

PLAN TO REHABILITATE WIND-PUMPS IN NKONKOBÉ LOCAL MUNICIPALITY, EASTERN CAPE

eDikeni Water Users Association and ARDRI, UFH

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Introduction

Within the former Ciskei parts of Nkonkobe Local Municipality there are numerous boreholes fitted with wind-pumps or engines. These boreholes used to be an important source of water for livestock, for gardens, and sometimes even for domestic use. However, at present most of these wind-pumps and engines are in disrepair, or are absent, mainly because when government introduced piped water for domestic use, it discontinued maintenance to these boreholes.

In 2013 the eDikeni Water Users Association appealed to the Department of Water Affairs for help. Later that year, DWA sent technicians to examine some of the boreholes. The technicians visited 18 boreholes within a relatively small part of the Alice area, and determined that 13 were ‘worthy of repairs’. Of these, 10 were fitted with wind-pumps, and the other 3 formerly had diesel or electricity-powered pumps. DWA compiled a report, and indicated that they would later continue the assessment (because their initial assessment was not detailed enough to determine exactly what repairs were necessary), with the idea of eventually undertaking or organising the required repair work.

Typical non-functioning wind-pump in Nkonkobe Local Municipality



Unfortunately, DWA never managed to return, despite repeated requests from eDikeni WUA and the Nkonkobe Farmers Association (NFA). In 2015, the Farmers Association therefore went ahead, with support from ARDRI of the University of Fort Hare, in order to make a

detailed estimate of rehabilitating these boreholes. Nine boreholes were assessed, all of which were wind-pump boreholes. Of these 9, 8 were from the list of 13 boreholes that DWA earlier regarded as ‘worthy of repairs’, and one was in an area that DWA did not visit. The reason for not returning to all 13 boreholes that DWA had identified as worthy of repairs is that the local expert hired by NFA/ARDRI mainly had expertise in rehabilitating wind-pumps; also, one of the 13 boreholes had subsequently been vandalised to a point where it was no longer repairable. The total cost of this assessment exercise was approximately R4500.

Assessing the repair needs of the wind-pumps



Overview of the cost estimates

The hired expert visited the 9 boreholes/wind-pumps in July and August 2015, and made detailed notes as to what kinds of repairs would be required. In September, the NFA and ARDRI accompanied the expert to East London in order to establish the costs of all of the parts that would be required to repair each of the 9 wind-pumps. The expert also estimated the labour costs associated with the repairs.

This resulted in an estimate for the rehabilitation of each of the 9 wind-pumps, as shown in the table below. The overall cost for rehabilitating the wind-pumps comes to R378 538, of which R288 388 is for parts and R90 200 is for labour. Additional costs would include transport of parts from East London, local transport during the repair process, and a management fee, making for a grand total cost of R458 632.

	Parts	Labour	Sum
Roxeni 1	21 731	7 000	28 731
Roxeni 2	17 248	8 000	25 248
Gwabeni 1	10 068	11 500	21 568
Gwabeni 2	10 068	12 700	22 768

Nkobonkobo 1	7 834	5 500	13 334
Nkobonkobo 2	45 898	8 500	54 398
Memela	51 155	7 500	58 655
Pumlani	67 851	11 500	79 351
Msobomvu	56 485	18 000	74 485
Sub-total	288 338	90 200	378 538
Transport of parts from EL			6 000
Local transport			32 400
Total excl management			416 938
Management (10%)			41 694
Grand total			458 632

Conclusion

The eDikeni WUA is eager to see these 9 wind-pumps rehabilitated as soon as possible, however it would also like to stress that there are many other wind-pumps in Nkonkobe that need attention, as well as boreholes that were formerly operated with diesel or electricity-powered pumps. The WUA would like support in order to estimate the costs of the repair and/or replacement of borehole infrastructure across the rest of Nkonkobe Local Municipality in terms of developing a fully-fledged borehole recovery programme.

