



Yejj Solar Technologies
Affordable Solar Energy For Cambodia

Solar Energy Micro-Entrepreneurs (Concept Paper)



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Solar Energy Micro-Entrepreneurs

OVERVIEW:

- *Yejj Solar Technologies is working to build a network of people to become micro-entrepreneurs selling solar lighting solutions to the rural areas in Cambodia, in a sustainable and scalable way.*
- *We will partner with NGOs, MFI's and other organizations working on the ground that will facilitate the identification of potential micro-entrepreneurs and in the communication with them and the end customer.*
- *It is an income generating venture for local entrepreneurs. They can start by selling just a few a week and move up to full time depending on their level of success and profit.*
- *To assist the Micro Entrepreneurs, financing mechanisms will be available to make the business affordable, profitable, successful and sustainable, in the shortest possible time.*
- *Yejj will focus on reliability, service, technical support and training, using our knowledge and experience to introduce other essential products that are of need in each community.*

PLEASE CONTACT US IF YOU WOULD LIKE MORE DETAILS OF THIS INITIATIVE.

GOAL: To establish a sustainable and scalable network of local people as micro-entrepreneurs who can sell efficient, clean, and affordable energy products throughout Cambodia and S.E. Asia.

SETTING: A vast majority of people in developing countries live under conditions that trap them in a poverty cycle.

For example: In Cambodia, more than 80% of the population is not connected to the electrical grid. They rely on expensive, dangerous, and inefficient sources of lighting and energy, such as kerosene and car batteries, which often lead to pulmonary illnesses and frequent burns that keep children from school and adults from work. In worse case scenarios, adults and children can be severely handicapped respiratory illnesses and entire houses can burn down with the family's few precious belongings.



The **poorest people are paying the most for the worse quality energy**, and on top of that also incur higher related costs such as higher healthcare, and extra time and money to replace the fuel. All of this results in further financial burden for rural families, **keeping households trapped in a poverty cycle.**

PROBLEM

What is preventing rural households from acquiring the appropriate products and services that will help them break the poverty cycle? There is not a lack of demand for better energy products. There is not a lack of products being designed to meet the needs of rural households. There are financial resources, organizations, and people willing to help.

The main problem is lack of access and availability. In most villages, access to products and services, available in more developed hubs within the country, is prevented by factors such as economic limitations, lack of communication and information, irregular transportation, illiteracy, etc. Facilitation of rural access to essential products and services is crucial for the development of rural areas, and an understanding of the local factors preventing the lack of access is crucial in any attempt to introduce new products and services. But the sustainability and scalability of any new product depends on more than pure access. Access has to be provided in a way that encourages constant feedback between beneficiaries and suppliers to address changing needs, changing economic environments, and ensure the proper use and functioning of the products.





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SOLUTION

A solution to this problem is in the creation of a network of local people to be micro-entrepreneurs selling solar lighting solutions. This includes identifying and training local people who can be trained and equipped to go out to these rural areas to sell products. Micro-entrepreneurs understand the factors playing a role in preventing people from accessing essential goods and services. They understand the needs of the people, society, economic environment, and ideally, they have the trust of people in their communities. This is essential in markets that are mostly run by informal institutions such as trust and kinship. If the entrepreneurs are convinced of the quality and positive impact of the products they carry, the people in the community will at the very least be willing to try them. This trust is also important because these entrepreneurs will be able to gain a better understanding of people's reactions to different products, their needs and wants.

Training a network of entrepreneurs is the most sustainable way of creating access in remote areas. They serve the role of distributors, salesmen, quality control, and even as market researchers. They get a share of the earnings while keeping prices affordable by limiting the number of middlemen in the distribution chain. Eventually these entrepreneurs will be skilled enough to train other and thus the process becomes self sustaining.

This model has been extremely successful in other developing countries such as Bangladesh with the Grameen Organization, Guatemala and Nicaragua with Soluciones Comunitarias, and Sri Lanka with the Sarvodaya Organization... among many others.



Identifying Entrepreneurs: Working with organizations that have experience on the ground in the rural areas that have developed relationships with the communities, we look to identify individuals with the potential to become micro-entrepreneurs to be trained with essential business and technical skills. This includes giving them an understanding of the importance and the benefits of the products in order for them to go out and use their knowledge of the culture, society, and personal relationships, to facilitate the introduction of these products into these communities. They would then make a profit on each product they sell and have an income for themselves and their family.



These local entrepreneurs also serve as a very reliable source of feedback in order to understand the needs of the households and track the use, consumer satisfaction, and reliability of the products. An essential strength of this approach is that it creates a direct and constant link between us and the end customer. Whenever the entrepreneur re-stocks they will also report back to us on what these problems, needs, and ideas are so we can immediately respond with tech support, better marketing, price adjustments, new products, or whatever the issue is.

Pricing Structure: These entrepreneurs do not need to forgo their current income generating activity. They can begin by working part time. By just working 5-8 hours a week, a micro-entrepreneur can sell about 10 desk lamps (one kit), earning an additional monthly net income of \$60 (About \$30 the first time around since they have to pay for the cost of the kit, but this is a one time cost). If the micro-entrepreneur finds this more profitable than what they currently do, they can gradually increase the time spent selling our products. Using the experience of Barefoot Power, in Africa, India, and the Pacific Islands, we know that a person selling solar lights full time, can sell about 60 desk lamps, which gives them a monthly profit of about \$360.

- **Retail Price for each Lamp: \$26**
- **Cost of 10 Lamps to Entrepreneur: \$200**
- **One Off Cost of Kit: \$35**
- **Potential Revenues From Sale of 10 Lamps: \$260**
- **Potential Profits From Restock of only 10 Lamps: \$60**



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Initial Set Up

Micro-Entrepreneurs purchase special kit, which includes strong carry bag, t-shirts, hats, promotional material, basic business plan and accounting tools.
Each kit includes 10 lamps.

ENTREPRENEUR'S REVENUES				
Products Sold	10	20	40	60
Monthly Revenues	\$ 260.0	\$ 520.0	\$ 1,040.0	\$ 1,560.0
Cost of Goods Sold	\$ 200.0	\$ 400.0	\$ 800.0	\$ 1,200.0
Monthly Gross Profit	\$ 60.0	\$ 120.0	\$ 240.0	\$ 360.0
Monthly Net Profit	\$ 25	\$ 85	\$ 205	\$ 325

Subsequent Re-Supply: After the entrepreneur has solar the initial ten lamps, they will only have to purchase the lamps, since they can re-use the rest of the kit (bag, shirt, business plan, etc), therefore significantly increasing their net income, especially for those selling low volumes:

Products Sold	10	20	40	60
Monthly Revenues	\$ 260.0	\$ 520.0	\$ 1,040.0	\$ 1,560.0
Cost of Goods Sold	\$ 200.0	\$ 400.0	\$ 800.0	\$ 1,200.0
Monthly Gross Profit	\$ 60.0	\$ 120.0	\$ 240.0	\$ 360.0
Monthly Net Profit	\$ 60	\$ 120	\$ 240	\$ 360

FINANCING MICRO-ENTREPRENEURS

Despite the profitability for the micro-entrepreneurs, the initial cost is too high for most potential entrepreneurs. This initial cost needs to be financed in a way that gives them a sense of ownership by allowing them to finance their own business as soon as possible after the initial investment. This way the small business becomes sustainable and does not depend on further donations and/or financing. Micro Entrepreneurs can be financed in two different ways:

Donations: Working through our charity in the UK and other partnerships, Yejj Solar Tech is creating a stream of donations to pay for the micro-entrepreneur kits. The money financed through donations will be given to those in the highest need i.e. evicted families, families with handicapped members, households that have lost a parent or where the parent is sick and cannot work anymore, families affected by natural disasters, etc. Kits given out by donations will only apply to first time entrepreneurs. With the profits earned from selling the kit, these entrepreneurs will be able to finance their next batch:

Subsequent Purchases: Considering that the total cost for the re-stocking the 10 lamps is \$200, the profits from this first round are large enough to allow the entrepreneur to finance the next purchase on his own and even make a \$60 profit! This approach makes it a sustainable practice since the entrepreneur will not depend on further donations for the success and sustainability of his new small business.



Micro-Finance: Microfinance can be applied at both the consumer side as well as in the entrepreneur side. A business loan (income generating loan) can be given to the micro-entrepreneur to help him start his business. With the numbers provided below, it would only take 4 batches (4 loan cycles) for the business to become self sustaining and the micro-entrepreneur will then be able to finance himself. Eventually depending on the relationship with the MFI, micro-entrepreneurs can also act as loan officers for consumer loans given to people buying their products.



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LOAN DETAILS (example)	Loan	Interest Rate	Monthly Repayment
	\$250.00	30.00%	\$27.00
ENTREPRENEURS REVENUES			
Products Sold	10	20	40
Monthly Revenues	\$ 260.0	\$ 520.0	\$ 1,040.0
Cost of Goods Sold	\$200.0	\$ 400.0	\$ 800.0
Monthly Gross Profit	\$ 60.0	\$ 120.0	\$ 240.0
Monthly Net Profit	\$ 33	\$ 93	\$ 213

FUTURE GROWTH FOR THE MICRO ENTREPRENEURS

Adding New Products: The entrepreneurs will gain valuable market information for the communities they work in. They will gain an understanding of people's needs and desires. The constant feedback between Yejj Solar will allow us to introduce other essential products into the communities. Some products that we already expect to get a demand for, aside from the range of solar lighting kits, are solar cookers and solar driers for farms, and even some basic water filtration systems.



Reliability and Service: This constant feedback (the entrepreneur reports to Yejj Solar, or local partner organization, every time he/she wishes to re-stock,) will allow us to have updated information on product failures and limitations. The micro-entrepreneur will be trained to address basic issues, but for any problems beyond his skills, the entrepreneur will be instructed to replace the part/system and return to us. Yejj Solar Technologies believes that reliability is essential in the introduction and sustainable distribution of products to those in need.

PARTNERSHIPS

We continue to look for NGO's, charities, foundations & other organizations that are either interested in partnering to create income generating opportunities, or, have a strong presence on the ground to help us identify these potential entrepreneurs. We are also looking to partner with microfinance organizations interested in providing business start-up loans as well as other consumer loans for the end buyers of the solar energy products. We work on a case by case basis, establishing a relationship with each organization that utilizes the other's strengths in order to provide the best support to the end users. If you believe your organization is interested in this initiative, please contact us to identify the best possible way to work together to improve the lives of people in Cambodia in a sustainable way.

We look forward to hearing from you about how our organizations can work together. Please contact us at the address at the beginning of this document.