

## Renewable Energy to enhance livelihood

Nepal



Babu Raja Shrestha



### Organization type:

nonprofit/ngo/citizen sector

Project Stage:

Start-Up

Website:

<http://www.crenepal.org.np>

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### Project Summary

#### Elevator Pitch

#### **Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.**

The basic objective of the program is to harnessing renewable energy and appropriate utilization of the locally available resources and capacity to enhance livelihood of the local communities.

Solar PV for lighting and water pumping, Wind pump for irrigation, Solar dryer for fruits and vegetable preservation,

In Nepal about 2.4 million households, or 60% of Nepalese population in Nepal, rely on kerosene based wick lamp (Tuki) at present.

"Light for All" projects targeting the poor rural household. This initiative doesn't rely on subsidies, it rather focuses on the whole system facilitation at the local level and cost-revenues.

The advantages of dehydrating cash crop is that the products can be preserved and marketed at a later date so as to bring maximum revenue to the farmers.

#### About Project

#### **Problem: What problem is this project trying to address?**

The majority of the communities Centre for Renewable Energy (CRE) is working with are subsistent farmers who make up more than 70 percent of the entire population of Nepal and the urban poor. More than sixty percent of the population lives below the international poverty level (\$1.25/ day). The majority of the farmers reside in rural regions of Nepal where their access to basic services and infrastructure such as electricity, water and roads and medical facilities are either very limited or as in most of the cases, not available at all. For lighting they use kerosene wick lamps. For cooking they use firewood. The subsistent or small scale farmers lack awareness on efficient farming practice, access to appropriate technologies, and links to the markets. In Nepal, farmers and their families often suffer from malnutrition and food insecurity. Consequently they are vulnerable and are in particularly volatile towards change in environment and social- political conditions.

#### **Solution: What is the proposed solution? Please be specific!**

The Solar Tuki Solar Light System, and the Solar dehydrator is build on developing decentralized systems from the grass root level, which provides job opportunities for all layers of society and has proven to benefit the society. The system is designed to match the local rural technical capability and financial affordability specially targeting the poor. The project builds on social entrepreneurship- using a business model to sustain and secure the outreach of this product to all parts of the country. The project input is focused on developing the systems to enable the business model to flourish, by providing; Technical Design, Technical Trainings and Tools, Capacities Building of entrepreneurs, Seed Capital Creation for micro finance and establishing networks for awareness creation. This decentralized system approach of Solar Tuki distinguishes it from other solar projects, which use a centralized approach. Since Solar Tuki started in 2005, it was able to establish 7 manufacturing companies

with 25 service centers. Moreover, beyond the project scope, another 10 manufacturers have adopted a similar solar lighting system and provide work to another 40 service centers.

Impact: How does it Work

**Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.**

For almost two decades Centre for Renewable Energy's (CRE's) activities evolve around sustainable development and economic prosperity for the people of Nepal by means of harvesting renewable energy and employing suitable technology with the sustenance of social entrepreneurship. Our primary activities around Solar Tuki or "Light for All" project are; • Awareness and Capacity Building - Create awareness on Renewable energy and in particular Solar lighting systems and Solar dehydrating technology. - Train on Solar Tuki Maintenance and Assembly - Train on Solar dryer manufacturing and Vegetable and Fruits Dehydration. - Capacity building of entrepreneurs, Micro Finance Institutes and NGOs - Familiarizing Micro Finance Institutes and NGOs with Solar Lighting system and consumer finance • Fund raising and Networking - Establishing partnership with communities, Micro Finance Institute, Saving Groups Entrepreneurs and NGOs. - Raising funds for: Risk sharing funds with entrepreneurs and micro finance institute Training and Marketing Research and improve Solar lighting Technology Research and improvement of Solar dryer based dehydration technology • Monitoring and Supervision of Quality Control

Sustainability

**Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?**

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About You

**Organization:**

Centre for Renewable Energy

About You

**First Name**

Babu Raja

**Last Name**

Shrestha

**Twitter**

**Facebook Profile**

About Your Organization

**Organization Name**

Centre for Renewable Energy

**Organization Country**

**Country where this project is creating social impact**

**How long has your organization been operating?**

More than 5 years

**Is the project that you are entering related to this organization?**

Yes

The information you provide here will be used to fill in any parts of your profile that have been left blank, such as interests, organization information, and website. No contact information will be made public. Please uncheck here if you do not want this to happen..

Innovation

**What stage is your project in?**

Operating for 1 5 years

**Share the story of the founder and what inspired the founder to start this project**

The heart of the Centre for Renewable Energy (CRE) is composed by the founding member who have studied and worked abroad and have the passion to bring prosperity to their own people

The CRE was formed in 1992, is a non-governmental and non-profit making organization specialized in disseminating renewable energy throughout Nepal. The founding remembers are engineers who have studied / worked abroad and have returned back to Nepal.

As the member had been exposed, they saw the technology that exists in the world. When returning to Nepal they were confronted with their own people struggle. Their newly obtained insights gave them clear solutions for the daily problems the Nepali people face.

Being all Nepali nationals, they are therefore in a unique position to connecting the external technologies within the local context. They have adapted the technology to the local context, such as designing the technology to suite the local materials. As they understand the culture and the barriers they are able to negotiate change.

The association is currently presided by the social entrepreneur Babu Raja Shrestha, who was awarded as Ashoka fellow in 2001.

## Social Impact

### Please describe how your project has been successful and how that success is measured

Measuring the impact of the projects is a complex matter, as it involves not only specific data which may not be available (such as number of households reached) but also more intangible -though not less valuable- achievements such as facilitating the establishment of a local market by increasing social awareness, empowerment of the poorest sectors of society, etc.

On the end-use consumer:

- The micro-finance system jointly with the simplicity of Solar Tukis provides an affordable product addressed to the poorest groups of society (those using kerosene lamps in rural areas), covering basic needs at an affordable price.
- Improved livelihoods by replacing kerosene: reduces health problems caused by burning kerosene lamps without appropriate ventilation, reduces fire hazard, improves life quality by providing more hours and intensity of light, and enables longer duration of usage without additional costs, portability and minor maintenance.
- Generates local knowledge on renewable energy-based technology suited to regional conditions.
- Prevents the current phenomena of young people to leave the country to look for better opportunities by giving them more chances to participate in the economy.
- Contributes to long-term climate change adaptation and sustainability by providing electrification based on RE instead of fossil fuels, establishing a RE consumer-driven market and therefore decoupling development to fossil fuel dependance.

The following table gives an overview of the quantitative data available to measure the impact of "Light for All".

Till now nearly 150000 systems is distributed, 195 men and women are trained for repair & maintenance work, distribution networks reached 18 districts, 6 district level Solar tuki manufacturing industries are established, one central warehouse for component sales and one training centre is established to facilitate new entrepreneurs

### How many people have been impacted by your project?

More than 10,000

### How many people could be impacted by your project in the next three years?

More than 10,000

### How will your project evolve over the next three years?

CRE's vision for the future is to grow by developing new partnerships, novel forms of purchase and payment, and additional appropriate products. The main focus is to continue working on establishing the Solar Tuki market, and to introduce other RE technologies into this market in order to provide people with the means to generate income using their own resources.

Most people from rural areas grow or gather what they need for daily consumption and that in most cases they lack cash, one of the recent projects in pilot phase is to trade labour for credit as a way of paying for the Solar Tukis

CRE aim at introducing solar dryers, so that food which usually goes to waste may be conserved for commercial purposes or to provide a source of food to households throughout the year.

## Sustainability

### What barriers might hinder the success of your project and how do you plan to overcome them?

The main challenge that CRE is facing is the subsidies based policy of the government and other international Organisations that changes the attitudes of the consumers. After two years of the CRE lobbying the government in order to get funds for the Solar Tuki scheme, the Alternative Energy Promotion Centre (AEPIC), a government organisation financed by Danish and Norwegian organization, started providing subsidies to promote the Solar Tuki. The funds were used to distributed WLED based small solar lights for free or at subsidised costs. This has been a mayor drawback for the "Light for All" movement, as it leads to destruction of possible market establishment in Nepal and eventually creates dependency that is hard to escape. Apparently, from the information we gathered, CRE is now running out of capital and is not receiving enough grants to manage the organization. Nevertheless, the CRE is positive in noting that the Government will eventually run out of funds, enabling the local Solar Tuki market to recover.

The other threat exists from the Solar Home System Business Company who believes that the small system will take away their market. They themselves do not find the Solar Tuki a profitable business for the profit amount is very small compared to big power solar lighting system. Massive emphasis will be given to capacity building of local technicians to run the assembly/manufacturing unit and after sales services at village level Other aspect of capacity building include conduction of continuous awareness program, quality assessment of human resource and technology at village level so that consumer can benefit the most.

### Tell us about your partnerships

Approximately 200 words left (1600 characters)

### Explain your selections

### How do you plan to strengthen your project in the next three years?

## Challenges

### Which barriers to employment does your innovation address?

Please select up to three in order of relevancy to your project.

#### PRIMARY

Lack of skills/training

#### SECONDARY

Lack of visibility and investment

**TERTIARY**

Other (Specify Below)

**Please describe how your innovation specifically tackles the barriers listed above.**

Clean Energy walk in learning centre is established to conduct regular on job training to develop skill of the interested personal in the field of renewable energy.

Solar Tuki assembly/repair and maintenance trainings is provided to the representatives of any local organization willing to start service centre/marketing and ditribution of Solar lights.

On job training are designed for Solar dryer manufacturing and fruits and vegetable dehydrating.

Joint venture business establishment with new entrepreneur willing to run business in the field of manufacturing solar lights, solar dryers and vegetable and fruit dehydrating industries.

Initiative to establish village level agricultural cooperative and city based marketing unitas.

**Are you trying to scale your organization or initiative?**

**If yes, please check up to three potential pathways in order of relevancy to you.**

**PRIMARY**

**SECONDARY**

**TERTIARY**

**Please describe which of your growth activities are current or planned for the immediate future.**

At present working in host country. There ar more than 60 percent of 33 million population are with out electrical ligh and mal nutrition.

**Do you collaborate with any of the following: (Check all that apply)**

NGOs/Nonprofits, For profit companies, Academia/universities.

**If yes, how have these collaborations helped your innovation to succeed?**

Our organization initiate pilot programm and once it is proven to be sucessful and benefitable to local we dieminate the idea and We work on win win principal as team with concerned organization.

With government to integrate appropriate policies and regulation to promote the ideas, with NGOs to replicate and implement in field level, with for profit organization to commecialize the system and equipments, withacademician to research and improve

**Source URL:** <https://www.changemakers.com/economicopportunity/entries/renewable-energy-enhance-livelyhood>