



# Osiligi Charity Projects

## Repair of broken hand pumps in Kenya

**FF 698**

Final Report, 26<sup>th</sup> February 2025

Donor:	Fondation Eagle
Date of grant acceptance:	6 <sup>th</sup> December 2023
Amount granted:	£60,000
Average Exchange rate:	167 KES/GBP (exchanged monthly)
Number of beneficiaries:	145239 people
Location:	Southern Kenya
Period of project:	1 <sup>st</sup> January 2024 to 31st December 2024

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## 1. Executive Summary

This report outlines the progress made from January to December 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 379 hand-pumps across 9 counties of Kenya as a result of Eagle Foundation funding, providing access to water to around 145,000 people.

The results show that the annual 2024 goal of 200-250 hand-pumps repaired using EF funding has been significantly surpassed. Despite the rising cost of materials and transport, the average cost of a repair was around 42p per person.

## 2. Introduction

The aim of the project was 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 actual achievements made from January 1st until December 31st 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

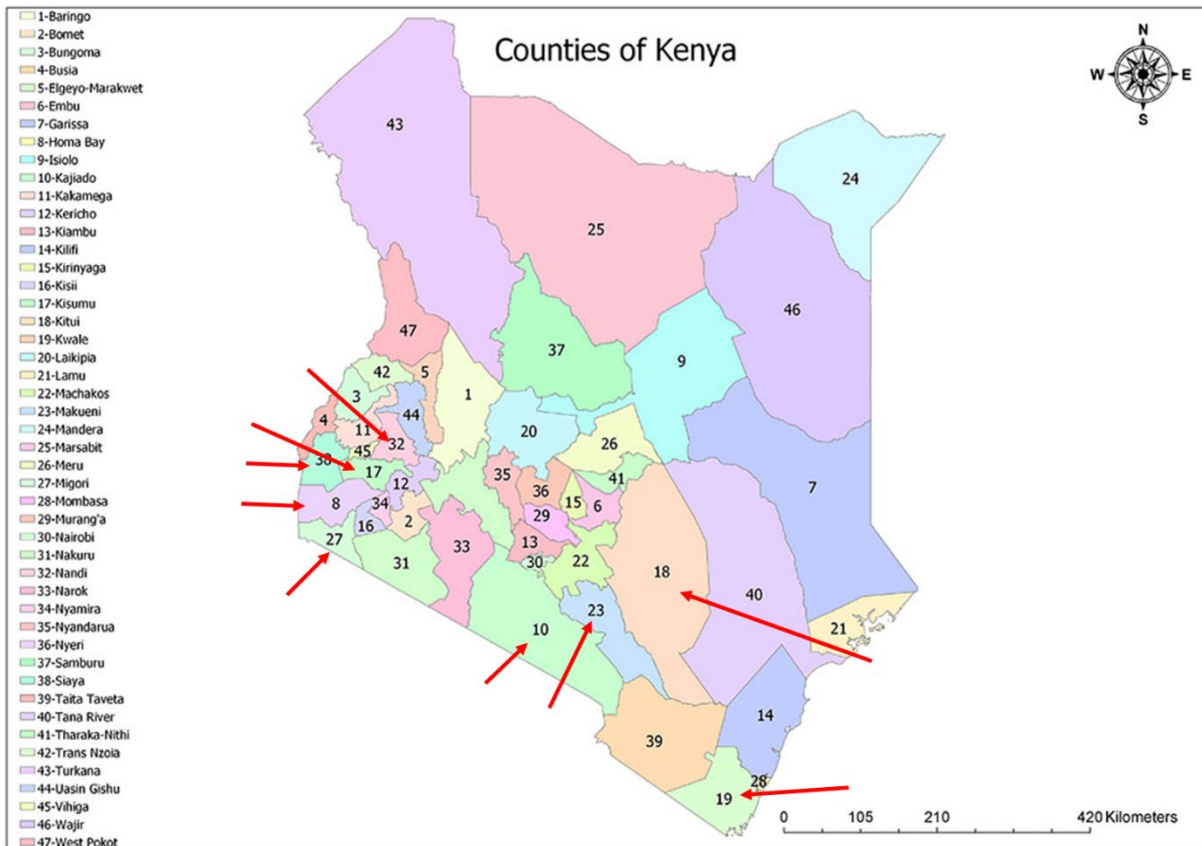
contact details) so that they can perform their own basic repairs and maintenance in order to keep their pumps working for many years to come.

### 3. Identification and locations of broken pumps

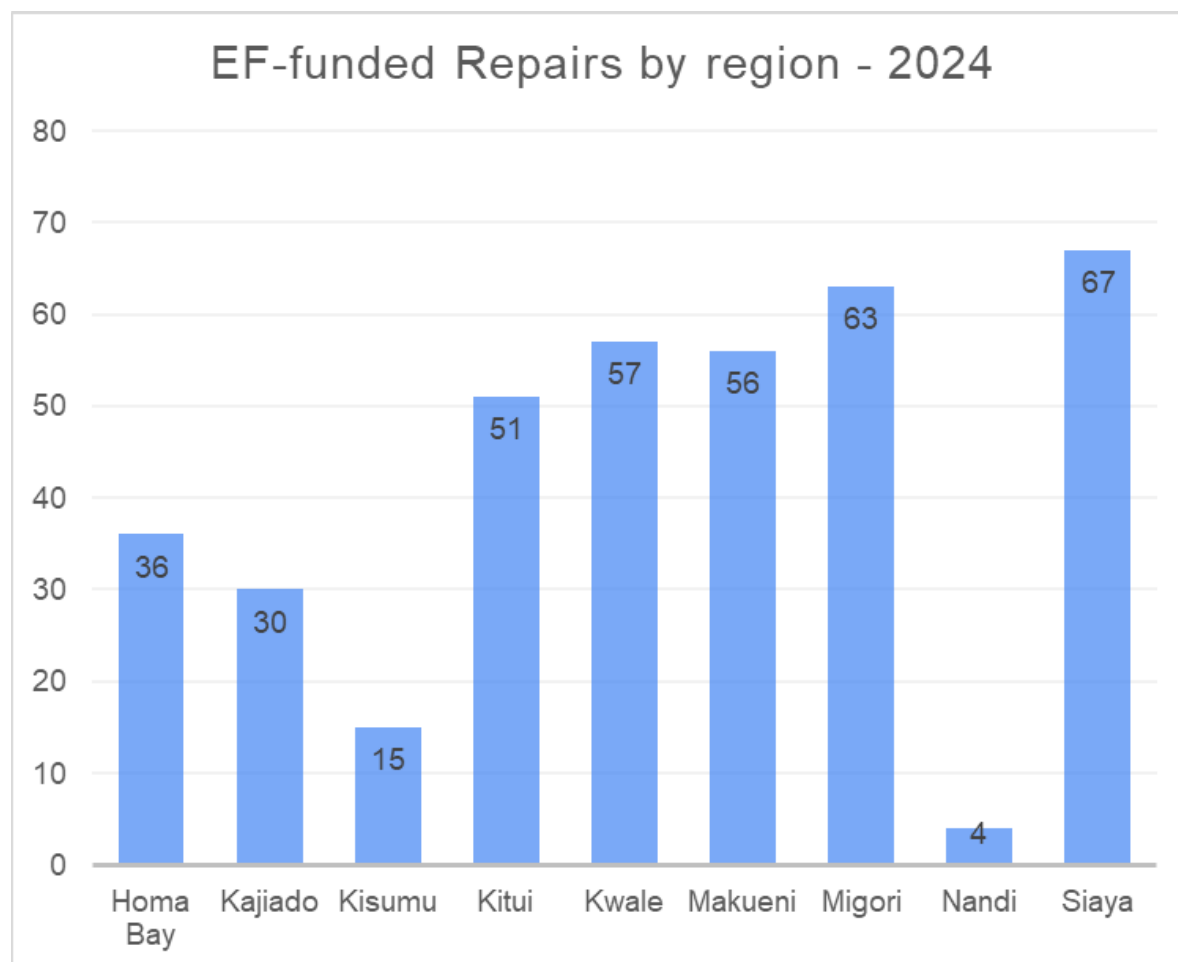
To locate the broken pumps, our team of Kenyan engineers work closely with local authorities, MPs, and word of mouth from the communities. Once identified, getting to site can be quite a challenge, often having to resort to getting out of the car and walking to the last stage.

During 2024, the EF-funded pump repairs took 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 2024. In total, **379 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 2024.



**Figure 2:** EF-funded repairs during 2024 by location



#### 4. Pump repairs

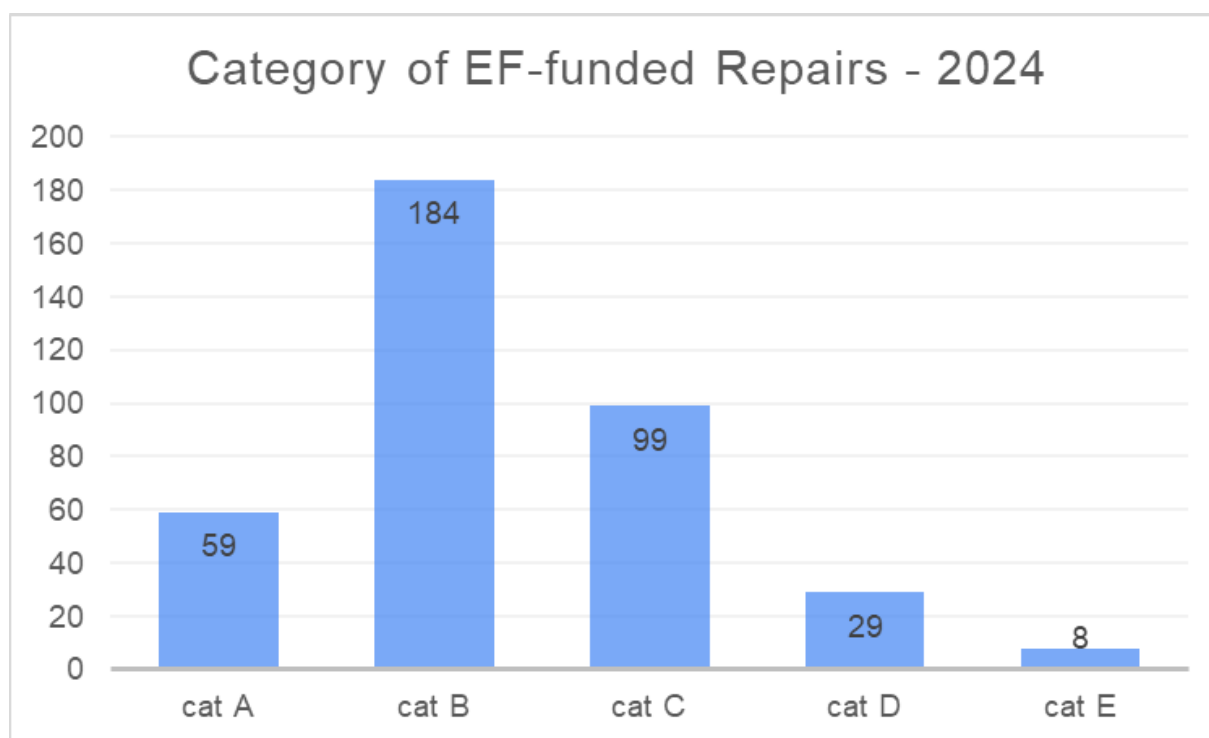
While we can repair any type of hand-pump, we concentrate on Afridev hand pumps as, once repaired, the caretaker can make simple repairs without the need of a winch. He/she is also trained in basic periodic maintenance and operation management due to the conditions imposed by the environment and how 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 2024 fell into categories A-C.

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



As noted above, a total of 379 pumps were repaired in 2024 as a result of EF funding. These repairs have resulted in the provision of clean water to 145,000 people. Therefore, the average number of beneficiaries per pump repair was 383 (Appendix 1).

The average cost per beneficiary during 2024 was 42p. This is slightly lower than average cost of 45p in 2023 (Appendix 1).

By the end of June 2024, there remained £0 in GBP and 1,177,879 KES (approximately £7,000), which is carried forward into 2025. The carry forward is mainly due to 1,308,096 KES brought forward from 2023 (with Eagle Foundation approval). This carry-forward is therefore reducing in size, and we aim to clear this fully by the end of 2025.

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.

No physical in-country audit was conducted in 2024, following a comprehensive 2.5 month audit by Eric McKinnon (UK-based) in 2023, which showed that all pumps audited were in good working order. It is hoped that the next physical audit will take place in late 2025.

## Appendix 1: EF-funded pump repairs 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						



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
July 2024								
Eagle Foundation (£4860.36 GBP)	795,000							
Brought forward	1,711,201							
Pump repairs		787,000	30	11594	75	214	85634	65
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,506,201	870,000						
C/F		1,636,201						
August 2024								
Eagle Foundation (£5702.01 GBP)	918,000							
Brought forward	1,636,201							
Pump repairs		805,000	28	9561	93	242	95195	67
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,554,201	888,000						
C/F		1,666,201						
September 2024								
Eagle Foundation (£4932.96 + £333.7)	873,000							
Brought forward	1,666,201							
Pump repairs		850,000	31	11379	87	273	106574	70
Education budget		80,000						
Admin (computer purchase)*		55,000						
Bank charges		3,000						
Sub-total	2,539,201	988,000						
C/F		1,551,201						
October 2024								
Eagle Foundation (£5727.34 GBP)	943,000							
Brought forward	1,551,201							
Pump repairs		840,000	35	12841	72	308	119415	70
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,494,201	923,000						
C/F		1,571,201						
November 2024								
Eagle Foundation (£5735.71 GBP)	923,000							
Brought forward	1,571,201							
Pump repairs		840,000	34	12432	74	342	131847	70
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,494,201	923,000						
C/F		1,571,201						
December 2024								
Eagle Foundation (£3165.44 GBP)	507,678							
Brought forward	1,571,201							
Pump repairs		818,000	37	13392	67	379	145239	70
Education budget		80,000						
Bank charges		3,000						
Sub-total	2,078,879	901,000						
C/F		1,177,879						
Grand total (Jan-Dec 2024)	11,335,774	10,157,895	379	145239	70	379	145239	70
C/F	GBP £0	1,177,879						

\*Admin expense: Laptop needed for expense audit volunteer

## Appendix 2: Pump repair record keeping (January 2024 as a representative month)

Timestamp	Name	UK Pump repair date (Categories A - E)	Population (children & Number of Homes)	Type of Repair (parts & County)	District?	Village name:	Pump Name:	Pump Type:	Borehole Registration	Depth of Well/Borehole	Water Column Depth (Alternative source)	Distance of water (km) Cost of water (Ksh)?	Latitude	Longitude:
1/23/2024 17:19:49 PO		11/01/2024 C	210	Change of plungers/Siaya	Unganda	Unganda	Unganda	Abdev	Yes	30m	12m	0.11	0.11	34.171
1/23/2024 17:30:37 PO		11/01/2024 B	321	U seal/Plastic bushes Siaya	Dadra	Dadra	Dadra	Abdev	Yes	27m	8m	0.111	0.111	34.225
1/23/2024 17:54:07 PO		15/01/2024 B	620	Re installation Siaya	Malomba	Malomba	Malomba Primary	Abdev	Yes	45m	34m	0.152	-1.325413	34.63528
1/23/2024 18:27:59 PO		18/01/2024 B	300	U seal/Plastic bushes/Siaya	Sudha	Sudha	Sudha primary school	Abdev	Yes	20m	5m	0.14	-1.315955	34.62657
1/23/2024 18:38:08 PO		19/01/2024 A	234	Replaced 5 rods/U sea Siaya	Boro	Boro	Boro Dispensary	Abdev	Yes	25m	30	0.088	0.088	34.234
1/23/2024 18:44:58 PO		10/01/2024 C	400	13 Cylinder replacement Siaya	Rapeji A	Rapeji A	Rapeji A	Abdev	Yes	23m	4m	0.119	0.119	34.126
1/24/2024 11:24:42 LO		18/01/2024 C	400	25 Footvalve U-seal, /Plu/Mgoni	Kuria East	Mwangara village	Kerobert community hand pump	Abdev	None	50ft	30ft	None	-1.388833	34.587279
1/24/2024 11:40:08 LO		18/01/2024 D	600	30 Complete Cylinder plu/Mgoni	Kuria East	Nyabasi w Senta village, senta	Ac Senta Academy and community	Abdev	None	150ft	100ft	Water harvesting	-1.303237	34.617537
1/24/2024 11:49:06 LO		18/01/2024 B	430 None	Footvalve/plunger, 4 s/Mgoni	Kuria East	Nyabasi w Remanyanki village	Remanyanki primary school	Abdev	None	30ft	20ft	Bottled Water (or other purchased water)	-1.325413	34.63528
1/24/2024 11:54:21 LO		18/01/2024 A	500	35 Foot valve, u-seal, /Mgoni	Kuria East	Nyabasi w Kobaniti village	Kobaniti community hand pump	Abdev	None	40ft	35ft	Standing (paddy)	-1.315955	34.62657
1/24/2024 12:00:48 LO		18/01/2024 A	600	U-seal, a pair of plastic/Mgoni	Kuria East	sub-county Komotobo village	Komotobo mix secondary scho	Abdev	None	35ft	30ft	Bottled Water (or other purchased water)	-1.281567	34.614758
1/24/2024 21:57:48 VO		11/01/2024 A	350	32 /Homa Bay	Ndhwa	Kobonyo	Kobonyo Onyando	Abdev	Yes	120	104	Alternative Pump	1	34.527762
1/24/2024 22:16:33 VO		16/01/2024 A	300	29 /Homa Bay	Ndhwa	Kodendi	Kodendi community water pump	Abdev	Yes	69	63	Alternative Pump	1	34.500707
1/24/2024 22:46:10 VO		22/01/2024 A	250	19 /Homa Bay	Ndhwa	Kawere	Kawere C water pump	Abdev	Yes	120	100	Alternative Pump	0.5	34.436497
1/24/2024 23:07:26 VO		22/01/2024 A	300	29 /Homa Bay	Ndhwa	Masika	Masika primary school water p	Abdev	Yes	60	50	Alternative Pump	1	34.509535
1/28/2024 12:18:19 SK		24/01/2024 B	200	10 Seal, bobbin, plastic bu	Malindu	Soto	Sakimo well	Abdev	Shallow well	23	3	6 Alternative Pump	3	37.888367
1/28/2024 12:33:49 SK		24/01/2024 B	250	15 Seal, plastic bearing, Malu	Malindu	Kyalala	Minda well	Abdev	Shallow well	15	15	7 Alternative Pump	3	37.841688
1/28/2024 12:59:30 DN		28/01/2024 C	400	80 Rods change and bust	Nzambani	Kwa kalondo	Kwa kalondo	Abdev	Well	20	7	River	2	38.009683
1/28/2024 13:00:45 SK		25/01/2024 C	300	15 Additional of iron mar	Malindu	Ulini	Koko well	Abdev	Shallow	25	7	Alternative Pump	3	37.841688
1/28/2024 13:07:43 DN		28/01/2024 C	300	60 Rods and leaking rose	Kangungu	Kangungu	huo well	Abdev	Well	20	6	Alternative Pump	3	38.010951
1/28/2024 13:16:52 SK		27/01/2024 A	300	16 Seal, bobbin, rod cant	Maluani	Nzomo well	Nzomo well	Abdev	Shallow well	20	4	Alternative Pump	3	37.890507
1/28/2024 13:19:53 DN		28/01/2024 C	300	60 Change of fulcrum in	Kitu east	Katakani village	Mwangasa well	Abdev	Well	21	9	Alternative Pump	1	37.899895
1/28/2024 13:33:46 DN		28/01/2024 C	200	40 Leaking rising main fo	Kitu east	Kaweta well	Kaweta well	Abdev	Well	15	2	River	10	38.00342
1/28/2024 13:40:48 DN		28/01/2024 C	300	60 Footvalve two best rod	Kitu east	Mutuni	Unyaa primary school	Abdev	Well	25	9	Alternative Pump	2	37.99744
1/29/2024 12:36:46 EM		28/01/2023 A	300	25 u-seal, rods centralise	Ukunda	Twi Mwachema	Mwachema dugu	Abdev	N/A	24	19	Alternative Pump	2	39.575506
1/29/2024 12:46:05 EM		25/01/2024 A	300	30 Leaking, o-ring, rod c	Ukunda	Twi Chibwaga	Chibwaga	Abdev	N/A	21	15	Alternative Pump	4	39.579953
1/29/2024 12:59:28 EM		25/01/2024 A	250	25 u-seal, bobbin, rod c	Ukunda	Twi Mwachema	Ndugu Pump-1	Abdev	N/A	20	15	Alternative Pump	2	39.579349
1/29/2024 13:10:59 EM		24/01/2024 A	350	28 rod centralisers, s/r	Ukunda	Twi Mwachema	Mwachema 2	Abdev	N/A	18	10	Alternative Pump	2	39.570934
1/29/2024 13:36:41 EM		25/01/2024 B	300	30 Riser, u-seal and bush	Ukunda	Ndugu	Ndugu Pump	Abdev	N/A	18	30	Alternative Pump	1.5	39.581556
1/30/2024 14:09:04 DG		16/01/2024 B	500	100 Replaced cylinder, bu	Kajado South	Entenet	Entenet pump	Abdev	N/A	28	10	Alternative Pump	2	37.429197
1/30/2024 14:27:18 DG		17/01/2024 B	300	60 Changed rusty rods, b	Kajado south	Mauani	Mauani pump	Abdev	N/A	18	2.5	Alternative Pump	1	37.411111
1/30/2024 15:07:02 DG		17/01/2024 B	700	140 Replaced cylinder ass	Kajado south	Mutuni village	Mutuni pump	Abdev	N/A	24	2	Standing (paddy)	2	37.110278
1/30/2024 16:07:28 DG		18/01/2024 B	400	80 Changed foot valve, u	Kajado South	Makutano village	Makutano pump	Abdev	N/A	20	3	Alternative Pump	1	37.526944
1/30/2024 17:03:14 DG		19/01/2024 B	600	120 Changed pipes, rods	Kajado South	Poka village	Poka pump	Abdev	N/A	25	1.8	Alternative Pump	2	37.457111

Location map	Caretaker 1. Name & contact details.	Caretaker 2. Name and cont	Trough provided (photo Training Yes/No (2 per Trainee's (1) Names & Trainee's (2) Names & Savings scheme, Y/N, Savings scheme (chai	Savings scheme (Secre	Savings scheme (Treas	Pre installation photo (Post installation photo including location data
<a href="https://drive.google.com/Maps/Kibhoi-076953327">https://drive.google.com/Maps/Kibhoi-076953327</a>	Eric 0734967947	No	No	No	No	<a href="https://drive.google.com/open?id=1t8BpYV15XhUjNeL_A0gB9">https://drive.google.com/open?id=1t8BpYV15XhUjNeL_A0gB9</a>
<a href="https://drive.google.com/Patronia Awino-0114982801">https://drive.google.com/Patronia Awino-0114982801</a>	Eric 0734967947	No	No	No	No	<a href="https://drive.google.com/open?id=1scH4UzU8B1JUR2CHzX1ga2ke_zk">https://drive.google.com/open?id=1scH4UzU8B1JUR2CHzX1ga2ke_zk</a>
<a href="https://drive.google.com/Toni 0715600603">https://drive.google.com/Toni 0715600603</a>	Peter Odhiambo 0781649810	No	No	No	No	<a href="https://drive.google.com/open?id=1tLLO_Hp4AmH6CgY36m156f9gzy_W7">https://drive.google.com/open?id=1tLLO_Hp4AmH6CgY36m156f9gzy_W7</a>
<a href="https://drive.google.com/David Ndiyo 071757088">https://drive.google.com/David Ndiyo 071757088</a>	Toni 0715600603	No	No	No	No	<a href="https://drive.google.com/open?id=1tY015m6wK0L_h4pR6eG8L6Z63mK">https://drive.google.com/open?id=1tY015m6wK0L_h4pR6eG8L6Z63mK</a>
<a href="https://drive.google.com/Toni 0715600603">https://drive.google.com/Toni 0715600603</a>	Eric 0734967947	No	No	No	No	<a href="https://drive.google.com/open?id=1p6fcG5zxWRO-SHO2D243C7S3u0U">https://drive.google.com/open?id=1p6fcG5zxWRO-SHO2D243C7S3u0U</a>
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<a href="https://drive.google.com/Robert 076453733">https://drive.google.com/Robert 076453733</a>	Charles 0740743901	No	Robert 0726453733	Charles 0740743901	To be formed	<a href="https://drive.google.com/open?id=1H5F5Rw2K313yG2ghn6y3u6d6">https://drive.google.com/open?id=1H5F5Rw2K313yG2ghn6y3u6d6</a>
<a href="https://drive.google.com/Chacha Mariko 0724698826">https://drive.google.com/Chacha Mariko 0724698826</a>	John Nyiriba 0746777584	No	Chacha Mariko 07939, John Nyiriba 0746777584	To be formed		<a href="https://drive.google.com/open?id=1TFA1R4DA8m9TCC2Xh-QULZ4U4_y">https://drive.google.com/open?id=1TFA1R4DA8m9TCC2Xh-QULZ4U4_y</a>
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<a href="https://drive.google.com/Karen Pasi 072168721">https://drive.google.com/Karen Pasi 072168721</a>	Oguta Gordon 0702069655	No	No	No	No	<a href="https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM">https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM</a>
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<a href="https://drive.google.com/Collins0727968064">https://drive.google.com/Collins0727968064</a>	Benta 0707946779	Yes	Collins 0727968064	Benta 0707946779	No	<a href="https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM">https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM</a>
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<a href="https://drive.google.com/Peter 0726984705">https://drive.google.com/Peter 0726984705</a>	Maurice 0724793611	Yes	Peter 0726984705	Maurice 0724793611	No	<a href="https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM">https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM</a>
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<a href="https://drive.google.com/Mr kioko 0713664862">https://drive.google.com/Mr kioko 0713664862</a>	Mrs. kioko 0713664862	No	Mr kioko 0713664862	Mr Benjamin 07059777	None	<a href="https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM">https://drive.google.com/open?id=1Y1u9J9U4H8K7z4P1uag7KCF3mCM</a>
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<a href="https://drive.google.com/Ms Wanjiru">https://drive.google.com/Ms Wanjiru</a>	0717409955	Yes	Yes	N	N/A	N/A
<a href="https://drive.google.com/Ms Grace">https://drive.google.com/Ms Grace</a>	*25479151277	No	No	N	N/A	N/A
<a href="https://drive.google.com/*25470589471">https://drive.google.com/*25470589471</a>	Mr. Mureithi	No	Stan Mureithi	N	N/A	N/A
<a href="https://drive.google.com/*254706089505">https://drive.google.com/*254706089505</a>	Blake Mwangi	No	Blake Mwangi	N	N/A	N/A
<a href="https://drive.google.com/Karen wango">https://drive.google.com/Karen wango</a>	*254 791 693541	No	Yes	Yes	N/A	N/A

### Appendix 3: Variance of expenditure across categories

	Budget (%)	2024 actual (%)*
Accommodation	8	10.4
Communications	2	0.0
Contractors	9	28.4
Food-Drink	8	3.0
Materials	39	32.3
Misc	2	2.4
Transport + Fuel	9	11.9
People transport	3	0.0
Education Budget	12	10.5
Administration	5	1.0
Audit	3	0.0
<b>Total</b>	<b>100</b>	<b>100</b>
*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



