Water Springs and Solar Systems for the underserved

Project location: Kanungu District -Uganda [Bwindi Impenetrable National Park surrounding communities and villages]
Implementing Community Based Organization: Bright Wave Africa
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Background

Bright Wave Africa is operating in Bwindi, Kanungu District, Uganda as a legally registered Community Based Organization. It was founded by Ugandan Tourism Guide, Princehorn Namanyagye driven by own ground life experience, as a self-initiative targeting to improve livelihoods of carefully selected needy peasant beneficiaries who mainly rely on subsistence farming, and whose daily survival budget is under $1. A 15 Board of Trustee member team comprising of local council leadership from different served zones, the Bwindi Impenetrable National Park Community Warden, and members of the community, oversees the activities of the organisation in regards to monitoring and evaluating implementation, accountability, and assessing impact periodically.

The Water Problem

Rural south western Uganda, particularly around Bwindi Impenetrable National Park, faces significant challenges in water, sanitation, and lighting. The region's hilly terrain means that water is primarily available in the valleys, while settlements are located on hilltops or along hillsides.

Consequently, many communities rely on contaminated water sources, such as rivers, swamps, and unprotected springs, which are shared with animals and polluted by human activities. This situation leads to widespread water-borne infections, including typhoid, dysentery, and diarrheal diseases, which are major causes of morbidity and mortality, especially among children under five.

Sanitation infrastructure is inadequate, with many households lacking basic facilities. Open defecation and rudimentary latrines are common, further contaminating water sources and exacerbating health issues.

Women and children are disproportionately affected, as they typically bear the burden of fetching water. They often travel long distances up and downhill, spending several hours each day on this task. This not only exposes them to physical strain and safety risks but also limits their opportunities for education and economic activities. Girls frequently assist in water collection, disrupting their schooling and contributing to poor educational outcomes.

The Lighting Problem

Access to safe and clean lighting is grossly limited. Many households rely on hazardous sources like kerosene lamps and candles, which pose significant health risks such as respiratory illnesses and eye strain. These traditional lighting methods present safety hazards, including a high risk of fire accidents.

The lack of adequate lighting hampers educational opportunities, as children cannot study after dark, and restricts economic activities by limiting business hours especially at farm produce stalls.

This adversely affects the quality of life, reducing time for earning an income, leisure and household activities.

Solar and other clean lighting solutions offer substantial benefits. They improve health and safety, protect the environment, enhance educational outcomes by enabling evening study, and empower economic activities by extending business hours.

However, financial barriers often prevent the poorest households, who are most in need, from accessing these solutions. Increasing access to clean water, improved sanitation, and safe lighting is crucial for sustainable development and improved living conditions in rural South Western Uganda.

Our Mission

"Empowering communities, especially women and children, by providing access to the basic necessities of clean water and safe lighting"

Our Vision

"To create thriving rural communities in Uganda where every individual has equitable access to the basic needs of life leading to improved health, education, and economic opportunities"

Our Objectives

1. To provide clean water access to below the poverty line households to improve their health and well-being, aiming at reducing morbidity and mortality
2. To provide reliable clean and renewable energy sources of lighting to the off-grid households, hence increasing light hours for better education and more life opportunites
3. To enable access to sustainable livelihoods through low or zero rated energy costs, and creating an environmentally friendly lifestyle

First Target Community: Kanyabuhama Village

According to our ground survey, out of the 89 villages surrounding Bwindi Impenetrable National Park, and within our reach, Kanyabuhama has been considered to be our first phase implementation location and other communities follow in pipeline. This will be the first major project of Bright Wave Africa toward achieving its vision. The Kanyabuhama Village Water and Solar Lighting Project aims to build 3 protected water springs to provide access to clean water to approximately 1,000 people, and provide rechargeable solar lighting systems to 387 households.

Outlook – Next Five Years

Bright Wave Africa plans to expand to all 89 villages in **Kanungu**, **Rubanda** and **Kisoro** Districts bordering Bwindi Impenetrable National Park within the next five years. This comprehensive plan will involve providing clean water through rainwater harvesting approaches such as use of tanks and dams, piped water where possible, and protected springs, benefiting approximately 70,000 people in these communities. We further extrapolate providing access to reliable solar lighting to 20,000 homes by the year 2030.

Geographic Scope – Phase I

The primary focus area is Kanyabuhama Village, located in Butogota Town Council, Kanungu District on the edge of Bwindi Impenetrable National Park.

Project I: 3 Water Springs

Protected Water Spring Construction for 3 sites - Budget Estimates Seeking Funding [Spring Construction Bills of Quantities (BoQs]				
#	Item	Frequency	Rate	Amount
1	Project preparation, community awareness and sensitization meetings [community post-facts hypothesis and validation meetings on water use, project monitoring committee selection, springs' installation site identification and gazzeted area allocation]	30	$5	$150
2	Site Clearing	1	$200	$200
3	Hardcore stones (Trucks)	3	$200	$600
4	Gravel (Trucks)	1	$100	$100
5	Sand (Trucks)	3	$100	$300
6	Cement (50Kg Bags) + Transport to sites	80	$15	$1,200
7	Steal rods (Y16)	4	$20	$80
8	Steal BRC	1	$70	$70
9	PVC Pipes 2.5"	6	$30	$180
10	Mansons/Building/Construction labor (30 days per spring)	30	$20	$600
11	Launch and handover	1	$100	$100
12	Administration, supervision, management	1	$300	$300
13	Miscellaneous expenses	1	$100	$100
	TOTAL [1 Spring]			**$3,980**
	TOTAL [3 Springs]	**3**	**$3,980**	**$11,940**
	NOTES: Local community members are committed to proivde site help during construction			

Project II: 387 Solar Systems

Solar Light Project for 387 households - Budget Estimates Seeking Funding *[Solar lighting Installation and 1 year maintenance costs breakdown]*				
#	Item	Frequency	Rate	Amount
1	Project preparation, community awareness, sensitization (post-facts hypothesis and validation visits on energy usage, project monitoring committee selection, installation and usage exhibition demos]	30	$5	$150
2	Rechargeable solar system (2 light bulbs + minimum 12 volts ~ 2 Amps output battery)	387	$55	$21,285
3	Installation + 1 year maintenance	387	$5	$1,935
4	Launch and handover	1	$100	$100
5	Administration, supervision, management	1	$300	$300
6	Miscellaneous expenses	1	$100	$100
	TOTAL [387 Lighting systems]			**$23,870**
	TOTAL [387 Lighting systems]	**1**	**$23,870**	**$23,870**
	NOTES: Local community members are committed to proivde installation help while aquiring self troubleshooting skills			

This proposal and all publications were made by Princehorn Namanyagye of and on behalf of Bright Wave Africa, a local Uganda Community Based Organisation (CBO) registered with the Kanungu District Local Government Department of Community-Based Services.

I am humbly seeking your contribution towards my fundraising goal of raising the total amount needed as indicated below to implement the projects anticipated to last at least 20 years enabling improved livelihoods of over 1000 households (impacting approximately 10,000 people), with each family having at least 10 member beneficiaries) extrapolated over the same (20 years) period.

3 - WATER SPRINGS (Duration: 6 months):

Amount to be raised: **$11,940 USD (Eleven thousand, nine hundred and forty United States Dollars)**

387 - SOLAR LIGHTING SYSTEMS (Duration: 1 Year):

Amount to be raised: **$23,870 USD (Twenty three thousand, eight hundred and seventy United States Dollars)**

Community status pictures are shown in the appendix below

Figure 1: Selected water spring site ready for construction in Kanyabuhama village - Bright Wave Africa

Figure 2: Sample constructed model spring - Bright Wave Africa

Figure 3: A child fetching water in Kanyabuhama village - Bright Wave Africa

Figure 4: State of lighting to be improved – Bright Wave Africa