

# Providing a hand UP, not a hand out

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## **Final Report for Foundation Eagle**      Electricity at Kapanda Community Day Secondary School

### **I) Overview**

Donor Name:                      Foundation Eagle  
Project Name:                    RIPPLE Africa – Electricity at Kapanda Community Day Secondary School  
Grant Size:                        £22,764  
Grant Period:                    July - November 2015

### **II) Project Overview**

In Malawi, only 13% of secondary school age children attend secondary school, partly due to the high cost but also because of lack of provision. In Nkhata Bay District, there are just 37 secondary schools and before RIPPLE Africa constructed Kapanda Community Day Secondary School, students in the local area had to walk 13km each way to attend the nearest secondary school.

Kapanda Community Day School has four classes and was formally taken over by the government in 2013. There are currently 202 pupils at the day school - 85 girls and 117 boys - and 241 students attend an Open School which runs for three hours at the end of the normal school day for those in the community who have been unable to receive a secondary education. This could be either because they failed their primary school leaving examination or because their parents were unable to afford the school fees.

The school is run by the Government and there are 10 full-time government employed teachers at the school. Until this grant was received, the school was not connected to mains electricity although some of the buildings had solar powered batteries. RIPPLE Africa were delighted to have received a grant from Foundation Eagle to enable us to connect the school to the national electricity grid to ensure that the power supply is more reliable, allowing pupils to receive the best quality education.

The cost of the project covers the installation of a transformer, cabling, electric lighting and electrical sockets to all classrooms, offices and on site accommodation. The project was delayed slightly because it took several months to obtain a quote from ESCOM and once we started planning, we found that we were able to reduce the size of the transformer needed which reduced the overall price of the project.

### **Progress to Date**

We are delighted to report that work is now complete and photographs below show progress on the project. The start of the project was delayed and work only began in February 2016. However, this delay has enabled us to provide electrical sockets and lighting to all rooms, including the bathroom and toilet areas, in the new Girls Dormitory block during the final phase of building work.

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### **III) Analysis of Money Spent**

Our original cost estimate based on the quotes that we received from ESCOM was as follows:

Cost of laying armoured underground cable	£722
Installation of Transformer	£10,854
Cabling, lights and plugs in Classrooms, Dining / Study Hall and Powerhouse	£2,901
Cabling, lights and plugs in Teachers' houses, Dormitory, Staffroom and Office	£4,815
Overheads and Management Costs	£1,543
Contingency at 10%	£1,929
<b>TOTAL</b>	<b>£22,764</b>

In the end the cost came in at **£20,458**. The underspend of £2,306 was mainly down to the change in exchange rate between the pound and the Malawian Kwacha which was in our favour and meant that when we changed the money, we were able to make it go further. Our original quote was based on the exchange rate of 605 MK to the pound (rate valid September 2015) and when we came to make payments, the exchange rate had changed to 759 MK to the pound. However to a certain extent, this was offset by price increases caused by inflation, which over the period between our bid and the purchase of the materials was 23.5%. This affected some of the spend on cabling etc and we also incurred some additional costs in running electricity to the toilet and bathroom areas of the Girl's Dormitory which had not been built when we originally planned this project.

Annex 1 shows the itemised expenditure for the project. Invoices are available if required.

### **IV) Proposed use of the £2,306 underspend**

We would like to request permission to use the underspend on the installation of plastic roof sheets in all the classrooms. Our classrooms are quite dark, even when the day is bright and sunny as the roofs are tin and we have deliberately constructed overhangs to avoid rain entering the classroom during the rainy season. However, we are now installing clear plastic sheets into our classroom to allow more light to enter the classrooms. We have already done this in the Girls' Dormitory as the last photo below shows and would like to now do this on all our classrooms at Kapanda. The costs are as follows:

Purchase of 20 transparent roof sheets @ 60,000 MK each – 1,200,000 MK	£,1509
Fitting of Roof Sheets @ 15,000 MK per sheet – 300,000 MK	£377
Transport costs	£150
Management and Admin	£270
<b>Total Cost</b>	<b>£2,306</b>

### **V) Successes**

All parts of the school now have electric lights and power sockets and this has enabled the girls to move into the dormitory during their exam revision period and study in the evenings and has also led to the school starting IT and digital literacy classes for the students. RIPPLE Africa volunteers are running computer clubs after school and the school have entered a digital media competition run by the British Council. The school will also now be in a better position to attract high quality teachers.

### **VI) Challenges**

It has been very frustrating working with ESCOM, the government run company who have put in the cabling. There have been delays all along the way, from the initial quotation side until the final installation. However, our Malawian project manager has worked well with them and the project has now been successfully completed.

## **VII) Project's Future After the Funding Period**

Kapanda Community Day Secondary School is now run by the Government. Therefore, the running costs for the electricity are the responsibility of the school and there is no ongoing commitment for RIPPLE Africa to provide additional funding towards this.

## **VIII) Final Thoughts and Thank You**

The teachers and students at Kapanda have all asked us to pass on their thanks to Fondation Eagle for helping RIPPLE Africa to install electricity to their school which they see as a huge benefit. Therefore on behalf of all the those studying or teaching at Kapanda, we would like to say a huge thank you to all at Fondation Eagle for their support.

**TAWONGA UKONGWA!**

## **VIII) Photos**



The new transformer in place



IT lessons are now a popular part of the curriculum



Lights have now been fitted in the bathroom and toilet blocks at the Girls Dormitory





Classrooms are being used after the sun goes down for exam revision



Lights on in the Dormitory



The transparent roof sheets in the dormitory that we would now like to install into all the classrooms

## Itemised Expenditure

Project	Kapanda CDSS Electrical costs – Itemised Costs		
Qty	Description	Total Kwacha	Total £
30	Batten holders	18,715	£23.54
6	Wall glass fittings	5,700	£7.17
40	Electrical PVC pipes	20,000	£25.16
4	10 mm red, black and green wire	112,000	£140.88
1	Distribution board	6,000	£7.55
20	3 x 3 boxes	2,000	£2.52
200	PVC nipples	4,000	£5.03
200	PVC couplings	4,000	£5.03
3	3 x 6 boxes	450	£0.57
2	3" wirenails	2,400	£3.02
50	Round boxes	5,000	£6.29
1	Labour for electrician on piping and wiring	60,000	£75.47
2	1.5mm red and black wire	28,000	£35.22
1	Transformer and other costs to ESCOM	6,566,566	£8,259.83
7	Donkhe pole 60Amps	42,000	£52.83
1	MCLB 150-200 amps	140,000	£176.10
18	16mm cable	18,000	£22.64
90	MB 2,5mm blue, red and green	15,300	£19.25
2	10 amps 30 amps MCB	2,400	£3.02
1	3" iron nails	1,000	£1.26
2	Wall glass fittings	3,000	£3.77
2	2 gang 2 way switch	1,000	£1.26
1	Miscellaneous small items	21,080	£26.52
100	PVC nipples	2,000	£2.52
1	Earth rod	2,500	£3.14
1	1.5mm red and black wire	12,000	£15.09
2	Double sockets	3,000	£3.77
20	3 x 6 boxes	2,000	£2.52
2	3 x 6 boxes	120	£0.15
4	Lamp holders	1,000	£1.26
10	Round boxes	600	£0.75
1	3 phase meter board	12,500	£15.72
1	3 phase double board	12,500	£15.72
1	ELCB	25,000	£31.45
60	10mm cable red and black	48,000	£60.38
55	6mm cable red, black and green	33,000	£41.51
2	Wood screws	2,150	£2.70
25	Electrical PVC pipes	12,500	£15.72
2	Insulation tapes	1,350	£1.70
8	Main switches	28,000	£35.22

1	Transport for electricvian to Chintheche	2,000	£2.52
4	10mm red/black wire	320,000	£402.52
4	1.5mm red and black wire	56,000	£70.44
6	2.5mm red/black/green wire	108,000	£135.85
6	Earth rods	12,000	£15.09
6	D.B. boxes	36,000	£45.28
15	D/Socket	18,000	£22.64
10	2 gang 2 way switch	4,000	£5.03
10	1 gang 1 way switch	3,000	£3.77
30	Lamp holders	7,500	£9.43
16	Wall glass fittings	32,000	£40.25
3	1 x 6 wood screws	1,800	£2.26
12	MCB 30-10amps	14,400	£18.11
1	Outlet	1,500	£1.89
1	Cooker socket	3,000	£3.77
200	PVCsaddles	6,000	£7.55
400	Nipples	12,000	£15.09
600	PVC couplings	12,000	£15.09
10	3 x 3 boxes	1,000	£1.26
30	3 x 6 boxes	4,500	£5.66
100	Round boxes	10,000	£12.58
24	6mm cable red, black and green	14,400	£18.11
50	Round covers	2,500	£3.14
2	1.5mm red	28,000	£35.22
2	10mm green wire	160,000	£201.26
2	3.5mm red wire	37,400	£47.04
40	PVC pipes	20,000	£25.16
1	Transportation of PVC pipes	2,000	£2.52
2	1.5mm green wire	20,000	£25.16
2	1.2mm red/black wire	23,000	£28.93
1	10mm red wire	80,000	£100.63
1	10mm black	80,000	£100.63
3	1.5mm cables	42,000	£52.83
1	2.5mm cables	18,000	£22.64
40	20mm pipes	20,000	£25.16
10	Buton lamp holders	2,500	£3.14
3	1.5mm green wire	45,000	£56.60
2	ELCB	50,000	£62.89
1	Miscellaneous small items	42,500	£53.46
1	Part payment for casual labour	48,000	£60.38
6	60 amps ELCB ( mains switch )	24,000	£30.19
6	1m earth rod	12,000	£15.09
6	Dee iron twin wire holder	16,800	£21.13
6	45/40 amps MCB	15,000	£18.87
6	30 amps MCB	9,000	£11.32
6	5/10 amps MCB	9,000	£11.32
1	Single phase meter board	6,000	£7.55
1	4 way single phase distribution board	4,300	£5.41



36	Double switched sockets	54,000	£67.92
36	1 gangway 1 way switches	18,000	£22.64
12	2 gang switches	8,400	£10.57
54	Butten lampholders/pendants	27,000	£33.96
24	Wallglass fittings	36,000	£45.28
400	PVC saddles	8,000	£10.06
3	30 amps MCB	9,000	£11.32
13	Black PVC cables	182,000	£228.93
13	Red PVC cables	182,000	£228.93
6	2.5mm black cables	90,000	£113.21
6	2.5mm green cables	90,000	£113.21
6	2.5mm red cables	90,000	£113.21
55	20mm PVC pipes	22,000	£27.67
45	10mm armoured underground cable	427,500	£537.74
3	Meter board set	9,000	£11.32
600	20mm PVC couplings	9,000	£11.32
300	20mm PVC Nipples	4,500	£5.66
300	20mm PVC saddles	4,500	£5.66
200	PVC round covers	6,000	£7.55
16	2 gang 2 way switch	8,000	£10.06
36	PVC single sockets	21,600	£27.17
12	Wood screws	7,200	£9.06
36	3 x 3 boxes	2,520	£3.17
100	Round boxes	6,000	£7.55
60	1 gang 1 way switch	27,000	£33.96
1	meter board	2,000	£2.52
2	3" wirenails	1,800	£2.26
4	4" wirenails	3,600	£4.53
60	Butten lampholders/pendants	15,000	£18.87
1	10mm red wire	80,000	£100.63
7	PVC conduit pipes	3,500	£4.40
3	PVC cables 2.5mm power point red wire	40,500	£50.94
3	PVC cables 2.5mm power point black wire	40,500	£50.94
3	PVC cables 1.5mm power point green wire	40,500	£50.94
4	PVC cables 1.5mm lighting point red wire	48,000	£60.38
4	PVC cables 1.5mm lighting point black wire	48,000	£60.38
1	4 way sub distribution boards	11,000	£13.84
2	3 phase 30 amps isolators	28,000	£35.22
1	Transport reimbursement for electrician	800	£1.01
1	Miscellaneous small items	22,500	£28.30
1	Transport, D iron and neutral ilnks for Kapanda electrics	17,700	£22.26
1	Kapanda electrical costs, application for 6 houses, etc	71,900	£90.44
148	10mm armoured underground cables	1,361,600	£1,712.70
1	Kapanda assorted electrical materials	77,000	£96.86
1	Finishing touches electrical material	90,400	£113.71
6	Teachers' houses connection fees	240,000	£301.89
1	Girls' dormitory connection fees	60,000	£75.47
1	Part labour for all electrical work	300,000	£377.36
1	Connection fee for office, classrooms and science lab	40,000	£50.31

1	Replacement lampholders, D iron and transport	7,500	£9.43
1	Balance on labour charge	420,300	£528.68
60	40 watts energy saver batteries	108,000	£135.85
8	20mm PVC pipes	4,000	£5.03
8	3 x 3 boxes	800	£1.01
15	Round boxes	1,500	£1.89
50	PVC nipples	1,000	£1.26
25	PVC saddles	500	£0.63
1	Assorted size nails ( small diameter )	500	£0.63
4	2 gang 1 way switch	2,000	£2.52
6	Bulb holders	1,800	£2.26
3	Sphere fittings	13,500	£16.98
1	1.5mm red and black wire	1,500	£1.89
1	Wall glass fittings	1,500	£1.89
1	Wood screws	800	£1.01
1	Labour on piping and wiring	15,000	£18.87
25	3 core cable	12,500	£15.72
4	Other switches	2,000	£2.52
1	Extra switches, lampholders for Kapanda teachers' houses and school blocks	22,150	£27.86
4	Transport lorry for collecting supplies	400,000	£503.14
	<b>TOTAL</b>	<b>13,783,301</b>	<b>£17,337.49</b>
	<b>Overheads, Management and Contingency Costs</b>	2,480,994	33120.75
	<b>Grand Total</b>	<b>16,264,295</b>	<b>£20,458.24</b>

Invoices can be provided if required