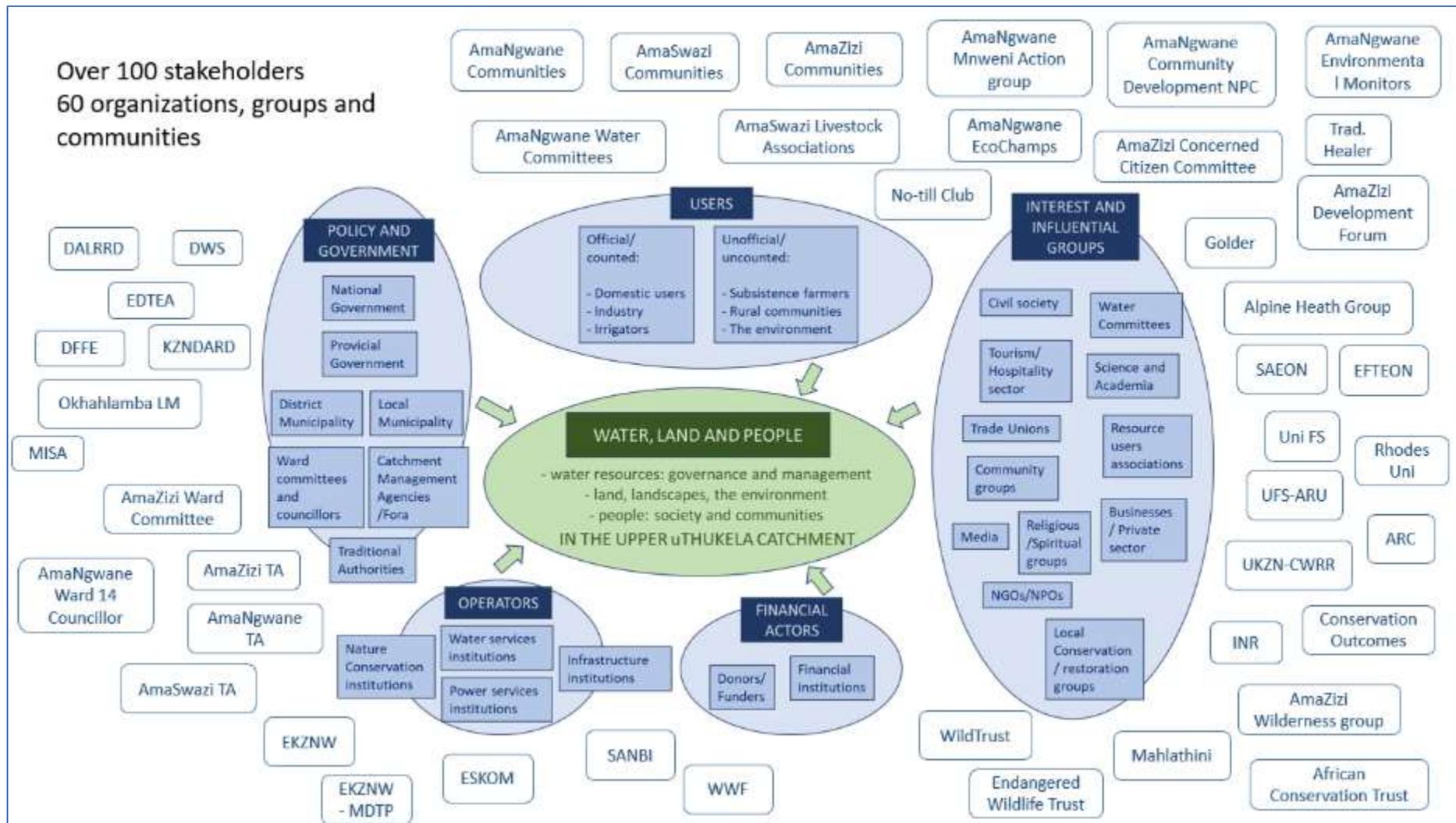


Figure 22: Detail of stakeholders as representing different stakeholder groups in the Northern Drakensberg SWSA.

What has come out of these meetings?

A Joint Vision

Priority Actions and Activities

Sharing and Learning

“Integration of different entities to conserve and utilize the landscape and its water, cultural and other natural resources fairly as well as to empower its people, build resilience and achieve sustainable socio-economic growth.”

CATEGORY	ACTIONS/ACTIVITIES
Collaboration and integration of entities	<ul style="list-style-type: none"> - Spatial and non-spatial mapping of stakeholders, activities, projects, roles and responsibilities - Situational analysis, including socio-economic variables - Ensure involvement of more stakeholders, especially the most relevant entities - Data and information sharing (database, webpage, stakeholder engagements)
Conservation and use of water, natural and cultural resources	<ul style="list-style-type: none"> - Projects and skills development related to spring protection and development, invasive alien plants and bush encroachment, restoration activities, grazing management, fire management, nature conservation, environmental education - Identify and understand the significance of cultural resources
Empowerment	<ul style="list-style-type: none"> - Facilitate training and capacity building - Environmental education in schools - Community based conservation efforts
Resilience to climate change	<ul style="list-style-type: none"> - Climate change education - Empowerment around the green business value chain (e.g. in relation to charcoal and alien clearing practices) - Community-based climate change adaptation activities
Sustainable socio-economic growth, local livelihoods	<ul style="list-style-type: none"> - Increase livelihood options: animals, crops and poultry - Job creation through working for water programs etc - Empower the beneficiaries (without dependency on external factors) - Communities’ contributing to tourism

- Knowledge sharing: spring protection, alien clearing, restoration, CA, co-learning
- Opportunities for collaboration
- Networking
- Inclusivity and diversity

Figure 23: Outcomes of the stakeholder engagement process.

Survey about a survey of catchment members

In September – October 2022 an online survey was sent to a sub-group of the participants to scope stakeholders' roles, activities in the catchment, and their expectations of a catchment partnership in the upper uThukela. To the question “*What do you think the Upper uThukela Catchment Partnership should do?*” 15 respondents provided a range of suggestions relating to collaboration, coordination, networking, facilitate communication, data and knowledge exchange, co-learning and information dissemination, coordinate research and monitoring, coordinate and co-implement projects, interventions and job creations (Figure 3).

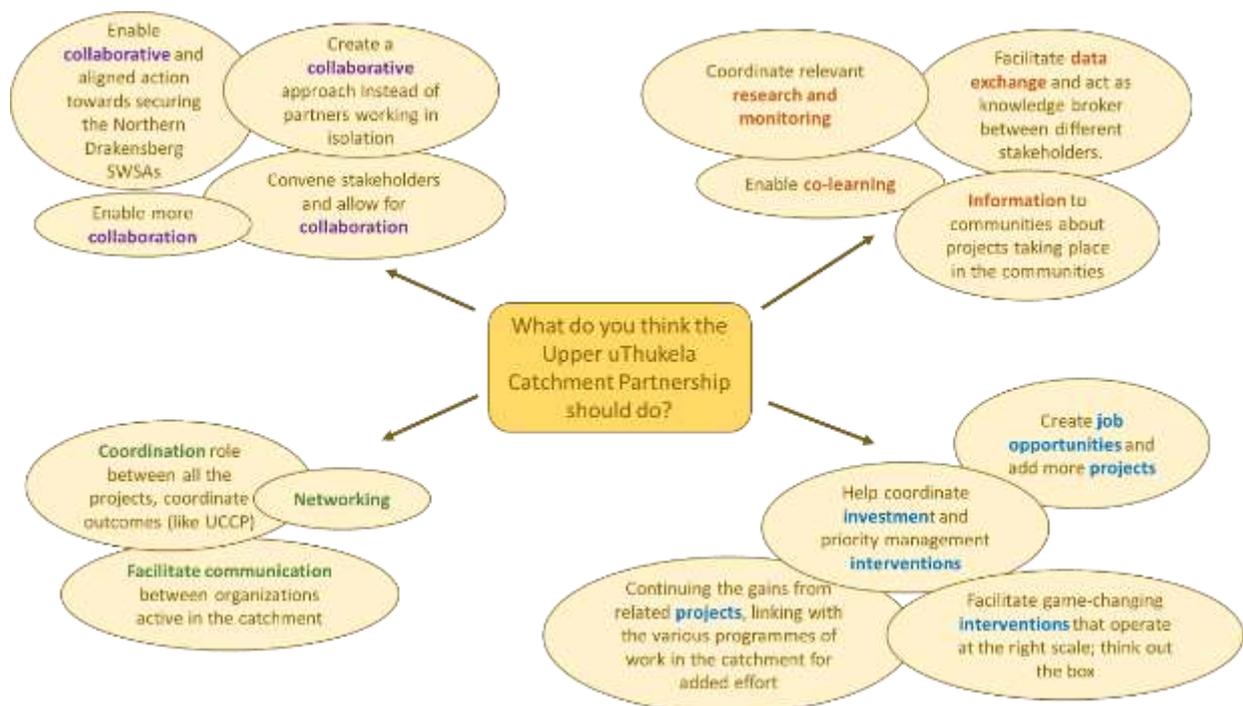


Figure 24: Survey responses to the question “What do you think the Upper uThukela Catchment Partnership should do?”

2.4 Strategy development and creation of CoPs

2.4.1 Strategy development process

The process of developing a strategy for the NDC was initiated by the convening team but was further built through discussions that took place at various meetings and workshops as described above.

2.4.2 Draft NDC strategy

Background:

The Northern Drakensberg Collaborative (NDC) is a multi-stakeholder partnership that broadly represents the strategic water source area, with a focus on the upper uThukela Catchment. The platform commits to the principles of inclusivity, equity, respect and diversity.

This process of establishing the partnership was initiated through the Living Catchments Project (LCP) of the South African National Biodiversity Institute (SANBI), and has been continued through an initiative championed by WWF. A coordinating team comprising the Institute of Natural Resources NPC (INR), Mahlathini Development Foundation (MDF) and the Centre for Water Resources Research (CWRR) at University of KwaZulu-Natal, has led the process of operationalising and sustaining the partnership.

Vision:

Collaboration among different entities to conserve and sustainably utilize the landscape and its water, cultural and other natural resources fairly as well as to empower its people, build resilience and achieve sustainable socio-economic growth.

Partnership principles:

There are a number of principles that underpin and guide the NDC, namely

- Inclusivity: The operation of the NDC and its activities will be designed to allow for the inclusion of all member groups.
- Equity: The structures of the NDC will represent all member groups.
- Respect: Members will respect the views of others.
- Diversity: The NDC recognizes different races, genders, religions and is apolitical.

Value proposition:

As shown in the figure below, the NDC provides a range of benefits for its members while also requiring certain inputs from them.

The benefits of the partnership for its members can be summarized as follows:

- Networking: Providing a platform for different stakeholders to engage and exchange.
- Monitoring: A vehicle for monitoring the implementation of activities.
- Co-learning: A mechanism for co-learning between stakeholders within and beyond.
- Fundraising: Stakeholders can work collectively to raise funds.

- Sharing: The platform allows for sharing of information through different channels.
- Co-implementation: Members can implement activities collectively.
- Lobbying: The platform provides a voice for its members.
- Supporting research: The platform can support research and share research outcomes.

The inputs required from its members can be summarized as:

- Participate: Members need to participate in meetings, events and discussions.
- Resource: Members need to be willing to provide resources of different types.
- Share: Members need to be open to sharing information and experiences.
- Commit: Members need to commit to the partnership.
- Collaborate: Members need to be willing to collaborate around activities.



Figure 25: Diagram showing key elements of the Northern Drakensberg Collaborative.

The NDC will provide the benefits to its members through the following:

- A stakeholder database.
- Collaborative working groups.
- A website and newsletter.
- Co-opting multiple stakeholders.

Partnership pillars:

The NDC relies on five partnership pillars:

1. Governance and strategy
2. Networking & communication
3. Learning & sharing
4. Action, implementation & feedback
5. Resourcing

The expected outcomes for each of the pillars, together with activities required to achieve the outcomes are summarized below in Table 2.

Table 2: Summary of outcomes and activities associated with each of the NDC partnership pillars

Pillar	Outcome	Activities
Governance and strategy	<ul style="list-style-type: none">• Internal: Effective governance of the NDC partnership• External: Effective governance within the SWSA; integrated catchment management	<ul style="list-style-type: none">• Establish a secretariat for the NDC and CoP theme leaders to drive action.• Monitor the effectiveness of the partnership and the impacts on the ground• Engage LM about alignment with IDP
Networking & communication	<ul style="list-style-type: none">• Internal – Enhanced sharing between partners• External – Enhanced communication with partners beyond the catchment	<ul style="list-style-type: none">• Enhance sharing over email and website• NDC members to participate in other forums to network information
Research, learning and sharing	<ul style="list-style-type: none">• Sharing of information and knowledge leads to enhanced impact• A shared research agenda for the catchment	<ul style="list-style-type: none">• Make reports and guidelines available on the website• Establish a research task team to drive an agenda
Action, implementation & feedback	<ul style="list-style-type: none">• Solutions to address challenges are co-developed, tested and assessed	<ul style="list-style-type: none">• Update map of partner activities• Develop a joint database for action

Resourcing	<ul style="list-style-type: none"> Partnership resourced for good governance, to network, learn, share and implement 	<ul style="list-style-type: none"> Find ways to resource NDC activities when no funded convener team Fundraise for partnership Fundraise for action
------------	---	--

Membership:

Membership of NDC is open to all organisations with a presence in the Northern Drakensberg Strategic Water Source Area (SWSA) that work/operate in the water-livelihoods-biodiversity space. This includes community structures and Traditional Authorities. Signing of the commitment statement is the first step in the membership process.

Member activities:

Member activities	Communities	Private sector	Officials	NGOs
Engage in lobbying activities to drive shared agendas.				
Co-implement projects that meets shared objectives.				
Collective raise funds for activities by co-developing concept notes and proposals.				
Implement projects that provide jobs, improve livelihoods and eradicate poverty.				
Promote sustainable land management practices related to grazing, restoration, clearing of alien invasive species.				
Contribute resources that can support landscape management activities				
Invest in the catchment to contribute to companies' sustainability targets.				
Local businesses can create opportunities for communities (e.g. tourism)				
Utilise onatural resources sustainably.				
Collaborate to strengthen governance arrangements for better natural resource management in communal areas				
Co-develop solutions to address issues that affect communities.				
Share knowledge and create awareness about the NDC and its members.				

Share research findings with other members and translate research outcomes into action.				
---	--	--	--	--

Structure:

During the early stages of establishing and strengthening the NDC, there has been an intermediate arrangement that has comprised a convening team, guided by a core team that represents the members of the NDC. There have been efforts towards establishing CoPs or working groups that focus on different topics.

In time, the structure will adopt a different arrangement, where a secretariat will be guided by a management committee that comprises a leader from each of the CoPs/working groups. The CoPs will draw their membership from the NDC members, who would be free to participate in one or more CoPs/working groups.

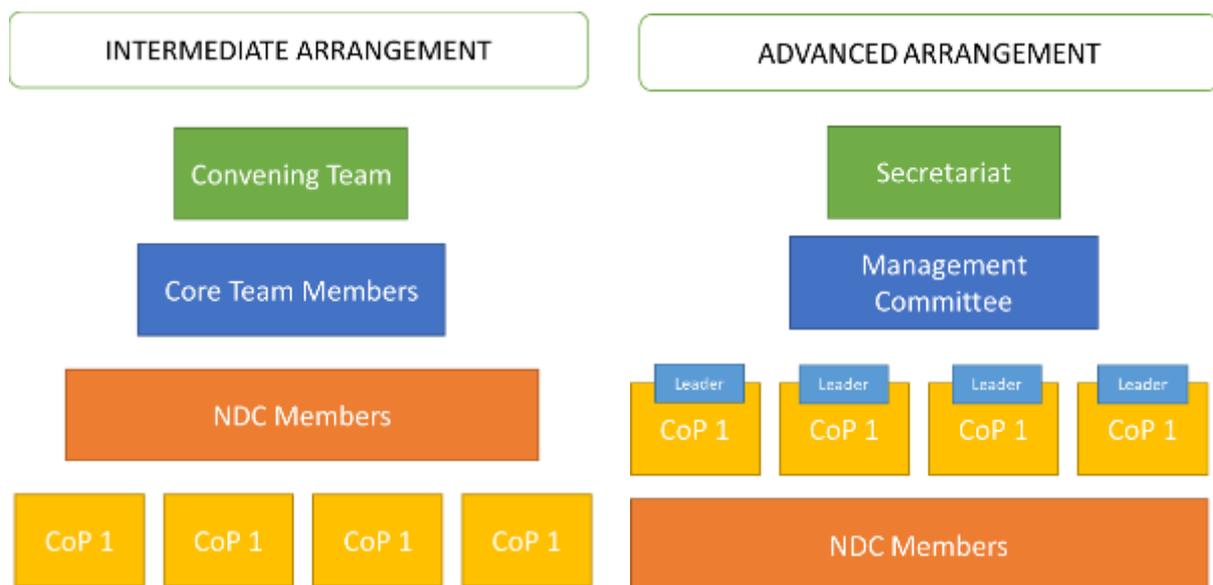


Figure 26: Graphical representation of the structure of the NDC and how it changes as it matures.

Monitoring and evaluation:

The monitoring and evaluation process for the partnership is seen as a tool for reflecting on the performance of the partnership itself as well as the contribution it is making to improving livelihoods and the state of the natural resources within the Northern Drakensberg SWSA, with a focus on the upper uThukela Catchment. Given that the vision for the NDC goes beyond the partnership towards having positive impacts on the natural resources and the people that depend on them, the M&E system should consider the different levels as shown in Figure 27.



Figure 27: Different elements that require monitoring and evaluation.

Table 3: Components of the vision to be monitored and evaluated

Relationship to the NDC	Components of the vision	Indicators to track
Within the partnership	<ul style="list-style-type: none"> • Collaboration • Different entities 	<ul style="list-style-type: none"> • Evidence of collaboration • Number and diversity of entities
Beyond the partnership	<ul style="list-style-type: none"> • Conserve and sustainably utilize resources fairly • Empower its people • Build resilience • Achieve sustainable socio-economic growth. 	<ul style="list-style-type: none"> • Implementation of projects towards these objectives, tracking, for example: <ul style="list-style-type: none"> ○ Areas cleared of invasive aliens ○ Areas under improved management ○ Areas restored ○ Jobs created • Changes in policies / plans towards these objectives • Research undertaken towards achieving these objectives

For the overall partnership, the M&E process can focus on the pillars as shown in Table 4. Later, when gather CoPs/working groups develop their own visions and objectives, the M&E process can be expanded to incorporate them. As shown in

Table 3, there are already some indicators identified that might be allocated to a particular CoP/working group, such as tracking areas of land under improved management.

Table 4: Examples of indicators for monitoring anticipated outcomes for the partnership pillars

Pillar	Anticipated outcomes	Indicators to track
Governance & strategy	Internal: Effective governance of the NDC partnership External: Effective governance within the SWSA; integrated catchment management (ICM)	<ul style="list-style-type: none"> • Secretariat functioning well • Strategy finalised • Key stakeholders engaging in the catchment towards achieving ICM
Networking & communication	Internal – Enhanced sharing between partners External – Enhanced communication with partners beyond the catchment	<ul style="list-style-type: none"> • Number of email exchanges between partners • Participation of NDC members in activities of other catchments
Research, learning & sharing	Sharing of information and knowledge leads to enhanced impact A shared research agenda for the catchment	<ul style="list-style-type: none"> • Number of events allowing for sharing & learning. • Number of events where research outcomes shared.
Action, implementation & feedback	Solutions to address challenges are co-developed, tested and assessed	<ul style="list-style-type: none"> • No. of collaborative projects implemented.
Resourcing	Partnership resourced for good governance, to network, learn, share and implement	<ul style="list-style-type: none"> • No. of concept notes/proposals developed collectively. • Contributions in time and finances by members to support partnership activities.

2.4.3 Progress towards establishing communities of practice

Since the workshop at Alpine Heath in May 2023 did not provide sufficient time in the programme to discuss communities of practice, the link to a Google form was circulated by email after the workshop to allow participants to provide an indication of the themes that were of interest to them (See Figure 28).

From: Northern Drakensberg <northern-drakensberg@gmail.com>
Sent: Wednesday, 31 May 2023 08:25
To: Brigid Letty
Cc: Zinhle Ntombela; info@mahlathini.org
Subject: Re: Workshop report, google forms and a thank you

Dear participants of the Northern Drakensberg Collaborative/Upper uThukela Catchment Partnership at Alpine Heath last week.

I hope you all received our thank you email on Friday (see below). We would like to remind you all to kindly fill out the two online forms while the workshop conversations are still fresh in your minds. Your input is of crucial importance for the further development of the partnership.

Evaluation form (2 minutes): <https://forms.gle/WQoPF8GwtP7SmACs8>

Partnership related input (e.g. vision, value proposition, logo, working groups) (5 minutes): <https://forms.gle/DUqqtD5CCGTBMQer9>

Your participation is appreciated!

**Kind regards
Rebecka and Brigid**

on behalf of the partnership convening team

Figure 28: Email sent to NDC members with links to Google Forms to gather partnership-related input.

Towards establishing the CoPs, the conveners planned the field trip in September 2023 such that stakeholders could make a decision as to which trip they wished to participate in, which were expected to reflect the nature of the following proposed CoPs:

- CoP 1: Agriculture and food security – household gardens and conservation agriculture
- CoP 2: Water provision – spring protection
- COP 3: Conservation & environmental (Ecosystem services) – Wetlands, Community action at Stulwane, Nappies (Solid waste)

It was hoped that the field trip to Stulwane would allow for the participants to demonstrate their areas of interest (Agriculture, Environment, Water, etc) but the number of participants were not sufficient to divide into smaller groups. Thus, the participants were able to view all activities during the field visit. What is clear from the visit is that while people may have certain areas of particular interest, there seemed to be general interest in all elements. This raises the question about the extent to which activities should be taken out of ‘plenary’ into

'parallel working groups'. Perhaps in time this will emerge as important, or will be effective when the working groups are focused on fundraising or implementing specific activities.

2.5 Three hectares of rangeland under restoration and management

2.5.1 Project sites

The restoration work took place across two sites in the upper uThukela Catchment, building on the work of two partner organisations, namely Mahlathini Development Foundation and WILDTRUST. The location of the two sites is shown in Figure 29.

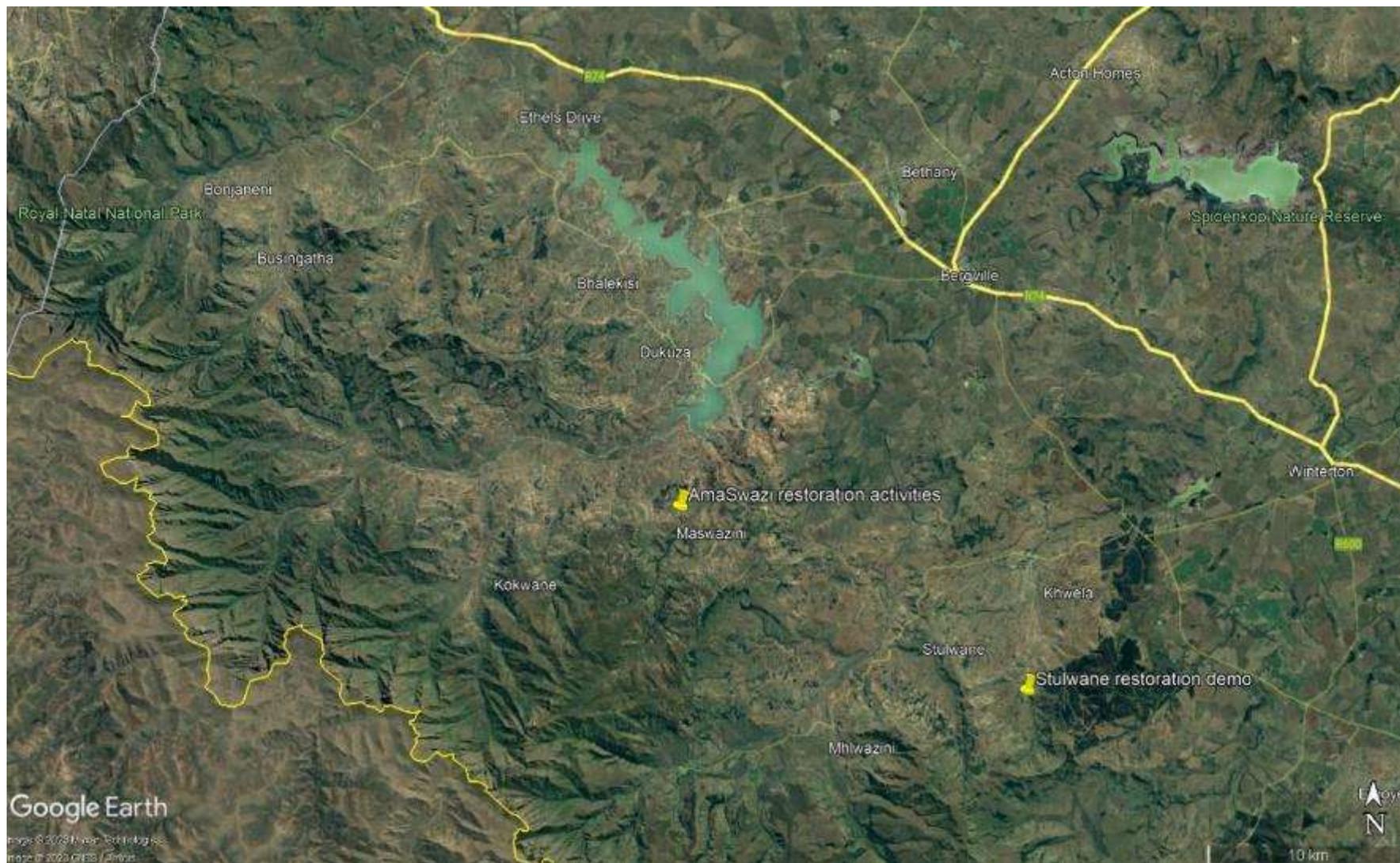


Figure 29: Overview of the restoration sites located to the west of Winterton and Bergville

2.5.2 Restoration work at Stulwane

The site where Mahlathini was working was selected to build on previous exposure of the ecochamp team at Stulwane to work being done by INR in the uMkhomazi Catchment with funding from Umgeni Water. A group of the ecochamps appointed by Mahlathini through the Amanzi Ethu Nobuntu (AEN) Programme, spent a few days in the field with the INR work teams learning about clearing alien invasive plants and building brushpacks from the wattle biomass harvested during clearing. Mahlathini and INR undertook to implement a demonstration restoration at Stulwane that would build skills in the process of restoring degraded areas as well as allowing for monitoring of run-off and deposition of sediment.



Figure 30: Overview of the restoration demonstration site at Stulwane

Project initiation

At this site, since the WWF PepsiCo project was supporting the continuation of the ecochamp team that was previously employed through Amanzi ethu Nobuntu (AEN), there was no need to recruit new team members. At the first trip, where the INR team was accompanied by field staff from Mahlathini, a suitable site was identified that would allow for demonstration of restoration techniques and measurement of impacts.



Figure 31: INR/Mahlathini team discussing possible demonstration sites at Stulwane with the ecochamps.

A group of seven people were appointed for a 4-month period, with two of the group members being retained on an ad hoc basis for the duration of the project for monitoring run-off and sedimentation.

Ongoing implementation

The team at Stulwane, supervised by Mahlathini and with technical oversight provided by INR continued with shaping the gully, constructing brushpacks and revegetating the areas between the brushpacks as well planting seed in the accumulated sediment.

The contracts for the group of ecochamps undertaking restoration work at Stulwane were extended to February 2023 to allow them to complete the majority of the work.



Figure 32: The restoration of an eroded gully at Stulwane from (1) when it was first identified (September 2022); (2) when the sides of the gully were reshaped (October 2022); (3) brushpacks were installed (November 2022); and (4) obvious effects of revegetation (May 2023).

Beyond June 2023, there was no further work on installing brushpacks and revegetating sediment at Stulwane. It was however recognised that ongoing maintenance of the structures in the demonstration area will be required to ensure that they remain effective. What is clear from the visits to the sites, and the inputs shared by community members, is that the area has been greatly transformed through the interventions. The extent to which the perennial grass species have started to establish between the dead *Eragrostis tef* is very interesting to see. There has been a need to be control of invasive species growing in the restored areas. While annual weeds are part of a process of succession, we need to avoid the growth of wattle and lantana. The ongoing recovery of the site is clearly visible from the series of photographs in Figure 34.

Firebreaks

Due to the risk of the brushpacks being destroyed by fire, which was a concern raised by the local community, a decision was undertaken to burn a firebreak around the perimeter of the demonstration - this took place in autumn 2023.



Figure 33: Firebreak burnt around the perimeter of the demonstration site.



Figure 34: Overview of the demonstration site in September 2023 (top), December 2023 (middle) and February 2024 (bottom).

The google images clearly demonstrate the spread of wattle that has taken place over time and highlight the need to control it. The images also show that erosion takes place over very extended time periods. A current image is not available but will show the results of the restoration measures when it is published.



Figure 35: Stulwane restoration demonstration site (2009 image versus 2023 image).

2.5.3 Restoration work at AmaSwazi

Project initiation

At AmaSwazi, where WILDTRUST was already active and had a team clearing invasive aliens (including wattle), the INR collaborated to allow for the appointment of an additional team of 10 people for a 16-month period.

The supervisor working for WILDTRUST approached the traditional leadership in the area to inform them that there was an opportunity to employ the additional team of 10 people. Again, some of these had been employed previously through AEN. The INR team met with them and provided PPE, but employment was done through WILDTRUST who has the administrative systems (i.e. pay roll system) and procedures in place to manage large numbers of employees working on implementation projects. Day to day support was provided by the WILDTRUST supervisor, while technical support and oversight was provided by the INR's team that was also supervising the work in the uMkhomazi Catchment. The team worked 10 days per month and was supervised by the person who was supervising the clearing team. The restoration team worked in close collaboration with the clearing team, using the material cleared to construct brushpacks in eroded areas adjacent to the areas where clearing was taking place.

Since the teams at AmaSwazi had no experience with the restoration techniques being introduced by the INR, practical training was provided by two members of the work teams operating in the uMkhomazi, under the supervision of one of the field officers from INR.

Towards the end of the project, the contracts were extended by 3 months as WILDTRUST had remaining funds that were made available to cover the wages.



Figure 36: The initial areas where restoration activity is underway at AmaSwazi



Figure 37: Visits to AmaSwazi to identify areas where restoration activities are to be implemented.

Ongoing implementation

Regular visits by the technical team have been important for monitoring the work and addressing challenges that emerged. For example, at the visit in January 2023, it was clear that some of the brushpacks were already full to capacity and this required the installation of additional brushpacks behind the initial ones to capture sediment and prevent water overtopping the full ones. There was also discussion about the process of revegetating the sediment and the areas between the brushpacks as the grass was battling to grow in the hardened surface. This also highlighted the need to focus the planting of seed into areas that already showed substantial deposition of sediment. This sediment has more capacity to hold water and nutrients than the hardened surface between the brushpacks.



Figure 38: Installation of brushpacks on denuded slopes (left) and after some revegetation (right) at AmaSwazi



Figure 39: Erosion resulting from run-off overtopping the back brushpack that has reached capacity (left) is addressed by installing a new brushpack upslope of the one that is full (right)



Figure 40: Method for restoring a deep and actively eroding gully that has developed from a cattle path

The intervention has shown that maintenance of the brushpacks as well as installation of additional brushpacks is necessary because of the rate at which they fill up with sediment during the rainy season.



Figure 41: Large gullies that resulted from cattle movements being stabilized and revegetated at AmaSwazi.



Figure 42: Captured sediment being revegetated with grass to hold it in place.



Figure 43: Ongoing brushpack work being undertaken at the new restoration site at AmaSwazi.

The local supervisor and INR field officer worked together to identify suitable areas for expansion of the restoration work. These had to be located in proximity to a source of wattle as well as being at a state of degradation where the interventions could still be effective.

The clearing team assisted the restoration team with preparing the pegs that are needed to construct the brushpacks. In September, a local vehicle owner was hired to assist with transporting wattle brush from the area where it was being cleared to the restoration site. This was an additional cost associated with selecting a site that is not in close proximity to the site where wattle is being cleared.



Figure 44: Brushpacks at Restoration Site 3 at AmaSwazi



Figure 45: Brushpacks at Restoration Site 2 at AmaSwazi showing signs of sediment capture and revegetation of the gully.

Establishment of vetiver lines

In order to secure the sediment captured thus far by the brushpacks, a decision was taken with WWF project leadership to focus on stabilising the current work with vetiver rather than expanding the footprint of the work. The recent commitment by WILDTRUST to support the restoration teams for an additional three months will allow for some expansion of the current footprint while the vetiver lines also continue.

The vetiver slips were delivered to site in November and December and were planted along brushpacks that had already captured sediment. This started with the initial restoration sites because these were most full and were also most at risk of being lost as the brushpacks breakdown over time. Inspection of the third restoration site on 22 November 2023 indicated that there was insufficient sediment captured to ensure survival of the vetiver slips.

The teams received training in vetiver planting from Sipiwe Mkhize, who had been supporting restoration work in the uMkhomazi Catchment through the project funded by uMngeni-uThukela Water. This highlights the value of cross-learning between catchments.



Figure 46: Vetiver lines planted into the sediment captured behind the brushpacks



Figure 47: Demonstration by Sipiwe Mkhize about how to plant the vetiver slips



Figure 48: Vetiver planting underway at Restoration Site 1 at AmaSwazi



Figure 49: Capacity building of the restoration team so that they can establish vetiver lines

2.5.4 Monitoring activities

A number of different aspects related to the restoration work were monitored, namely (1) the area restored, (2) the reduction in runoff as a result of brushpacks, and (3) the sedimentation behind the brushpacks.

Progress towards target of 3 ha of restored area

Mapping of the restored sites in September 2023 illustrated that the restoration work had a footprint of 1.1 ha currently. Although the target of 3ha has not been reached, a discussion with Samir Randera-Rees about prioritising vetiver planting to secure the current restoration work rather than expanding the footprint. The decision was taken to focus on spending the last two months on establishing vetiver lines. WILDTRUST then committed to cover wages of the restoration team members for an additional three months, but this time was largely used for maintenance of brushpacks and planting of vetiver lines. While the initial target of 3 ha was not achieved, the method of monitoring the restoration work does not take into account the broader area impacted by the degradation. For example, one household at AmaSwazi indicated that the brushpacks installed on the slope above them had substantially reduced run-off that previously impacted them during intense rainfall events.

Table 5: Summary of area of restoration work completed as of November 2023

Site	Area (m ²)	Area (ha)
AmaSwazi 1	925	0.09
AmaSwazi 2	2535	0.25
AmaSwazi 3	395	0.04
AmaSwazi 4	408	0.04
AmaSwazi 5	556	0.06
AmaSwazi 6	974	0.10
AmaSwazi 7	921	0.09
AmaSwazi 8	571	0.06
AmaSwazi 9	2008	0.20
Stulwane	2100	0.21
TOTAL	11393	1.14

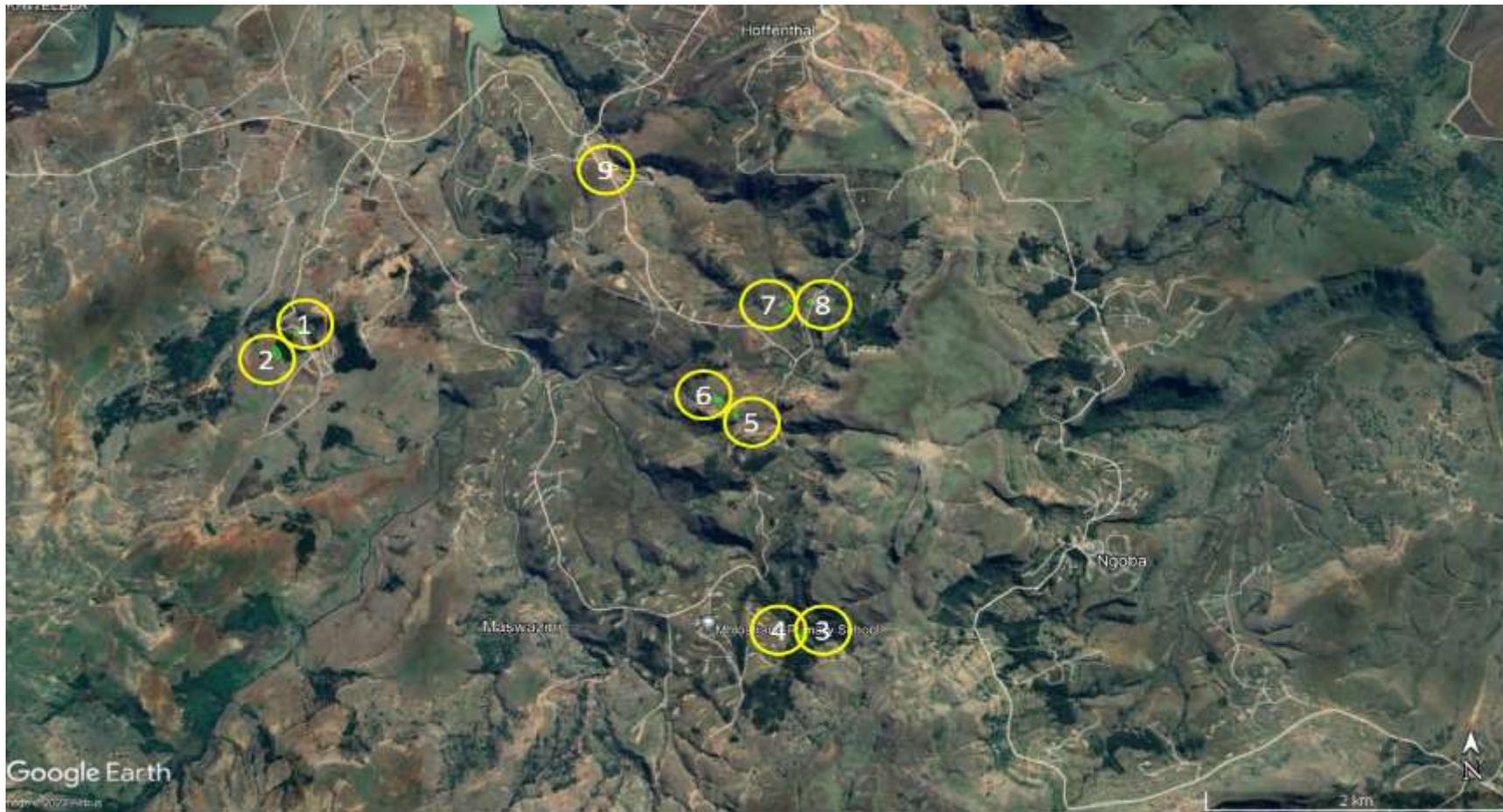


Figure 50: Overview of the restoration work at AmaSwazi in November 2023

Monitoring of runoff at Stulwane

In December 2022, eight runoff plots were installed at the restoration site in Stulwane. The runoff plots were situated systematically within the area being restored. The position of the run-off plots is shown in Figure 51. In order to prevent disturbance from livestock the area was also fenced in December.

Procedure for measuring run-off

The run-off plots were fitted with buckets that collected run-off and the amount of water accumulating in the buckets was measured after any rainfall event. This took place over the period from December 2022 to March 2024. Each of the buckets was buried downstream of its run-off plots to facilitate ease of flow.

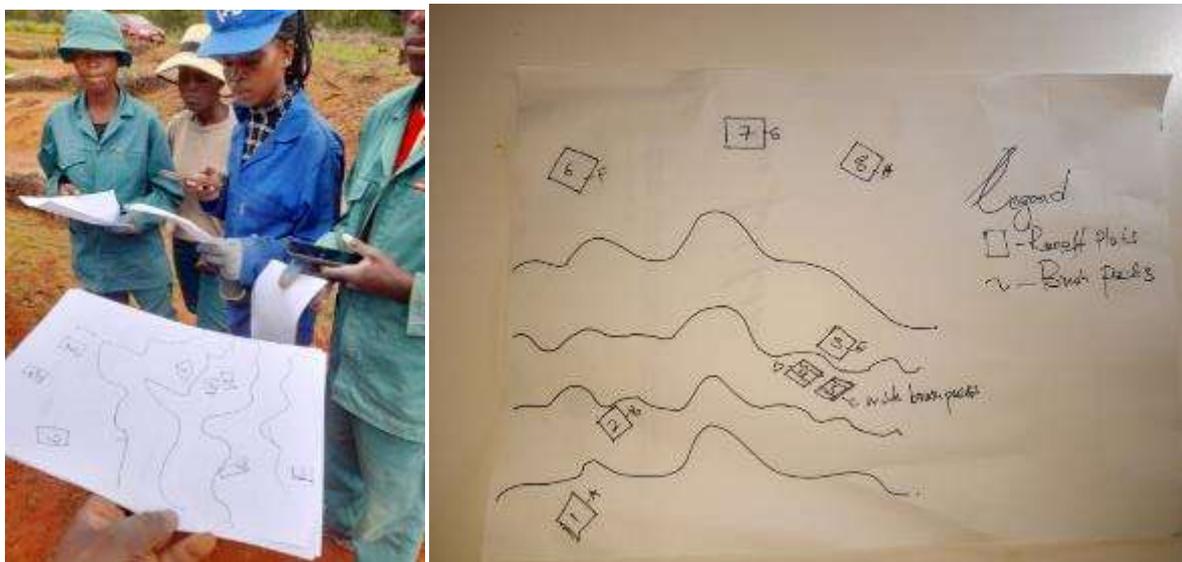


Figure 51: Rough sketch showing layout of run-off plots being used in discussion with the citizen scientists during installation

Measurements of rainfall received as well as run-off measured were maintained by local eco-champs, being youth that live in the community, close to the demonstration site. After every rain event, selected field team members monitored and measured the amount of runoff in each plot bucket, using the following procedure:

- Visit each plot from plot 1 to plot 8.
- At each plot, remove the bucket lid, and use a measuring jug to measure the runoff water inside the bucket. Fill the jug and gently spill the water outside the bucket to minimise soil disturbance.

- The number of full jugs removed are counted (each filled to the 1 litre mark).
- The reading obtained for the last jug is added (measured in mm).
- In a situation with some runoff remaining in the bucket, rather than removing the bucket from the hole, a sponge is used to remove and measure remaining water.
- All readings are captured manually on a recording sheet.
- Clean and maintain all the runoff plots in preparation for the next event.

The nature of the site is that it is a conduit for run-off from an adjacent road and despite all efforts, heavy rainfall events dislodged a number of buckets during severe rainfall events. The readings from these run-off plots are captured as 'false' below.

Basis for calculating replenishment figures

The replenishment figures are based on the reduction that is achieved through restoration efforts, which both flatten (terrace) and revegetate the degraded area, transforming it from a steep sided gully with compacted, hard surface.

Two scenarios were explored. The first compared a flat, well vegetated plot adjacent to the original gully (Plot 7) with run-off generated by a plot placed on the hard, compact, bare side the gully (Plot 8). This demonstrated the potential impact that restoration measures can have in the long-term.

The second scenario demonstrated the current effect of the restoration measures (given that the revegetation process is still underway but the area has been flattened through the accumulation of sediment behind the brushpack where the run-off plot has been installed. Thus, we compared the run-off measured for Plot 5 with that measured for Plot 8.

Based on the first scenario, restoration can potentially lead to retention of 0.945 ML per hectare, while current levels of restoration can retain 0.441 ML that would otherwise have been lost as run-off. Note that at this point we have focused on making comparisons between plots rather than calculating the percentage of rainfall retained under these different scenarios.

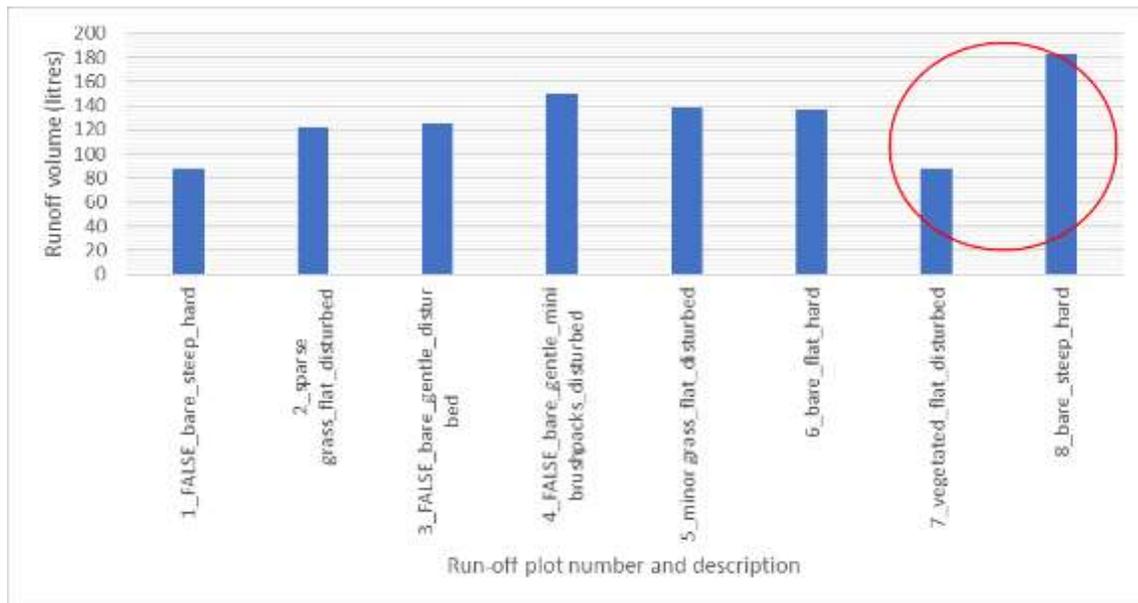


Figure 52: Run-off measurements for the period December 2022 to May 2023.

Considering Figure 52 above, it is interesting to note that the two run-off plots that best demonstrate the combined effect of ‘slope and vegetation cover’ are plots 7 and 8. It can be seen that the run-off from Plot 8, which was steep, bare and had a hard, compact surface was substantially higher than that from Plot 7, which was situated close to Plot 8, but on a flat, vegetated area.

Table 6: Summary of run-off values used for replenishment calculations that covered the period December 2022 to May 2023 (i.e. summer rainfall period)

Plot	Runoff volume (litres)
1_FALSE_bare_steep_hard	87.59
2_sparse grass_flat_disturbed	121.3
3_FALSE_bare_gentle_disturbed	125.81
4_FALSE_bare_gentle_mini brushpacks_disturbed	149.71
5_minor grass_flat_disturbed	138.35
6_bare_flat_hard	137.01
7_vegetated_flat_disturbed	87.75
8_bare_steep_hard	182.4

Table 7: Replenishment values calculated for two scenarios based on the period December 2022 to May 2023

Replenishment calculation	
Compare plots 7 (vegetated and flat pre-restoration) and 8 (steep, bare & hard):	
Amount of water retained in plot 7 is difference	94.65 litres
So on 1 m ² we hold	94.65 litres
Thus on 1 ha (10000 m ²)	946500 litres
There are 1,000,000 litres in a megalitre	
Thus, per hectare restored this holds	0.9465 ML
Thus, on 3 hectares, this holds	2.8395 ML
THIS DEMONSTRATES POTENTIAL	

Replenishment calculation	
Compare plots 5 (partial restoration) and 8 (steep, bare & hard):	
Amount of water retained in plot 7 is difference	44.05 litres
So on 1 m ² we hold	44.05 litres
Thus on 1 ha (10000 m ²)	440500 litres
There are 1,000,000 litres in a megalitre	
Thus, per hectare restored this holds	0.4405 ML
Thus, on 3 hectares, this holds	1.3215 ML
THIS SHOWS CURRENT SITUATION	

Some challenges were experienced with the measuring runoff, which include:

- The ecochamps have had to learn how to record the run-off and have adapted their method since they found that constant removal of the buckets from the holes led to the edges crumbling and soil accumulating at the base of the holes, which lifted the buckets and prevented the free flow of water into the buckets.
- Events with strong rainstorms in early February 2023 washed the buckets out of the holes on some runoff plots so the team secured them with wire and stakes to prevent it happening in future.
- Community members that walked past during the construction of the fence on site kept asking questions about the fence's safety and there are concerns that it may be stolen.

Ongoing maintenance of the run-off plots

Prior to the field trip to Stulwane in late September 2023, maintenance was done on the run-off plots at Stulwane because there had been some deterioration in the equipment. One of

the challenges reported previously, was the dislodging of buckets during intense rainfall events, so the decision was taken to find an improved way of securing them.



Figure 53: Buckets for collecting run-off dislodged due to strong winds in August 2023



Figure 54: Maintenance of the run-off plots in September 2023 with interventions to secure buckets



Figure 55: Maintenances of run-off plots 3 and 4 at Stulwane.

Monitoring outcomes for October-November 2023

Over the dry season, there was not much rainfall (no rainfall record for period 1 June to 19 July 2023) and thus there was reduced run-off measured. There was also a gap in measurements in September when the raingauge was knocked by livestock and broken. Thus, the next period considered was for the period 2 October to 6 November 2023 when a total of 162 mm of rainfall was recorded, as shown in Table 8.

Table 8: Summary of rainfall received during the period when run-off was recorded

Date	Runoff (mm)	Date	Runoff (mm)
02/10/2023	2	22/10/2023	40
12/10/2023	6	23/10/2023	24
13/10/2023	7	29/10/2023	16
16/10/2023	20	30/10/2023	19
17/10/2023	9	31/10/2023	9
		06/11/2023	10

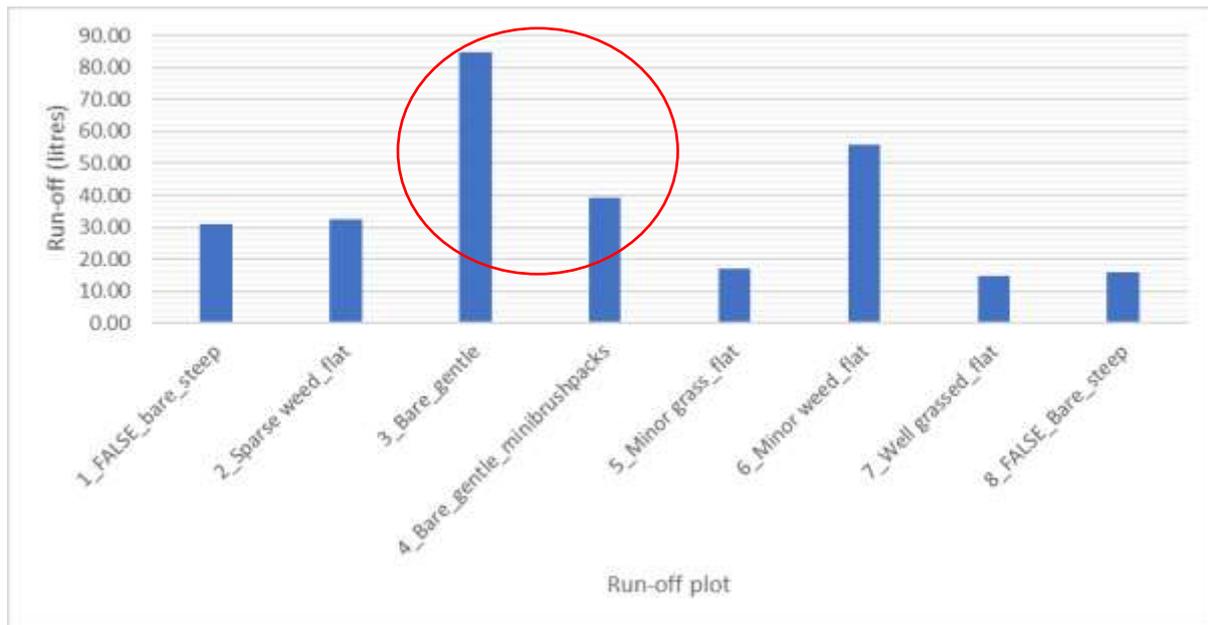


Figure 56: Run-off volumes recorded for each plot for the period October-November 2023.

When the values obtained for run-off were compared for the 8 plots, it was clear that the results for plots 1 and 8 were incorrect (marked false in Figure 56). They were much lower than was expected and a discussion with the ecochamps revealed that the pipe to the bucket at Plot 8 was blocked and this was responsible for run-off not being captured. The ecochamps have cleared the pipe and it is anticipated that further rainfall events will allow for correct reading. The most interesting results are those shown by adjacent plots 3 and 4, which clearly demonstrate the value of slowing down run-off. Plot 4, with lower run-off, is the plot that has small brushpacks constructed to simulate the broader environment. If one compares the percentage of the run-off captured over the period, then it is interesting to note that 52% of the rain that was received was captured as runoff in Plot 3, while in Plot 4, the run-off was only 24% of the rainfall received. The current status of the 8 run-off plots is shown below in Table 5.

Some of the run-off water from Plots 2 and 6 was not captured, so while they show a trend, this cannot be completely trusted. What is clear is that both plots were fairly flat and produced run-off that was higher than that of Plot 7, but not as high as Plot 8 (See Figure 57).

Plot 5, which was flat like Plot 7, but only had minor grass cover, produced more run-off than Plot 7, but less than Plot 8 (largely because it was flat and the surface was not compacted like with Plot 8). What is clear is that if the steep slopes can be terraced with brushpacks and

vegetated, there will be an increase in the amount of rain that infiltrates and a reduction in run-off. This has positive impacts in terms of replenishing ground water as well as reducing the amount of erosion occurring.



Figure 57: Run-off plot 7 (left) and run-off plot 8 (right) showing differences in slope, vegetation cover and compactness of the soil.

Table 9: Status of the run-off plots in November 2023



1. Bare_steep

2. Sparse weed_flat



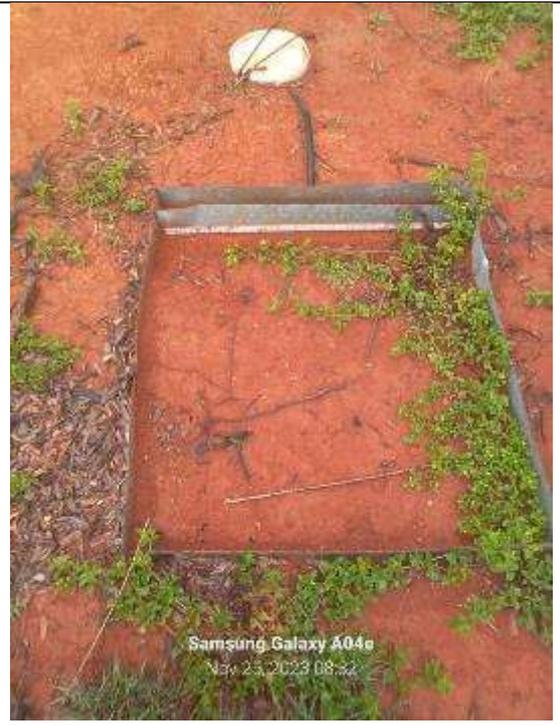
3. Bare_gentle



4. Bare_gentle_mini brushpacks



5. minor grass_flat



6. Minor weed_flat



Monitoring impacts of restoration: Sediment deposition

The sediment monitoring requires ongoing measurements of the amount of sediment that is held by each brushpack. The INR has developed a system for measuring the depth and width of the sediment along each brushpack, which is then converted to a volume.

Sediment measurement at Stulwane

Monitoring of sediment accumulation at Stulwane has clearly demonstrated the value of brushpacks in retaining sediment within the system rather than allowing it to be removed. The first brushpacks at the demonstration site have a total length of 88 m and had captured a total of 4.89 cubic metres of sediment by end January 2023 (See Appendix 2 for more detail).



Figure 58: Photographs depicting the measurements used to calculate the volume of sediment collected

Sediment measurements at AmaSwazi

Based on measurements taken at 10 sites across a total of 68 brushpacks with a total length of 1289 m, and an average accumulation of sediment of 0.045 m³/m, the total amount of sediment retained by the restoration was 58 m³, as shown in Table 10.

Table 10: Summary of sediment-related values

Total distance of brushpacks	1 289	m
Average sediment accumulated	0,045	m ³ /m
Total amount of sediment	58	m ³

2.6 Other activities

2.6.1 PepsiCo site visit

Representatives from the Sustainability division at PepsiCo, namely Paul Collingridge and Sean Power, as well as staff from WWF visited Stulwane and AmaSwazi the day before the stakeholder workshop in May 2023. This was an opportunity to show the activities that have been supported through their funding, while also talking about ways to enhance their sustainability. An example that was discussed was the possibility of introducing perennial food and fodder crops into the restored areas as a means of encouraging ongoing maintenance of the interventions. This could include planting fodder crops on top of ditches filled with used disposable nappies, since this is a problem encountered in many rural communities where they are generally discarded into streams and gullies due to the lack of waste management services. This is also seen as a means of encouraging ongoing maintenance of the interventions by local households that can benefit from the produce.



Figure 59: Samir Randera-Rees from WWF provided an overview of the programme and the efforts to sustain Strategic Water Source Areas (Photo: Kirsten Oliver).

3 LESSONS LEARNT AND RECOMMENDATIONS

Some of the challenges that have been encountered during this reporting period are summarised here:

- Threat of fire that could destroy the restoration interventions has emerged and the teams at both sites took steps to burn fire breaks that will reduce the risk. Burning of fire breaks is itself a risk, which is why a suitably trained and equipped team was brought in to burn the breaks at AmaSwazi before the close of the fire season.
- There were some problems with livestock damaging brushpacks and grazing revegetation. At Stulwane, the demonstration site was fenced to protect the investment in the restoration interventions as well as the run-off plots. At AmaSwazi, this was not possible and the best option will be for brushwood to be scattered over the revegetated areas to discourage livestock.
- It is not always easy to identify sites for restoration work as many of the sites identified on Google Earth, or identified by community members are too degraded for the brush packs to be an effective intervention.
- Sometimes the sites that are identified as suitable are not located in close proximity to where there is wattle that the teams have permission to clear and this requires that the cut brush be transported to the restoration site, which has an associated cost.
- The very steep areas being restored require a lot of brushpacks as they need to be placed at fairly vertical height intervals.
- From a livelihood perspective, the team members would have preferred to be appointed for the full month rather than for 10 days per month however the budget did not allow for this and the decision was taken to stretch it over a longer period rather than halving the contract period.
- The process of identifying areas for clearing and then being able to select areas for restoration required that the team supervisor engaged effectively with both the Traditional Authority as well as members of the community.
- It is interesting to note that there were multiple cases where community members approached the team supervisor with suggestions of degraded areas requiring intervention. This demonstrated awareness of the effectiveness of the interventions as well as concern about how existing gullies are expanding and deepening. However,

some of the areas identified were just too badly eroded to allow for the restoration teams to get involved.

- The team has combined old and new knowledge about controlling erosion and in some areas where the ground was too hard to install brushpacks they combined them with stonelines.

4 CONCLUSION

This project, which focused on establishing a multi-stakeholder partnership in the Northern Drakensberg SWSA, with a focus on the upper uThukela Catchment, led to the formation of the Northern Drakensberg Collaborative. While the partnership is still being formalized, the participation of a range of stakeholders in the most recent event in Bergville in March 2024 clearly demonstrates that they see value in participating. Furthermore, the number of stakeholders that requested to be included in the agenda to share information shows that the NDC is a useful platform for sharing and learning.

In terms of the restoration work, many practical lessons were learnt for the project team as well as the NDC members. They have demonstrated that brushpacks both reduce run-off and allow for the accumulation of sediment that would otherwise be transported from the environment and deposited in rivers.

The partners have undertaken to work towards holding a face-to-face event in June 2024, which is beyond the timeframe of the project. A number of organisations including WWF have committed to resource the event, which shows commitment and buy-in.

Acknowledgement

The INR acknowledges WWF-SA and PepsiCo for supporting the establishment of the Northern Drakensberg Collaborative and for associated activities.