

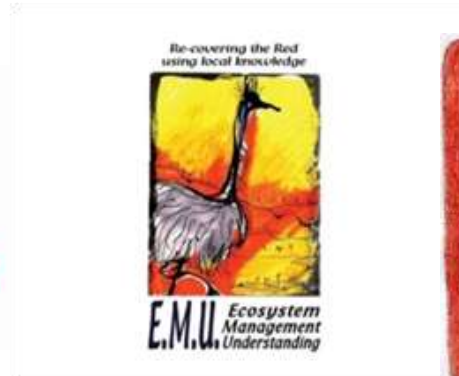
From protecting graves to rehydrating a well and springs:

EMU Rangeland Rehydration at Ombosapamue Community, NW Namibia

Professor Hugh Pringle with the Ombosapamue and Kaoko Otavi Communities

Ecosystem Management Understanding (EMU) and the University of Namibia

18th January 2026



Australian High Commission
South Africa

**Australian
Aid** 



1: Initial engagement and works

Ombosapamue is the latest of communities to engage in EMU Rangeland Rehydration in the Namibian Communal Area (NCA) of Kunene. The project started in 2012 under SASSCAL1 as a Polytechnic of Namibia project with four Grazing Area communities. It now services over a dozen communities.

For generations the Ombosapamue Chiefs and community lived in the restoration area but moved to other nearby sites when drought and water became a problem.

Ombosapamue then split into two related sub-communities; Otjihaka and Otjitapati. They used the well as their main water source until at least 30 years ago when it went dry, along with the adjacent springs. In 2006, a bore and tank were funded by the community to avoid the long trek to Kaoko Otavi to get water (about 8km from Otjihaka and 11Km from Otjitapati). Apparently the well sufficed until it went dry. The occasional spring flows are small and readily consumed by baboons.



The dry well in February this year (2025)

I was first asked by a young man attending a Rangeland Rehydration training course I ran at nearby Kaoko Otavi, and he asked if I could come and inspect a gully head that was already eroding graves of predecessors. I visited the area in February this year after looking at the area with remote sensing and we made a plan to calm an aggressive gully flowing onto the plain where the graves were being eroded. Two days later we got stuck in and built some pacifier filters in the gully above and then three long diversion filters were emplaced above the gully head eating laterally into the graves. One grave had also

been moved after it was starting to be cut into. We built diversion filters to steer flows back to the center of the gully head, away from the graves near the side of the gully head.



The moved grave that was being eroded; it is still not safe

On the way to the grave site, I was shown the long dried out well and springs and that had me thinking that gullying might also explain this water challenge and the collapse of the original habitation. When I suggested this possible cause to those participating in the training, they were politely sceptical but wanted to protect the graves. Thus, they happily set up filters in the donga above the graves plain. For me it was a win-win. The long filters immediately above the gully head threatening the graves would not withstand storm flows from the gullies above.



Headman Kahango addresses the working team about the importance of the project while his brother, Chief Kavari listens (left)



The working team of Rangeland Rehydrators and the cooks



The top filter of three above the gully head threatening the graves. All three are planned to divert flow to an already totally eroded, rocky channel at the base of the hill



A hearty lunch before work resumed

2: Repairs and further surveying

When I returned to Namibia in July 2025, I was keen to hear how the graves work had functioned and if the well and spring had also responded. An Ombosapamue participant told me that the well was now being used again, and livestock and wildlife were using the springs again. I was at Kaoko Otavi to review the training work there, but he saw me and joined us. It seemed too good to be true, but the guy also said that the community thought I was crazy in thinking that we could rehydrate the well and springs. They now want to do more work to manage groundwater and rejuvenate springs.

I finally got to see the well and springs and was blown away by the rehydration. The well had a lot of water and was being used again with a rope and bucket system after the hand pump's pipe went missing years ago. I saw the harsh dry kalk landscape of February now with interconnected ponds and running springs. But most of all, the volume of diverse bird singing compared to the eerily quiet visit in February reconfirmed that water is life. It was one of the best moments in my Rangeland Rehydration work journey in Namibia.



The once dry well is at ground level and used daily by Otjitapati community...a short walk rather than to Kaoko Otavi. The challenge is to build on our success in recharging the aquifer so that water persists throughout the dry season.



Springs flowing again and filling natural and man-made ponds. The wildlife has bounced back remarkably, but we don't know how less mobile groups of species have fared and how various predators will respond to a rejuvenated food web.

We assessed and then planned the repairs and reinforcement works with the community “champions”. Apparently, the filters functioned wonderfully until the last storms, which were huge and from the deposits of loads of large stones, the filters obviously withstood most of the onslaught. Then a small breach occurred in the top, wide filter and the other two gave way under the onslaught of all the water previously pacified by the top filter and now only flowing fast through that narrow breach. We therefore put a priority on making our pacifier filters upslope in the donga/gully more durable and less challenging to extraordinary flows. We can't work on the basis of repairing projects regularly, particularly as we move towards community self-funding.



The repaired and fortified narrow breach in the top filter that had a domino affect on the two lower filters



An additional pacifier filter between the top two filters

At Chief Kavari's suggestion after some discussion, I went across to another donga/gully that was difficult to cross to get to the graves' site. I found evidence of past springs and pools and some remaining hydromorphic sedges. It also flows to the well area, so I marked out a new project along it, based above and below where elephants had knocked over a massive tree – almost to my instruction as to precise placement – and left it alive and enduring.



The tree expertly knocked down by an elephant



Hydromorphic sedges strongly suggest that this was once a groundwater wetland and may be why the original Ombosapamue community settled here. Walking back to the campsite along the now terraced interfluvium between this and the treatment gully, I saw large, dead sedge butts. This is a truly transformed landscape.

I momentarily dreamt about training elephants because CATs are way too expensive to do the same job! Heavy machinery is so expensive but the easiest way to overcome deep, unnatural channels is with major flow sieve filters. We just thank the elephant that gave us a control point from which to work above and below. In Australia, I would have suggested using cut old drill rods from mining exploration to form a series of upturned rake filters, but I struggle to find a source of drill rods or posts and a machine to drill the holes beforehand. We have done this very successfully in Western Australia and New South Wales. There are always several ways to achieve a carefully assessed

outcome and local innovation and adaptation are critical in using the EMU toolbox and developing new tools.

3: Treating the “elephant gully” in August 2025

In August 2025 we held a training course between Kaoko Otavi and Ombosapamue and spent a whole day with a very strong attendance installing the already surveyed filters and extending them down the gully to include sections of the old watercourse that obviously once had functioning springs and a shallow water table.

We built 28 strong filters using mostly encroaching bush species such as mopane. This was one more filter than was built in the adjacent, original system (and not counting the elephant’s good work). This was a huge amount of work by a very committed local community now convinced that the well and springs were salvageable. It was unusually hot and the cooks were hit by a dust storm as they were about to serve us lunch. They adapted quickly and we ate lovely natural, African food.

But how long could the well and springs last into the dry season? That is what really matters in an arid zone, where water is life and water dependent species form a critical part of complex food webs.

4: Post dry season inspection January 2026

We returned to inspect all of the works on the 16th January 2026, starting at the original treated gully and then assessing the most recent works. From a metre high litter line, there had obviously been a major storm flow to test our works. We have clearly learnt and improved because no major filters need any repair and the only two that blew out were not meant to be built.

We would have struggled to convince the community that the filtering is worthwhile if we then had to do major repairs...again! So despite serious storm testing, our works held magnificently. Additionally, the filters we put in to avoid undercutting of the graves now clearly divert water away from that gully edge.

Inspecting the newly treated gully, I noticed pools of water despite it being over a week since showers and hot temperatures since. This spring has started working again and the adjacent hydromorphic sedges could not be healthier. The water table and aquifer are recovering despite a poor start to the season compared to adjacent Kaoko Otavi. I felt optimistic about the well and adjacent springs, which we would visit on the way back.

The well’s water was at ground level and my two team members said that the water was “very sweet”. Only one major spring had lasted the dry season and while the birds were not as vociferous as before, there were many. Clearly wildlife was using the spring and its lower pool. There is now a large resident group of squirrels and baboons are clearly

using the water. Given the poor, but violent start to the rainy season, we are hoping for more springs to start functioning and to last longer -if not throughout- the next dry season.

The Ombosapamue community say that God sent me to help them. I just think that I came to them with an open mind and a few ideas that they found useful.

Throughout the works we only harvested parts of invasive trees and avoided all protected species.

Acknowledging those locals who made this possible and the challenge ahead

The communities from hosts Kaoka Otavi and Ombosapamue are thanked as well as trainees from four other communities. We did a huge amount of work involving very different parts of the Rangeland Rehydration toolbox and one of our champions developed a new one which we will assess. In particular Chief Gerson Kavari and Headman Jonas Kahango enthused the participants and implored them to respect the works and not steal the wires or take branches for firewood.

Successes like this and the community response really recharges enthusiasm for the EMU Rangeland Rehydration approach.

These graves are safe for as long as the filters hold. But the filters will degrade over time and need maintenance. If filters are allowed to degrade without maintenance and repair, the well and springs may dry out and the graves may be vulnerable to erosion again. Earthworks and other technically advanced solutions are very expensive and in all we did a week of actual hands-on work. I suggest to the committed community leaders and energetic younger generation that a week of maintenance and repairs every few years is a viable strategy, informed by periodic surveillance to detect storm damage.

Acknowledgements to enablers of the project as a whole

This work was funded by the Australian Government's Direct Aid Programme based at the Australian High Commission in Pretoria, South Africa in this case and hosted by Zakumuka Producers Co-operative with support from the Namibian National Farmers Union. I thank my mentor Dr Ken Tinley (DSc.) for making me understand that science should nurture and not lead local innovation. I also thank Mr Kuniberth Shamathe, CEO of NNFU for getting our work we did together during SASSCAL1 (pre Covid) refunded in EDF11 and therefore enabling this current phase of the EMU Rangeland Rehydration journey in NCA Kunene funded by the Australian High Commission in Pretoria. Finally, I acknowledge the time, effort and resources the University of Namibia has put into getting me a working visa and welcoming me into their team.