



Osiligi Charity Projects

Repair of broken hand pumps in Kenya

FF 698

Interim Report, 25th July 2024

Donor:	Fondation Eagle
Date of grant acceptance:	6 th December 2023
Amount granted:	£60,000
Average Exchange rate:	170 KES/GBP (exchanged monthly)
Number of beneficiaries:	74040 people
Location:	Southern Kenya
Period of project:	1 st January 2024 to 30 th June 2024

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1. Executive Summary

This report outlines the progress made from January to June 2024 by the Osiligi Charity Kenyan team in restoring hand-pumps in the rural district regions of Kenya. During this time, the team has restored 184 hand-pumps across 9 counties of Kenya as a result of Eagle Foundation funding, providing access to water to around 74,000 people. The results indicate that the annual 2024 goal of 200-250 hand-pumps repaired using EF funding will be significantly surpassed. Despite the rising cost of materials and transport, the average cost of a repair was around 40p per person.

2. Introduction

The aim of the project is to continue to repair and restore non-functional hand-pumps that provide access to ground water to the rural communities of Kenya. The Osiligi charity has restored over 2600 hand-pumps since 2015. However there are still many more to be repaired – probably in excess of 3000 – and each year many pumps break down. The cost of repairing a broken pump is about 20 times lower than that the cost of digging a new well, so it is a very cost-effective activity.

By the end of 2023, the Eagle Foundation (EF) had supported the Osiligi charity for 5 years, resulting in the repair of 1075 pumps, benefiting around 340,000 people. The aim for 2024 was to repair a further 200-250 pumps with EF funding. This report outlines the progress achieved from January 1st until June 30th 2024.

The Osiligi UK management team, and the team of 7 Kenyan water engineers who oversee the pump repairs, all work as volunteers. The charity does not pay the engineers a salary; however, the charity does contribute a small amount towards their education or the education of their children.

Repairing hand pumps consists of the following steps:

- Locate broken pumps
- Ask the community to appoint a caretaker
- Repair the pump with the help of the caretaker
- Train the caretaker on basic repairs
- Train the community how to generate a water economy from the pump (to pay for future repairs)
- Record keeping and follow up.

Rather than just repairing the broken pumps, it is paramount in each project that the charity gives the local community the resources (spares, knowledge and engineer contact details) so that they can perform their own basic repairs and maintenance in order to keep their pumps working for many years to come.

3. Identification and locations of broken pumps

To locate the broken pumps, our team of Kenyan engineers work closely with local authorities, MPs, and word of mouth from the communities. Once identified, getting to site can be quite a challenge, often having to resort to getting out of the car and walking to the last stage.

During 2024, the EF-funded pump repairs have so far taken place in 9 counties of south and south-west Kenya (Figure 1). Each engineer is responsible for covering one or more regions. Figure 2 shows the number of EF-funded pump repairs undertaken in each county during the first half of 2024. In total, **184 pumps** were restored during this period as a result of EF funding.

Figure 1: The red arrows denote the 9 (of 47) Kenyan counties where pumps repairs took place during 1H 2024.

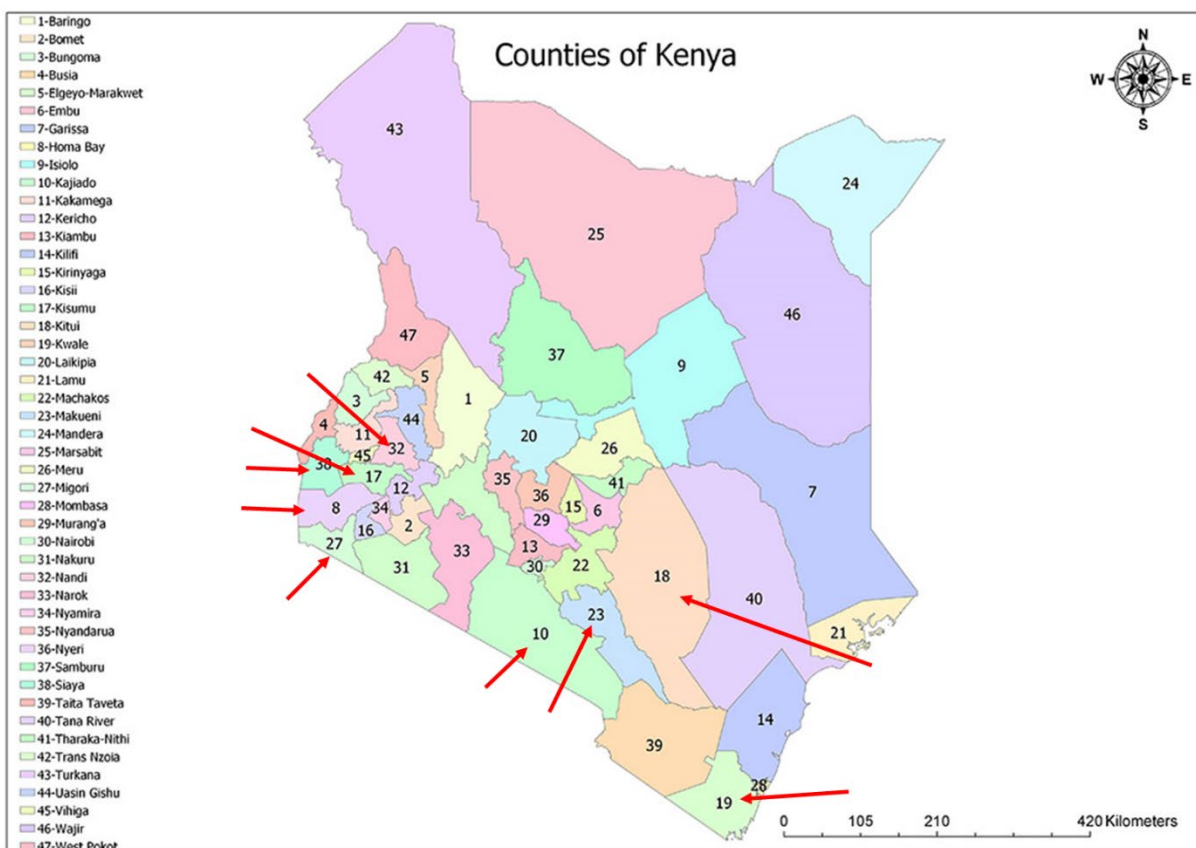
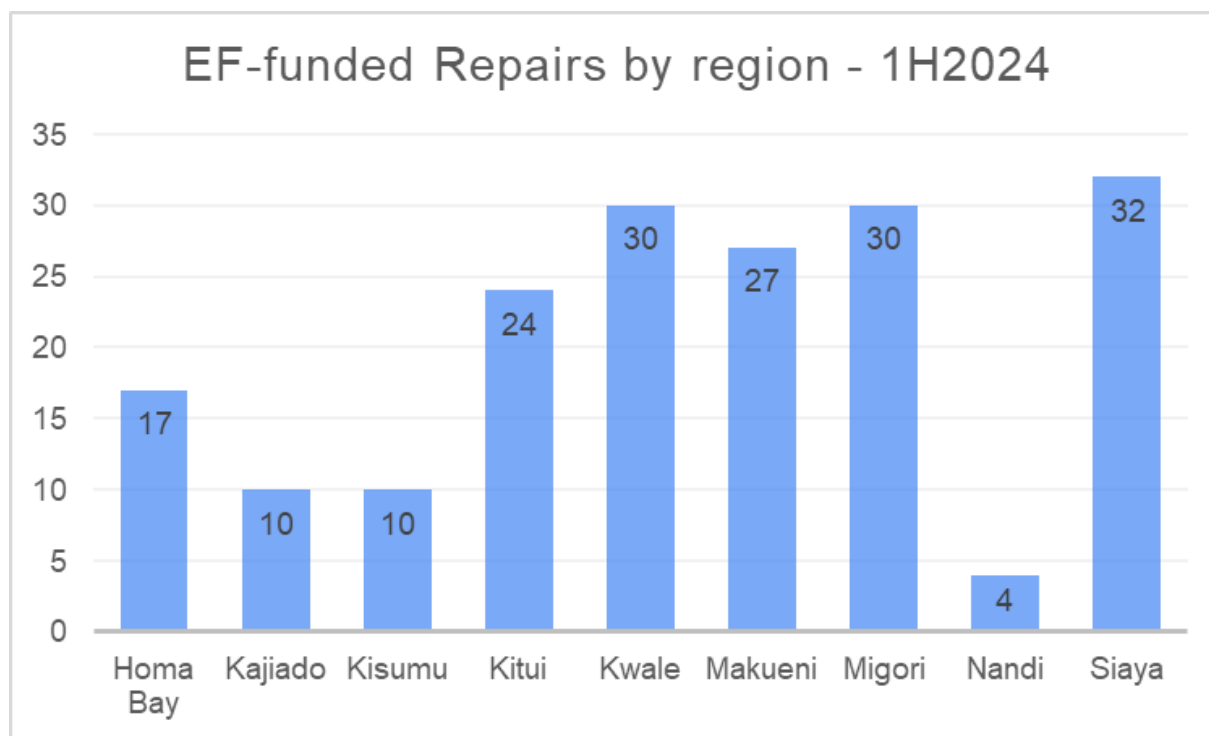


Figure 2: EF-funded repairs during 1H 2024 by location

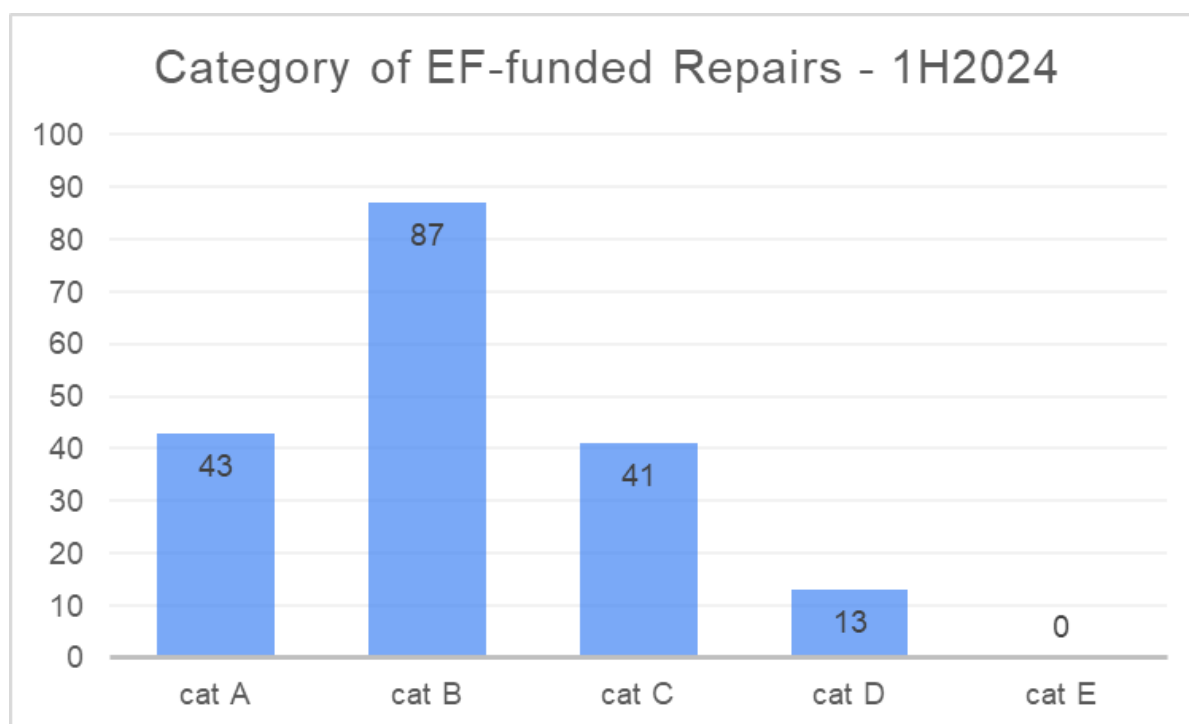
4. Pump repairs

While we can repair any type of hand-pump, we concentrate on Afridev hand pumps as, once repaired, the caretaker can make simple repairs without the need of a winch. He/she is also trained in basic periodic maintenance and operation management due to the conditions imposed by the environment and how a community uses their pump.

There are 5 categories of repair; A to E. Category A is a basic repair where the parts cost less than 5,000Ksh (£27). B will require a more extensive repair where more parts are needed up to a cost of 25,000Ksh (£136). A repairs and B repairs can be carried out by the community if they are available to receive training. Category C is a more extensive repair where risers and rods may have to be replaced, and these costs can be up to 50,000Ksh (£272). D is where the installation of a new pump is required should the old one be beyond economic repair. E are where additional resources are needed for the repair, such as having to employ a contractor to fish out broken pipes, flush a borehole, broken or damaged plinths, or any civil works. These costs do not include the transport of materials and people to site, any accommodation and meals.

Figure 3 shows that the vast majority of EF-funded repairs in 1H 2024 fell into categories A-C.

Figure 3: Shows EF-funded repairs by category of repair.



As noted above, a total of 184 pumps were repaired in the first half of 2024 as a result of EF funding. These repairs have resulted in the provision of clean water to 74,000 people. Therefore, the average number of beneficiaries per pump repair was 402 (Appendix 1).

The average cost per beneficiary during the first half of 2024 was 40p. This is slightly lower than average cost of 45p in 2023 (Appendix 1).

By the end of June 2024, there remained £314 in GBP and 1,711,201 KES (approximately £10,000), which is carried forward into the second half of 2024. The carry forward is mainly due to 1,308,096 KES brought forward from 2023 (with Eagle Foundation approval). In the second half of 2024, a larger budget will be distributed to each Osiligi engineer on a monthly basis, which will enable the repair of an even higher number of hand-pumps per month than during the first half of 2024. Appendix 3 shows how the funding was spent across different categories as compared to the estimated breakdown in the grant application.

5. Data collection and verification

Data is collected on every pump repaired, and this includes the following information: the date of repair, category of pump repair, the type of repair, type of pump, population served, the number of homes, the county, the village and pump name, exact location (latitude and longitude), whether the borehole is registered and community certificated, photographs, what is the alternative source (cost and distance), the depth and water column, and training. Importantly two caretakers are identified for each pump repair, and their names and phone numbers are also recorded, which allows the pump repair to be verified and followed up (see below).

All this information is submitted by each Osiligi engineer on each of their repairs and is automatically collated onto a spreadsheet. Appendix 2 shows the data collected from a typical month.

At the end of every month, one member of our team has the responsibility to call a caretaker for each pump repaired in the preceding month. This is to verify that the pump is still working. In addition, it is the responsibility of each Kenyan engineer to post photos, with GPS coordinates, onto the Osiligi WhatsApp group. These are also verified by the above team member.

In March 2023, Eric McKinnon (UK-based), who manages the Kenyan repair team, was able to spend 2.5 months in Kenya auditing a representative set of pump repairs undertaken by the Osiligi charity in 2022. All pumps audited were all found to be in good working order. The next audit will likely take place in 2025.

Appendix 1: EF-funded pump repairs 1H 2024

Date	Donations (KES)	Money Used (KES)	By month			Cumulative for 2024		
			Pumps	No. of Users	Cost per user (KES)	Pumps	Users helped	Average cost per
January 2024								
Eagle Foundation (£5,041.02 GBP)	950,000							
Brought forward (from 2023)	1,308,096							
Pump repairs		770,740	34	12395	69	34	12395	69
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,258,096	853,740						
C/F		1,404,356						
February 2024								
Eagle Foundation (£5,164.83 GBP)	940,000							
Brought forward	1,404,356							
Pump repairs		664,005	33	12792	58	67	25187	64
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,344,356	747,005						
C/F		1,597,351						
March 2024								
Eagle Foundation (£4676.73 GBP)	810,000							
Brought forward	1,597,351							
Pump repairs		627,150	27	11601	61	94	36788	63
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,407,351	710,150						
C/F		1,697,201						
April 2024								
Eagle Foundation (£5,061.82 GBP)	803,000							
Brought forward	1,697,201							
Pump repairs		655,000	24	11055	67	118	47843	64
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,500,201	738,000						
C/F		1,762,201						
May 2024								
Eagle Foundation (£4861.33 GBP)	772,000							
Brought forward	1,762,201							
Pump repairs		630,000	28	12387	58	146	60230	62
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,534,201	713,000						
C/F		1,821,201						
June 2024								
Eagle Foundation (£4879.90 GBP)	793,000							
Brought forward	1,821,201							
Pump repairs		820,000	38	13810	65	184	74040	63
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,614,201	903,000						
C/F		1,711,201						
Grand total (Jan-June 2024)	6,376,096	4,664,895	184	74040	63	184	74040	63
C/F	+ £314.37	1,711,201						

Appendix 3: Variance of expenditure across categories

	Budget (%)	1H actual (%)*
Accommodation	8	12
Communications	2	0
Contractors	9	28
Food-Drink	8	3
Materials	39	33
Misc	2	3
Transport + Fuel	9	12
People transport	3	0
Education Budget	12	10
Administration	5	0
Audit	3	0
Total	100	100
*on receipted expenses		

Appendix 4: Photographs of typical pump repairs

A pump repaired in Kisumu County



A child jumping for joy after an Osiligi/EF repair



A pump repaired in Makueni County

