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Eagle Foundation

Final Report

October 2022

Solar Energy Upgrade and Haller's Health Clinic and Education Centre

Donor Reference: FF 603-28

Date of Acceptance: 24th September 2021

Donation Amount: £10,980

Project Duration: October 2021 - October 2022

Number of Beneficiaries: approx. 9,500 comprising 3,000+ patients at Nguuni Health Clinic, 2,500+ at Community Health Outreach, 4,000 footfall at Education Centre.

Location: Nguuni, Kisauni District, Mombasa, Kenya. S 03° 59' 35.7" E39° 41' 45.4"

Project Background

A cornerstone of Haller's environmental and sustainability ethos is 100% reliance on readily available solar energy, given Kenya's ideal position, close to the equator with long periods of daylight. With Kenya at the forefront of climate change, experiencing erratic weather patterns, Haller's aim is to ensure the continuing support of these environmental standards, avoiding reliance on a very unstable National Grid and reducing annual energy costs.

By 2020, we had accomplished the goal of installing solar energy at all 3 of our Haller Kenya hubs, The Nguuni Education Centre & Clinic, the Farmer Training Centre at Mtopanga and our Research Centre. The Nguuni Centre was the first to transition to solar power in 2015, with installation by East Africa's largest solar provider, Chloride Exide. However, by mid 2021 the current system was experiencing solar power outages at sunset, due to low battery voltage. A review of the system by a reputable energy consulting firm identified that both the battery bank and solar panels needed replacement. Foundation Eagle kindly funded £10,980 for the solar panel replacement of this joint donor project.



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Nguuni Centre's Energy Needs

Haller's Nguuni Centre, is situated in a peri urban area, in the Nguu Tatu hills, 10 minutes from Mombasa's Jurassic coastline. The centre houses the health clinic and dispensing pharmacy, children's education centre and library, the IT learning centre and is also the gateway to the Nguuni Nature Sanctuary, a Haller restoration project, self-funding and now open to the public.

A guaranteed power source, readily available from solar energy, is critically important for: -

- The treatment rooms at the Health Clinic, which store vital medication and vaccines. The reliable provision of U5 vaccination services, health workshops, family planning clinics, counselling & life skills sessions and pharmacy dispensation.
- Haller's Education Centre, and its learning programmes. This houses the Children's Library and Amphitheatre, hosting educational activities to 60 local schools and providing a safe space for local children to learn. This is a particularly invaluable resource, never more than during the pandemic lockdowns, when state schools were closed for long periods and children were provided with creative, wildlife and educational facilities.
- The reliable operation of the brand new dedicated environmental learning facility for adults, equipped with PCs for access to learning facilities on the internet.
- The IT suite & interactive whiteboard for learning, IT training and vocational workshops.
- The security and electric fencing which enables Haller to manage a small revenue-creating eco-tourism business, generating income for the charity's activities.





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Project Update

As this was a jointly funded project, with solar panel replacement funded by yourselves and the battery bank by another long-term donor, a phased upgrade of the system was carried out, to avoid any disruptions to the centre's activities.

The 26 X 540W JINKO solar panels funded by your donation have now been installed, and the full solar-system upgrade was completed in July. To date, a period of testing and monitoring has been taking place, facilitated by the Victron energy monitoring app. This enables all monitoring to take place remotely, optimising usage and providing detailed analytical reports. The app allows the Haller Kenya team to perform regular diagnostic checks and resolve any potential issues from wherever they are based, a huge improvement on the constant on-hand system maintenance required previously. The new solar system is running efficiently, with no reported switches to the national grid, even during inclement weather.

Final Project Expenditure 2022

SOLAR ENERGY UPDATE AT NGUUNI	Budget £	Actual £	Diff £
Provision of 20 X 250W solar panels & 4 X 2000Ah Sunlight 2V cells	8,900	8,650	250
Cost of Installation (Labour)	900	870	30
Transport of Materials	200	200	0
Project Supervision / Delivery Costs	980	1,015	-35
Total Solar Energy	10,980	10,735	245



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Project Outcomes

The Health Clinic is now able to confidently operate for 5 full days a week, Monday – Friday, with a steady flow of patients. To end September 2022:

- 1,475 patients have attended for various needs, with 59 receiving full haemogram testing
- 1,969 immunisations have been dispensed to U5's
- 891 have attended child welfare clinics
- 426 have attended breast feeding workshops
- 225 at family planning clinics

Children's malnutrition and vaccination screening sessions can reliably take place weekly at the clinic, with regular health information workshops held in the auditorium, particularly on events days with World Malaria Day, World Food Safety Day and World Mental Health Day held to date.

The Education Centre, with all its learning programmes, is able to deliver a guaranteed service. It continues to be very popular, with a wide age range attending, from primary school to university level students. A much higher footfall of adults has also recently been noted, so to ensure safeguarding, a new dedicated adult education centre has also recently been established.

To date this year, 4,077 attendees have visited the library and its education facilities and 60 different local schools. The library has a stock of over 11,000 books with plans to continue its expansion. Environmental groups and book discussion clubs for seniors, discovery clubs and activities for primary attendees – the centre continues to provide a wealth of facilities for all age ranges, in a safe environment. Recent organised educational trips include turtle hatching and visits to the Butterfly House.

A new tyre-garden has recently been installed to educate the younger attendees on simple farming techniques, such as watering, mulching, fertilising and harvesting. The weekly environmental film shows are proving so popular with all age ranges, that additional viewing slots have been organised to cater specifically for either adults or children.



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Recent Nguuni Centre Activities

Comprising environmental groups, counselling class, reading & activity sessions, tyre culture.





Conclusion

Thank you so much for your support of this capital cost project, which is essential to our work, delivering health and education services to poorer Kenyan communities.

The upgraded solar system has had such an impact on the ability to efficiently run this vital local hub. The need for constant system maintenance has been reduced, with the installation of more advanced, efficient equipment.

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