



**IMPORTANT:**

Please summarize your project using the guide questions below. The Summary Sheet will be used in publications to describe the project, and in any information material to be provided to the Jury, Reviewers, and other potential donors.<sup>1</sup>

In describing your proposal, answer the questions clearly and directly. Please answer in English. The number of pages should not go beyond 30, including attachments. Long proposals run the risk of not being read thoroughly.

***Nepal Development Marketplace 2008***

**SECTION I: YOUR PROJECT PROFILE**

<b>Project Details</b>	
Proposal Number (provided by Nepal Development Marketplace 2008): 262	
Title of your project proposal: "Light for All" Intermediate technology for long-term solution.	
Proposed title for your project banner at the Nepal Development Marketplace 2008 (50 Characters or less. Please use CAPITAL letters) <sup>2</sup> <b>"LIGHT FOR ALL" INTERMEDIATE TECHNOLOGY FOR LONG-TERM SOLUTION.</b>	
Region of Implementation in Nepal: Morang district	
Total Project Cost: NRs. 2.5 millions	
Amount requested from Nepal Development Marketplace 2008 (note: you cannot exceed the amount you have previously indicated in the concept paper):	In Words: NRs. One million five hundred thousands only.
	In Numbers: NRs. 1,500,000.00
Primary Sector of your Proposed Project (please select only one):	
<input type="checkbox"/> Agriculture, Irrigation and Food Security	<input type="checkbox"/> Education
<input type="checkbox"/> Energy	<input type="checkbox"/> Health
<input type="checkbox"/> Information and Communication Technologies	<input type="checkbox"/> Infrastructure (Roads and Transportation)
<input checked="" type="checkbox"/> Small Business and Micro Enterprise Support	<input type="checkbox"/> Water and Sanitation
<input type="checkbox"/> Employment Creation	

<sup>1</sup> Your summary will be presented as you present to Nepal Development Marketplace 2008 team, hence any errors that would appear on the summary will be solely your responsibility.

<sup>2</sup> Nepal Development Marketplace 2008 team reserves the right to edit the title of your project banner to meet our space and design requirements.



## **SECTION III: YOUR PROJECT DETAILS**

### **Project Details**

#### **A. YOUR PROJECT SUMMARY**

Please summarize your project. (Word limits 250). You may include any applicable drawing in separate sheet if applicable.

Light for All Movement is an ongoing successful campaign to replace kerosene wick lamps by solar powered light the "Solar Tukis" It is a non subsidy market force driven program. The demand for these lighting systems is growing rapidly but there are not enough resources to accelerate the production to meet the rural demand.

The concept of Central Warehouse is crucial in making bulk purchase of components from the original source. Buying in large quantities results in receiving bulk discounts as well as ensuring uniformity of product quality. This discount is then passed on to the manufacturers who can continue to purchase the components in smaller quantities, as and when they need them.

Solar Tuki has been developed to replace the kerosene Tuki. It is a compact White Light Emitting Diode (WLED) based solar powered lamp with a rechargeable battery. The Solar Tuki has a life span of minimum of five years. As per our estimate the Solar Tuki saves minimum three years on kerosene costs. With an instalment basis scheme the end consumer can repay the lamp in two years spending the same amount he/she used to spend for kerosene. Solar Tuki is environmentally friendly and is not hazardous to health. Thus Solar Tuki favourably contributes in savings on medical expenses and increases the productivity capacity.

The Solar Tuki is a product that will yield benefit not only to the end consumer but also to entrepreneurs and will also help create employment.

## SECTION IV: PROJECT QUESTIONS

### ***Project Question 1***

What is the problem(s)/issue(s) your project is addressing? What are the causes of the problem? (maximum 500 words)

There are more than 2.4 million households that still do not have access to electrical lights and are compelled to use kerosene lamps for lighting.

The Government's effort for rural electrification as well as the promotion of renewable energy is, unfortunately, donor driven and dependant on foreign aid. Alternative Energy Promotion Centre, with the support of Danish/Norwegian government, is planning to provide electrical lights to nearly 500,000 households in the next five year period by providing subsidy. The question is, who is going to provide subsidies for the remaining 1.9 million households?

Recent energy crises have led to daily load shedding in the national grid (NEA) supplied electricity system. Kerosene therefore will continue to have vital role for evening lighting and will be a drain on the national exchequer.

Light for All Movement is an ongoing successful campaign to replace kerosene wick lamps by solar powered light the "Solar Tukis" It is a non-subsidy market force driven program. The demand for these lighting systems is growing rapidly but there are not enough resources to accelerate the production to meet the rural demand.

To reach the millions of scattered rural households, Solar Tuki entrepreneurs and service providers need to be scattered throughout the country too. Continuous capacity building of new entrepreneurs and service providers will be an essential component of the "Light for All" campaign. To be sustainable, they will need to have access to the right market information, appropriate technology and tools, as well as have a continuous supply of qualitative components to assemble or repair the Solar Tukis.

Nepal faces a problem of constant supply of raw material and components. Fluctuating supply systems means that goods available one day may not be available the next day. Entrepreneurs (especially those who live outside the urban areas) have even more difficulties in obtaining components for the production or maintenance of Solar Tukis. Finding the right supplier (local and foreign) and keeping the components in stock means additional investment burden on the small to medium scale entrepreneurs.

## ***Project Question 2***

How does your idea address the problem(s)/issue(s) described above in terms of securing peace through development, delivery of basic services and expanding livelihood opportunities to rural population? (maximum 500 words)

Light for All Movement is a non subsidy market force driven program based on a "win-win" approach. Solar Tukis provide rural and poor families with reliable, safe source of light that exceeds the illumination of existing kerosene wick lamps. The light offers considerable economic saving over kerosene in its life cycle.

Training programs, an integral component to the campaign, have been instrumental in building awareness and enhancing capacities of stakeholders involved or willing to be involved in Solar Tuki assembly, distribution and maintenance networks.

Clean Energy Walk-in learning centre will facilitate on job training for the technical staff of the newly established Solar Tuki service centers / Solar Tuki assembling Industries. The training is an on going program, 365 days a year. Since the targeted population are the rural poor, the on-the-job training will be scheduled as per their demand and as per their convenience.

The concept of Central Warehouse is crucial in making bulk purchase of components from the original source. Buying in large quantities, results in receiving bulk discounts as well as ensuring uniformity of product quality. This discount is then passed on to the manufacturers who can continue to purchase the components in smaller quantities, as and when they need them. By guaranteeing the constant supply and quality of components, establishing a Central Warehouse thus provides stability for the entrepreneurs.

Availability of credit facilities through local micro-financing institutions such as saving credit groups or village development committee will make the light affordable commodity to meet basic need of light and dependency on kerosene will be drastically reduced.

Use of kerosene lamps are directly tied with kerosene consumption. The more the lamps are lighted, the more kerosene is consumed. In general, poor households try to save kerosene and therefore they do not stay awake late into the nights. That problem does not arise with Solar Tuki users for the Solar Tuki is charged free of cost by the sunlight the next day. This means that households can stay up later, thus prolonging evening working or study hours, and which in return will enhance their productive capacities.

### ***Project Question 3***

How will you implement your idea? Describe in detail each of the activities/steps that your project will undertake to meet its objective(s). (maximum 600 words). Please provide a corresponding timeline in a separate sheet.

- Awareness raising campaign is the key point to make the program successful. Comprehensive awareness raising program will be initiated through the existing net works with local Solar Tuki user communities and Solar Tuki service providing centers.
- Interaction programs at the district and regional levels will be initiated to share the experiences of on-going "Solar Tuki" programs. Such interaction programs will contribute to disseminate information about the technology and its benefits to the masses.
- Organize trainings for Solar Tuki entrepreneurs and service providers as per their demand and convenience. The training will be provided as on-the-job training. There will be no time limit. The training will last till the trainee feels confident of the task and is able to perform qualitative work.
- Establish Co-operative or community managed Revolving Fund to establish Central Warehouse for Solar Tuki components in Public Private Partnership concept.
- Explore the potential supplier or manufacturer of the electrical and electronic components of the Solar Tukis.
- Prepare all necessary work to import the qualitative components in bulk in a cost effective manner.
- Continuous monitoring and evaluation of the processing products and exploration of possible market niches to extend the product range and to make the industry sustainable.
- Identify potential entrepreneurs to establish new Solar Tuki manufacturing industries at local level and provide technical as well as financial assistance to them.
- Modify and upscale the product to meet the demand of the rural consumers.
- Prepare draft report.
- Prepare final report.

#### ***Project Question 4***

How is your idea innovative or different from existing approaches that are addressing the problem(s)/issue(s) you have described in question one? Why did you choose this particular approach? To your knowledge, what on-going efforts exist in this area that addresses this problem? Has your idea been implemented elsewhere or in a different context? If so, where? What specific characteristics of your project idea demonstrate that you are applying a novel/pioneering approach? (maximum 700 word)

White Light Emitting Diode (WLED) based lighting system is developed to minimize the energy consumption for lighting. Solar Tukis are using the same low wattage but with high luminous output. The idea is the immediate replacement of imported kerosene fuel-based lamps. Since the power requirement is very low and the design is very simple, it is ideal for solar charging and for use in rural areas.

Light for All Movement is a non subsidised, market force driven program based on win-win approach. It can be financed with resources available in the nation such as the fund used for importing kerosene. The need of Public Private Partnership concept to provide the basic services to the poor, is the reality of developing countries, and is true for Nepal too.

The Solar Tuki is a simple, portable and affordable solution. Our approach is to provide a network and technical support to replace hazardous kerosene tukis with Solar Tukis.

*Why did you choose this particular approach?*

Our approach to provide light for all involves a network of partnerships throughout the country. We are providing an affordable alternative to hazardous and costly kerosene tukis.

*To your knowledge, what on-going efforts exist in this area that addresses this problem?*

There are independent private approaches to sell low cost solar lighting. However the private sectors work on their own and are thus unable to reach the masses. The Government of Nepal (GON) adopted the idea and initiated *Karnali Ujyalo* program in Fiscal year 2063/2064 to provide 60,000 Solar Tukis with 95% subsidy to the poor households in Karnali zone. Alternative Energy Promotion Centre (AEPIC) under Energy Sector Assistance Project (ESAP) is planning to provide 50% subsidy to 250,000 households during the project period that will end in 2011. However, they had limited the support to a minimum of 5 watt peak system.

*Has your idea been implemented elsewhere or in a different context? If so, where?*

The Light for All program is on going program. So far we have achieved in distributing the Solar Tukis to more than 11,000 households and also helped to establish four Solar Tuki manufacturing small scale industries in four districts of Nepal.

We have also trained hundreds of local service providers on Solar Tuki repair and maintenance. To this date the outcome of the project is positive and continues to grow.

*What specific characteristics of your project idea demonstrate that you are applying a novel/pioneering approach?*

Our pioneering approach is to create a win-win partnership with institutions, micro-credit enterprises and communities, to provide basic, vital and clean lighting needs, and at the same time eliminate the use of imported expensive kerosene for lighting purpose from rural Nepal. We are also promoting appropriate renewable energy technologies.

### **Project Question 5**

What is your/your organization's role in implementing the project idea? Provide a brief description of your/your organization's activities and experience in the area/sector of the project. What is the particular capacity of your organization in implementing the project idea? (Maximum 300 words)

Our organization is the leading partner in enabling the commercialization of Solar Tukis through the following activities;

- ❖ massive dissemination of information for the entrepreneurs and the end consumers about the cost-effective Solar Lighting system
- ❖ initiate micro-credit system for Solar Tukis' purchase through existing saving groups and /or cooperatives
- ❖ capacity building and training of local assemblers and service (repair and maintenance) providers of Solar Lighting systems

The proposed project is a continuation of three earlier (completed and on going) initiatives undertaken by CRE as follows;

The initial research and development of WLED-based low cost solar Photo Voltaic lighting system was initiated in May, 1999 (completed in December 2004) with the financial support from Swedish International Development Cooperation Agency (Sida) and coordination from Asian Institute of Technology (AIT), Bangkok under Renewable Energy Technologies (RETs) in Asia - a regional research and dissemination program. During this phase CRE conducted research on WLED lamps as a part of the activities. Some prototypes of WLED lamps were developed and tested in the laboratory.

In February 2004 CRE joined hand with Renewable Energy Project Support Office (RESPO-Nepal) of Winrock International (WI) to implement a demonstration project "Rural Electrification Using Solar Energy Powered WLED" with the objective of testing social acceptability, technical sustainability, financial viability and possibility for a Clean Development Mechanism (CDM) project. The duration of the project was 8 months during which, 100 WLED lamp-based solar PV lighting systems were installed and the above mentioned objectives tested.

This proposal is prepared on the basis of experience of four years' experiences of the successful "Light for All" campaign. It is targeted to the poorest of poor who are dependant on kerosene based lamps, a sector neglected thus far by the government.

### **Project Question 6**

Who will be proposed project team leader? This person will be the key contact person between Nepal Development Marketplace 2008 team and your project team. Describe the experience/background of the project team leader with regard to implementing the above mentioned project idea. Please enclose curriculum vitae of the proposed project team leader. (Maximum 200 words).

Er. Kiran Raj Joshi will be the team leader of the project. He has been very active in the CRE team while launching the "Light for All" campaign. He was in the team in the "Solar Tuki" project funded by the World bank, Nepal development Marketplace 2005 as well as the grant funded by GEF/SGP of UNDP.

Er. Kiran Raj Joshi is an Electrical Engineer who is a founding member of the CRE as is also a member of CRE's Executive Board

ATTACHMENT:  Yes  No

### ***Project Question 7***

What is the role of your primary partner organization in implementing the project idea? Please provide a brief description of your primary partner organization's activities in the area/sector of the project. What is the history of collaboration between your organization and your partner(s)? Is there a formal agreement for partnership on this project? Please enclose a copy of your agreement. (Maximum 200 words)

The role of Clean Energy Industries is to manufacture qualitative and cost effective Solar Tukis. CEI also is establishing distribution channels and after-sales service network. The industry will be actively participating in the micro-financing of the Solar Tukis by providing credit sales. It will manage the central warehouse till the new management/executive team for the central warehouse is formed and is operational.

The industry will facilitate on-the-job training for the technical staff of the new entrepreneurs willing to initiate Solar Tuki service centers at the local level or Solar Tuki manufacturing units in their respective districts.

Clean Energy Industries is Small Scale Industry Registered in GON's Department of Cottage and Small Scale Industry. We have partnered and successfully implemented the Solar Tuki programs in many districts of Nepal. Our joint cooperation started in 2005 and is still active. A copy of the Memorandum of Understanding for cooperation signed in 2005 is attached as an annex.

### ***Project Question 8***

Who are the principal beneficiaries of the project activity? Please describe the degree of acceptance that the project has among beneficiaries and the level of participation, if any, of the beneficiaries in the project. (Maximum 300 words)

The principal beneficiaries of the project activity will be the end consumers who will be able to replace kerosene lamps with Solar Tuksi. People need light in the evening. Those who do not have access to electrical lighting system rely on kerosene lamps. A study showed that the average expenditure for such lighting is approximately Rs 150/household/month. The cost of the Solar Tuki system is Rs 3500/system with a five year warranty. The cost of the Solar Tuki is equivalent to the cost of kerosene lamp operation for two years. The user of the Solar Tuki will save monthly expenses on kerosene and will be able to pay loan required to buy Solar Tukis and enjoy additional three years of free lighting.

From the environmental point of view, the health of the population who have replaced the kerosene lamps with Solar Tukis will improve due to the absence of smoke. The risk of fire accidents will also be non existent.

New technology creates new investment and job opportunities. When there is tremendous need of a product, it will lead to the involvement of new entrepreneurs and trading houses to keep up with the demand and supply and who will thereby profit from a prospering business.

Since kerosene is an imported fuel, any reduction in demand of kerosene will have a positive impact on the national economy. Hence it is clear that the whole chain of stakeholders will benefit.

### ***Project Question 9***

What are the expected outcomes/results of your project? How are they measurable? How do these results/outcomes help your targeted beneficiaries? If possible, indicate how many beneficiaries your project expects to reach. How should Nepal Development Marketplace 2008 measure project success after implementation is complete? (Maximum 300 words)

The expected outcome of our project will be the replacement of kerosene lamps with Solar Tuki systems in the entire project area. This can be quantitatively measured by the following indicators;

- ❖ the number of households that have acquired Solar Tuki systems
- ❖ the number of entrepreneurs and service centers
- ❖ the reduced consumption of kerosene by the households in the project area

During the project phase, we start with at least 2 entrepreneurs to start Solar Tuki assembling industries. By the end of the project, we expect to expand the Solar Tuki assembling industries and Solar Tuki service centers to various part of the rural Nepal.

### ***Project Question 10***

What characteristics of your project would you highlight to suggest that it is sustainable beyond the phase funded by Nepal Development Marketplace 2008? Please describe both organizational sustainability and financial sustainability, and indicate specific details (agreements from other donors, projected revenue flows) that can be verified to suggest that your project is sustainable and can leverage Nepal Development Marketplace 2008 funding. (Maximum 400 words)

The concept of the project is not to rely on subsidies but on sustainable commercialization of the product. By disseminating information about the newly available technology and its economical as well as environmental benefits, we will be creating a demand-driven market for the Solar Tuki system.

Solar Tuki business has proven to be a profitable business. With the development of capacity building facility and Central Warehouse for ensuring component supply chain for Solar Tuki assembly business, new private entrepreneurs will emerge to run the campaign as a commercial venture. The demand for the availability of appropriate technology to fulfill that demand means that the program will continue until the demand is fulfilled. That demand is for affordable lights for the 2.4 million households in Nepal that are currently relying on kerosene wick lamps for lighting purposes.

To make the Solar Tuki system accessible to the poorest-of the poor, a micro-credit mechanism is indispensable. This project will initiate the endorsement of Solar Tuki financing in collaboration with existing local micro financing institutions and/or cooperatives. Commercialization of the product without developing a micro financing mechanism will take a very long time and will not attract immediate interest of the private investors.

The success of this pilot project will prove the need of proper policies and to enhance community participation. Proper policy development such as reduction in kerosene subsidy may ease the production mechanism, and will hence will make the product more competitive.

Since the cost of kerosene with or without subsidy will definitely increase over time, the financial attraction of the Solar Tukis will also increase proportionally.

### ***Project Question 11***

What is the possibility of implementing your idea/project elsewhere (in different parts of the county)?  
(Maximum 200 words)

This project is something that can be implemented anywhere in the country, across all the 2.4 million households currently relying on kerosene based-lamps for their lighting needs. All of these homes seek affordable and clean substitutes for lighting purpose. This project can also be implemented beyond Nepal in countries that face similar power (electricity) shortage similar to ours where the national grid electricity is not accessible and there is a demand for low cost solar lighting.

## **SECTION V: PROJECT COST QUESTIONS**

### ***Project Cost Question 1***

Briefly describe expenses in each of the categories that you have submitted in your proposal (total maximum-500 words)

Personnel:	NRs. 250,000.00
Materials and Equipment:	NRs. 1,200,000.00
Training:	NRs. 200,000.00
Travel:	NRs. 180,000.00
Others:	NRs. 200,000.00
Evaluation/Information dissemination:	NRs. 120,000.00
General Administration/Overhead:	NRs. 350,000.00
Other Funding Sources:	NRs. 1,000,000.00
Total Nepal Development Marketplace 2008 funding requested:	NRs. 1,500,000.00
Estimated Project Revenue (if applicable)	

### ***Project Cost Question 2***

Please explain clearly any non-Nepal Development Marketplace 2008 funding that your project is receiving or will receive and indicate their contributions. To the extent possible, please indicate the names of the other donors and the amount they will be contributing to your project and what the funds would be used for. Please mention all fund sources that are anticipated but NOT confirmed as yet too. (maximum 250 words)

### ***Project Cost Question 3***

If your project is generating any revenue from its activities, please describe. (maximum 150 words)

### ***Project Cost Question 4***

Please enclose your organization's audited current and a one-year projected income statement and balance sheet.

## **SECTION VI: ADMINISTRATIVE INFORMATION**

### ***Administrative Information Question***

**1**

NEPAL DEVELOPMENT MARKETPLACE 2008 will only accept applications in English for review. If your proposal is in Nepali, please enclose the original version for reference. The Nepal Development Marketplace 2008 team will only review this to clarify any potential ambiguities in the English version.

ATTACHMENT:  Yes  No

### ***Administrative Information Question***

**2**

Have you ever received a grant from any World Bank grant program?

No  Yes \*

If Yes, indicate which one? The World Bank has a number of grant funding programs that work with small organizations (Small Grants Programs, Post Conflict Fund, InfoDev, Development Marketplace Global Competition, Country Innovation Days, etc.). If you have previously received funding from any of these programs for a different project, it will not prevent you from competing in the Nepal Development Marketplace 2008. \*Nepal Development Marketplace 2005

### ***Administrative Information Question***

**3**

How did you find out about the Nepal Development Marketplace 2008? (maximum 50 words)  
From advertisement in news paper and TV

## **SECTION VII: REQUIRED ATTACHMENTS**

### ***Attachments to be included:***

1. Applicable drawing.
2. Corresponding timeline.
3. Curriculum vitae of proposed project team available.
4. List of Project Management Team/Staff.
5. List of Board of Members of your organization.
6. Copy of formal partnership agreement
7. Audited current and a one-year projected income statement and balance sheet.
8. Your organization's and your partner's registration certificates.
9. Original version of your proposal (if written in Nepali).

*I certify that the information provided is true and correct. By signing this document, I confirm our organization's participation to the Nepal Development Marketplace on June 24, 2008.*

  
Signature

Date 18 June 2008