

## Nuru Energy para Empoderar – India

India

Sloan Holzman



### Tipo de organización:


Lucrativa

### Presupuesto:

\$250,000 - \$500,000

Website:

<http://www.nurulight.com>

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Resumen del Proyecto

Presentación del Proyecto!

**Resumen conciso: Ayúdenos a presentar esta solución! Proporcione una explicación en 3 o 4 frases cortas.**

Nuru Energy tiene como objetivo proporcionar una solución de iluminación asequible, segura y funcional a los hogares rurales en India y el este de África, que no están conectados a la red eléctrica. En la actualidad, más del 90% de estos hogares utilizan queroseno, que es muy caro y perjudicial para el medio ambiente, y la salud respiratoria.

Con financiación inicial del Banco Mundial, el PNUMA y el PNUD, Nuru Energy ha desarrollado y llevado a los mercados, luces modulares LED con recarga individual y el primer generador de pedal disponible en el mercado, el powercycle Nuru, que en conjunto forman la solución a la iluminación más efectiva y accesible disponibles en la actualidad para las familias en la base de la pirámide (BdeP).

#### About Project

#### **Problema: ¿Qué problema está tratando de abordar este proyecto?**

Nuru Energy engages with rural, completely off-grid communities in both Africa and India. Our customers and entrepreneurs typically earn less than USD 2 per day, and even less in the off-season – 3 to 6 months in the year characterized by lower incomes because of household investments in agricultural crops. In Rwanda, Nuru Energy first introduced its technology (POWERCycle and Nuru Lights) through a 10-month-long pilot project in 2009. Over 90% of Rwandans still rely on kerosene to meet their lighting needs and our pilot project and subsequent scale-up in Rwanda has revealed that households spend over 1/4 of their monthly income on Kerosene, and that their energy needs are predominantly driven by basic needs for cooking and light. In general, throughout Sub Saharan Africa (SSA) electrification rates have been extremely slow, from 4% of SSA electrified in 1970 to 10% today – a 6% increase in the proportion of the population living with electricity over the last 41 years. In India to date, we have worked in the tribal regions of southern Orissa and Madhya Pradesh. We have spent over 1 year in the field in India with our microfinance partner BASIX, learning about the community we engage with, in terms of household cash flows, available lighting solutions and the market for kerosene. Although kerosene is heavily subsidised by the Indian government, frequent disruptions in the Public Distribution System, throughout our current and planned areas of work in India, have led to an expanding 'black' market for it. Households with no other choice to meet their lighting and cooking needs are forced to buy kerosene at upwards of USD 0.70 per liter for several months in the year. In Rwanda, where government subsidies do not exist, the amount spent per liter of kerosene is much higher. Our extensive first-hand field research in both Rwanda and India has revealed that off-grid rural households recognize the damaging health and safety effects, as well as the long-term expense that kerosene-dependence creates. Our understanding of their needs as well as existing trends in both the purchase and the use of kerosene in rural homes has allowed us to co-create our products and delivery models in a way that allows kerosene substitution to be a quick and seamless process.

#### **Solución: cuál es la solución propuesta? Por favor sé específico!**

Our game-changing technology and distribution model address the global issue of rural lighting in an unprecedented way. Nuru LED Lights – Affordable even to the poorest of the poor, Nuru's multi-functional, patent-pending modular, LED rechargeable lights retail for < \$6 each. Each can be used as a task light or connected with others to provide ambient lighting. These "single-serve" lights allow households to purchase lighting (and recharging) just as households purchase kerosene and other FMCG products - in increments, as and when they have income. The Nuru POWERCycle – is the world's first commercially available pedal generator (patent pending) and provides the fastest recharging method for off-grid lighting in the market today. 20 minutes of gentle pedaling charges up to 5 Nuru Lights simultaneously; each light lasting over 40 hours. In contrast, solar-based lanterns/recharging stations need 8-10 hours of DIRECT sunlight and only provide up to 4 hours of light per lamp. Distribution model innovation: Nuru VLEs - lucrative microfranchises that require low start-up capital and minimal training to operate. The POWERCycle provides a compelling business opportunity for VLEs because of the opportunity to earn recurring revenue in the form of light-recharge fees. Typically having over 200 customers returning for recharging once every 10 days at USD 0.20 / recharge, Nuru VLEs spend about 80 min a day recharging 20 lights, earning about USD 4 - a supplementary income more than what was previously earned in an entire day.

#### Impact: How does it Work

#### **Ejemplo: Guíenos a través de un ejemplo/s específico/s de cómo esta solución hace la diferencia; incluya sus actividades principales.**

The primary activities of our project are: 1. Entrepreneur identification, selection and training: Nuru Energy identifies, selects and trains rural village-level entrepreneurs (VLEs), each of whom are provided with a start-up kit which includes a POWERCycle, a wooden frame, marketing material and an initial micro-loan of 20-50 lights. Our Microfinance (MFI) partners typically help to pre-identify pools of potential VLEs as well as finance those selected. Nuru Energy typically selects VLEs based on its own stringent criteria developed after 2 years of experience from the field. Furthermore, Nuru Energy trains VLE's in the following: 1. Accounting. 2. Rural marketing techniques. 3. Maintaining sales/service records such as invoices and warranties. 4. Basic technical training for any breakdowns and repairs. 2. Sales and technical service and support: VLE's sell lights and provide recharging services to their local customer base and Nuru Energy provides technical and marketing support. Our field staff initially co-market products with VLEs and provide technical service and support to both VLEs and customers. 3. Monitoring and Evaluation (M&E): Various M&E tools are employed to track the impact of the project in 3 key areas, namely: environmental impact, impact on VLE livelihoods and impact on the livelihood of Nuru Light customers. 4. Complimentary product co-creation: The establishment of VLEs provides a channel for knowledge to filter from the ground-up, enabling further co-creation of long term, affordable energy solutions. Nuru Energy has co-created and modified all its core products with feedback from villagers themselves and continues to do so in order to create other products.

#### Sobre ti

#### **Organización:**

Nuru Energy

Sobre ti

**Nombre**

Sameer

**Apellido**

Hajee

URL de Twitter  
URL de Facebook

Sobre tu organización

**Nombre de la organización**

Nuru Energy

**País de la organización**

**Países en donde este proyecto está creando impacto social**

**¿Cuánto tiempo ha estado operando la organización?**

1-5 años

**¿El proyecto que estás presentando se encuentra relacionado con esta organización?**

Sí

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Innovación

**¿En qué fase está el proyecto?**

Operando entre 1-5 años

**Compartir la historia del fundador y lo que inspiró al fundador para iniciar este proyecto**

Sameer Hajee founded Nuru Energy in 2008, prior to which he was the Global Business Development manager at Freeplay Energy plc, the developers of the world's first hand-crank radio. At Freeplay, Sameer created the international aid and development sales team, and co-created and co-managed a Development Marketplace project that saw the creation of 50 rural energy enterprises in Rwanda. Through extensive work on energy solutions for households at the BoP, he learned that off-grid energy solutions (e.g. diesel gensets, solar PV, wind, biomass) were not always reliable as they relied on external energy sources (fuel, sun, wind) and not easily scalable as they required large up-front costs and sophisticated maintenance/repair infrastructures.

Armed with \$200,000 in winnings from the 2008 World Bank Lighting Africa Development Marketplace Competition, Sameer, with co-founders Simon Tremeer, Barry Whitmill and Julio Desouza developed and tested the Nuru Lighting solution over a 10-month field trial in Rwanda that saw over 500 lights sold and 10 VLEs operating profitably. Information and feedback from this and subsequent field-trials in India were used to repeatedly improve the Nuru Light and POWERCycle culminating in a solution that has been adopted by over 5000 households across Rwanda and India. The success of the solution has been driven by the firm belief of the founders that human power had not been utilized to its full potential to generate electricity; that it will continue to succeed because it is limitless, unrelenting and ubiquitous – just like the human spirit.

Impacto social

**Describe cómo tu proyecto ha tenido éxito y la forma en que éste mide.**

With limited financial resources, Nuru Energy has established 70 Nuru VLEs in Rwanda who have sold over 10,000 lights to rural households across the country. Households using the Nuru Light in Rwanda are reporting over 90% reduction in Kerosene use for lighting across the board and monthly savings of upwards of \$7. In India, Nuru Energy has had 3 successful pilot projects in the states of Madhya Pradesh and Orissa with its partner BASIX and currently has products available in over 30 villages. Nuru Lights were adopted by over 50% of randomly selected, testing households in our last pilot project in Orissa, India. Significant household Kerosene consumption reductions (over 38%) were recorded across households and VLEs saw sustained and increasing income from the Nuru Microfranchise.

Nuru Energy continues to monitor and evaluate its success across a number of different parameters, namely:

1. Tonnes of CO2 abated – This is monitored through both a general calculation based on our sales data as well as random sample monitoring of both customers (households) as well as our VLEs' recharge logs.
2. Nuru VLE earnings – This is monitored through a general calculation based on our sales and 'microfranchise fee' collection data as well as through random sample monitoring of Nuru VLEs to measure the impact of the Nuru Microfranchise on their livelihoods using the Progress out of Poverty Index (PPI) tool. In Rwanda, our VLEs are earning upwards of \$4 a day from light recharge fees alone.
3. Household Savings over kerosene by purchasing the Nuru Light – We track household savings through random sample monitoring across geographically and socio-economically representative customer (household) samples using the PPI tool as described above.

**¿Cuántas personas han sido afectadas por el proyecto?**

Más de 10,000

**¿Cuántas personas podrían verse afectadas por el proyecto en los próximos tres años?**

Más de 10,000

**¿Cómo va a evolucionar tu proyecto durante los próximos tres años?**

Nuru Energy aims to expand its project across 5 countries in Africa (Rwanda, Kenya, Tanzania, Uganda and Burundi) and 5 states in India (Uttar Pradesh, Bihar, Jharkhand, West Benagal and Orissa). We expect the East African business to break even in less than 3 years (by December, 2013), with almost 20,000 VLEs and 2 million lights sold. In India, we expect to be profitable by March 2013 with 2500 VLEs and over 160,000 lights sold. Further, our pilot projects in India have advised our product development and delivery model in unique ways leading to the development

of new products such as the Nuru POWERBox (a fast AC charger with the same functionality as the Nuru POWERCycle) and the Nuru (on-grid) light for households with intermittent electricity access.

## Sostenibilidad

### ¿Qué barreras pueden dificultar el éxito de tu proyecto y cómo piensa resolverlas?

The primary risks and associated mitigation strategies being employed by Nuru Energy to ensure the long-term sustainability of our project are as follows:

1. Reliance on MFIs for VLE finance: Nuru Energy will spread this risk by engaging with multiple MFIs as well as rural banks and cooperatives across its working areas in India and East Africa. We are in talks with multiple rural distribution partners and have built in enough flexibility into our model to absorb different kinds of credit instruments to be extended to our VLEs.
2. Scalability of revenue: Our revenue model is highly scalable because of the multiple revenue sources that have been built into it. Nuru Energy accrues revenue in 3 ways from the sale of each light; namely: revenue from light sales, revenue from carbon credits and 'microfranchise fees' collected as a percentage of every entrepreneur's recharge fees earnings. The latter two forms of revenue are highly sustainable because they are expected to carry on well beyond the sale of each light.
3. Achieving optimum distribution: Nuru Energy is able to scale quickly by leveraging corporate sponsorships for our POWERCycles, thereby lowering the capital burden to each VLE.
4. Attrition of Nuru Energy staff: Our rural distribution partners will bring with them a database of potential recruits. Cross-functional training programs for all our employees will be employed to fill any gaps left by vacancies in the interim period.

### Cuéntanos sobre tus alianzas.

Our most important linkage is with microfinance institutions (MFIs). Instead of selling our lights directly to the end consumer, which requires large inventories, slow turnover, many sales representatives and high working capital requirements, we sell directly to an MFI. The MFI then loans sets of 20-50 lights to each VLE who resells the lights to the end consumers in her/his community. With the revenue from reselling the lights and charging customers for recharges, the entrepreneur pays back the loan over 2-3 months. This financing structure allows us to set up microfranchises with almost anyone, anywhere; and, with the MFI providing most of the capital, Nuru can focus its resources on rapidly setting up more field offices. The beneficial relationship is mutual; MFIs can increase their client base with a proven business and significantly reduce risk by funding income generating assets.

In India, Nuru Energy is partnering with BASIX, that works in over 16 states across the country with millions of customers. We have run pilot projects with BASIX since December 2009 in 3 districts and 2 states in India and are currently negotiating a national-level MoU. In Rwanda we partner with Urwego Opportunity Bank (UOB). Operating since 1997, UOB has emerged as the premier Rwandan MFI and was named "Best MFI in Rwanda" in the 2004 "Year of Microfinance". We are in advanced negotiations with Kiva.org, Calvert Foundation, and Equity Bank, amongst others, to be our microfinance partners in other countries.

In addition to our MFI partnerships, Nuru Energy also partners with NGOs to set up VLEs in jointly-identified off-grid communities. In India, we are conducting feasibility studies for projects with Srijan and Aide et Action in Rajasthan and Uttar Pradesh respectively while in Rwanda we have partnered with UNDP Millennium Villages to set up 20 VLEs. Lastly, we are currently in discussions with a number of corporate players (FMCG companies, Coca-Cola etc.) to provide sponsorships for Nuru POWERCycles.

### Explica tu selección.

Nuru Energy in India is currently supported by the personal investments of our founders as well as two awards we have won, namely Wanstrepreneur India Award 2010 and the Atmosfair India Renewable Energy Innovation Award. The India enterprise has been engaged in pilot projects up till now to test and prove Nuru Energy's delivery model across varying geographical and socio-economic regions, and is currently pre-revenue.

In Rwanda however, Nuru Energy has generated over USD 65,000 in revenue for the year 2011 and established 70 VLEs across the country. Further, our East Africa operations have received USD 2 million in commercial capital from Bank of America Meryll Lynch (BAML) in March 2011 in a one-of-a-kind options premium payment for the future purchase of carbon credits generated by Nuru Energy in East Africa. In addition to the financial investment, BAML has ear-marked funds through the Calvert Foundation (which funds a number of MFIs in our working areas) specifically for Nuru Energy loans.

### ¿Cómo se va a fortalecer tu proyecto durante los próximos tres años?

Nuru Energy plans to scale up the number of VLEs, Nuru Lights and other Nuru products in the market both in India and East Africa over the next 3 years. Strengthening our project is largely a function of the external partnerships we will put into place as well as how our internal team will expand to achieve our annual scale-up goals.

The influx of commercial capital from BAML has allowed us to begin the process of expanding our team in Africa. We are currently recruiting our global Chief Financial Officer (CFO) as well as country managers for our 5 countries of operations. In Africa, we will launch operations in each of the 5 selected countries in phases starting with further scaling up the enterprise in Rwanda and then moving on to setting up operations in Uganda, Kenya, Tanzania and Burundi respectively.

In India we have set first year scale-up goals with our MFI partner BASIX and plan to set up over 120 VLEs between September '11 and Feb '12 in 3 states and 6 districts. Many commercial investors have expressed interest in funding the India enterprise and we believe we will be best poised for optimal financial terms once we have. With the aim to procure larger commercial investment in the range of USD 2-3 Million by March '12 we aim to scale up to over 60 districts in 5 states in India over the next 3 years establishing over 10,000 VLEs who in turn will be providing lighting to over 1 million India households.

In addition, we will close our Carbon credit registration with CDM for Africa and India by 2012 and 2013 respectively.

## Desafíos

¿Qué barreras al empleo aborda tu innovación? Por favor, selecciona un máximo de tres por orden de relevancia para el proyecto.

## PRIMARIA

Subempleo

## SECUNDARIA

Acceso restringido a nuevos mercados

## TERCIARIA

Falta de habilidades y capacitación

**Por favor, describe cómo la innovación específicamente aborda las barreras mencionadas anteriormente.**

1. Underemployment: Nuru Energy's microfranchise provides supplementary employment to poor people (men and women; currently over 50% of our VLEs globally are women) as Nuru VLEs. Over the next 5 years we aim to provide employment to over 40,000 rural BoP families globally.
2. Restricted access to new markets: By setting up numerous micfranchises in rural areas, Nuru aims to create a distribution channel for a diverse range of socially impactful products.
3. Lack of skills training: Nuru Energy provides each of its VLEs with in-depth training in accounting, rural marketing and customer service; skills we feel our essential for an entrepreneur to effectively run a micro-business. This level of training further, allows for diversification of VLEs' product and service range.

**¿Cómo estás haciendo crecer el impacto de tu organización o iniciativa?**

**Por favor, selecciona un máximo de tres maneras posibles en orden de relevancia para ti.**

### Primary

Hacer crecer el alcance geográfico: Multipaíses

### SECUNDARIA

Mejorar el impacto actual a través de la adición de servicios complementarios

### TERCIARIA

Replantear el modelo para otros sectores/necesidades de desarrollo

**Por favor, describe cuál de las actividades para crecer están en curso o previstas para el futuro inmediato.**

1. We plan to scale-up across 5 states in India, namely, Uttar Pradesh (UP), Bihar, Jharkhand, West Bengal and Orissa and 5 countries in Africa, namely, Rwanda, Uganda, Kenya, Tanzania and Burundi. In Africa, we are currently scaling up in Rwanda while in India we are currently scaling up in Orissa.
2. Nuru Energy will enhance the portfolio of products and services made available by its VLEs by introducing complementary products and services such as mobile phone recharging, fast-recharging radios, portable fans as and other lighting products.
3. By building a vast network of trained VLEs, Nuru plans to partner with external organizations to introduce other development-oriented products and services through the same distribution channel (e.g. malaria nets, clean cook stoves, etc).

**Colaboras con algunos de los siguientes organismos: (Indica todos los que correspondan)**

ONGs/organizaciones sin fines de lucro, Empresas.

**De ser así, ¿estas colaboraciones han ayudado a que tu innovación tenga éxito?**

MFIs: We work with Urwego Opportunity Bank in Rwanda and BASIX in India. Both collaborations play a central role in finding and financing our VLEs as well as developing the market for our products.

NGOs/Nonprofits: We have collaborated with UNDP and the Millennium Villages Project in Rwanda, and Srijan and Aide et Action in India. Our NGO partners raise awareness and build alternate pathways for our products to reach off-grid rural areas.

FMCG companies and OEMs: We are currently having discussions with a number of FMCG companies and OEMs for both, rural distribution and sponsorships/co-branding of our POWERCycles.

Mobile Money operators: We are finalizing tie-ups in India and Africa to create a seamless process for 'microfranchise fee' collection from Nuru VLEs.

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