



Distributing Light and Livelihoods: Solar Products Create Economic Empowerment for Women in India

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Overview

India is the second most populous country in the world, with over 1.29 billion people – 66 percent of whom live in rural areas.^I Rural India faces various developmental challenges, such as lack of connectivity, inadequate infrastructure (including energy^{II} and water) for the last-mile, and lack of sustainable livelihoods. Access to distribution in rural markets is difficult for private sector companies as well as consumers. Fragmented and disorganised distribution channels make it difficult for companies to identify existing networks or to build new ones. Large geographies with widely dispersed populations and non-existent transportation infrastructure increase the cost of distribution and after-sales service. To add to this, there is no ready access to skilled individuals to work as marketing, sales, management, or technical/after-sales service agents, especially in remote areas. At the village level, there are few local distribution agents who can deliver these products.^{III} Consumers face additional costs and long travel times to reach brick and mortar stores, which often offer only a limited range of relevant products. These challenges are compounded for women, who are more severely impacted by mobility and time constraints. For example, the lack of efficient energy connections increases the time women must spend to meet their household responsibilities, which in turn reduces their opportunities to engage in economic activities. It also exposes them to health risks from kerosene oil and other fuel-based lighting sources.^{IV} Women in rural India also face particular constraints towards engaging in economic activities. Only 5.6 percent^V of women in rural India have regular salaried employment, and even when they are employed, it is often in low-skill and low-productivity jobs with poor or no pay.^{VI}

IFC's [Lighting Asia/India](#) program aims to address these challenges and accelerate access to clean and affordable energy in rural India by promoting modern off-grid lighting products and home systems. The program works with the private sector^{VII}

to address barriers to growth by providing market intelligence, fostering business-to-business connections, strengthening last-mile access, and raising consumer awareness of quality-assured lighting products.^{VIII} It is currently operational in the states of Uttar Pradesh, Bihar, Rajasthan, Odisha, and Assam.

The market for modern off-grid solar products including solar lamps and solar home systems in India was severely underdeveloped when the program started in 2012, with 400 million people relying on kerosene for basic lighting. In addition to the challenges of building demand among last-mile customers and ensuring delivery to them, the early entry of low-quality solar lighting also meant that customers were wary of spending money on potentially faulty products.

The Lighting Asia/India Program recognized the need for creative approaches to persuade customers to adopt solar lighting. It also seized on the enormous opportunity to build gender-smart business solutions that address these challenges.

Partnering for Business and Development Impact

Dharma Life is a social enterprise focusing on rural entrepreneur development and last-mile rural sales and distribution in India's villages. It typically recruits women in villages, and trains them to be entrepreneurs. Dharma Life entrepreneurs (DLEs) earn between INR 1000 - 8000 per month (USD^{IX} 14 - 117). They sell and distribute products with social impact including quality solar lanterns and home systems, modern cook stoves, water purifiers, sewing machines, sanitary napkins, nutritional supplements, and services such as digital literacy and behavior change campaigns. Dharma Life has extensive partnerships with more than 15 leading companies and brands including Unilever, P&G, Coca-Cola, and Samsung.

To date, Dharma Life has created a network of more than 16,000 rural entrepreneurs. More than 75 percent of these are women, and they reach more than 10 million beneficiaries in over 40,000 villages, across 13 states, including the low-income states of Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh, and Chhattisgarh. Since 2014, IFC and Dharma Life have partnered to help grow this network of women distribution agents and to support Dharma Life's expansion into new geographies within India. IFC provides advisory support to Dharma Life to train its existing entrepreneurs for better impact, and to create awareness about alternative and clean sources of lighting in its areas of operation.



Challenges for Women Entrepreneurs

Women entrepreneurs in emerging markets face a unique set of challenges^X in setting up, scaling, and growing sustainable enterprises. These include:

- **Business Management Skills:** Compared with men, women entrepreneurs have lesser exposure to formal business training, especially in marketing and financial management, and they are more likely to operate their enterprises from their homes.
- **Lower Confidence:** Women tend to display lower confidence in their abilities as entrepreneurs compared to their male counterparts.
- **Smaller Networks:** Women entrepreneurs operate in smaller, less-diverse networks than men and are less likely to seek support from their social networks to grow their businesses.
- **Limited Access to Finance:** Banks and mainstream financial institutions still consider women to be risky borrowers and often doubt their ability to succeed.

Dharma Life encountered all of these challenges as it sought to expand and deepen its scope and impact across rural India, since it started operations in 2009. Low confidence and motivation made it difficult to recruit more women entrepreneurs, while existing DLEs lacked appropriate business skills, leading to high attrition.

Gender-Smart Business Solutions

IFC worked with Dharma Life to enhance the organization's entrepreneur screening and training program to better identify and equip its entrepreneurs with appropriate business and personal skills. The objective was to build the capacity of Dharma Life's team to deliver entrepreneurship training and support the DLE network to scale up over a five year period. IFC and Dharma Life also decided to measure the impact of the program for a period of six months post the training delivery to isolate the benefits of the new screening tools and the tailored entrepreneurship training focused specifically on women's needs.

I World Bank, 2018, <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS> World Bank staff estimates based on the United Nations Population Division's World Urbanization Prospects: 2018 Revision.

II India has made tremendous progress towards achieving the goal of universal electrification with 100 percent of households being electrified as of March 2019. Nonetheless, according to 2018 research by the Prayas Energy Group - Watch Your Power Summary Analysis – October 2018, most rural households in these states experience frequent outages, with inconsistent access to electricity during the evening hours

III C.K. Prahalad, Fortune at the Bottom of the Pyramid (New Jersey: Pearson Publishing, 2005), [https://www.ev.com/Publication/vwLUAssets/ev-rural-e-commerce-the-untapped-potential/\\$FILE/ev-rural-e-commerce-the-untapped-potential.pdf](https://www.ev.com/Publication/vwLUAssets/ev-rural-e-commerce-the-untapped-potential/$FILE/ev-rural-e-commerce-the-untapped-potential.pdf)

IV Deloitte, 2015, Women, Energy and Economic Empowerment, <http://www.theatlantic.com/sponsored/deloitte-shifts/women-energy-and-economic-empowerment/261/>

V ILO, 2017, https://www.ilo.org/global/about-the-ilo/newsroom/statements-and-speeches/WCMS_621364/lang-en/index.htm

VI Indian rural women's wages were around two-thirds of the average wages of rural male workers in 2016-17 according to data from the Centre for Monitoring Indian Economy, 2017

VII The program is currently working with d.light Energy, Greenlight Planet, Devidayal Solar Solutions Pvt Ltd, Frontier markets, Dharma Life, Signify Innovations India Ltd. and Omnivoltaic Power Company Limited

VIII These are products that meet the World Bank Group's [Lighting Global Quality Standards](#)

IX Conversion rate of USD 1 = INR 71.35 (as on 30th December 2019) has been used throughout this case study

X Insights from IFC, 2017, Women Entrepreneurs are Essential for Private Sector Development in Emerging Markets <https://www.ifc.org/wps/wcm/connect/d7623440-8bb4-4827-9ce5-470dcb6f86b1/Entrepreneurship+Offering+Brochure+July2017.pdf?MOD=AJPERES&CVID=IQps6KM>

In September 2015, IFC and Dharma Life conducted a needs assessment with DLEs in Bihar, where Dharma Life was seeking to train more women to join their distribution channels as entrepreneurs. Learnings from this needs assessment were used to design a customized entrepreneurship training solution (with a special focus on women) using an IFC training methodology (Figure 1).

During 2015 and 2016, IFC also delivered the *Suryoday* (sunrise) campaign to increase the awareness of quality assured solar lighting products in the states of Bihar, Rajasthan, and Uttar Pradesh.^{XI} Dharma Life was one of the IFC's partners in this campaign, and it harnessed its DLE network to convert the this newly-generated awareness and interest into post-campaign sales across 26 districts. Dharma Life reported that the campaign helped significantly in driving awareness of quality-assured lighting products and enhanced DLE performance in

solar lighting sales. IFC is now partnering with Dharma Life to undertake a similar campaign that will include Odisha and Assam, in addition to the three states mentioned above.

In October 2017, IFC and Dharma Life hosted an event to commemorate International Girl Child Day, focusing on gender equality, women's empowerment, and clean energy. The *Beti Padhao, Roshni Badhao* event emphasized the commitment of Dharma Life and IFC to provide clean sources of light that would improve quality of life for rural women, in partnership with women entrepreneurs at the village level. The event brought 100 DLEs from rural areas in Uttar Pradesh to its capital city - Lucknow. In 2018, IFC also worked with Dharma Life on a needs assessment for digitizing its teaching and training curriculum. This explored ways to scale up the existing curriculum to reach more women in remote areas, while reducing training costs.

Figure 1: Entrepreneurship Development Program created by IFC and Dharma Life

Basic Entrepreneurship Development Program

Approach and Methodology: An instructor led blended learning program focusing on overall personality development of the entrepreneurs.

Modules

- Marketing - Concepts and Promotional Skills
- Sales - Concepts and Selling Skills
- Financial Management
- Business Planning
- Tracking and MIS
- Behavioral and Soft Skills

Program Details

Program	Classroom Training	On Field Training	Total
TEJASVINI I	15 hours	5 hours (to be started)	20 hours

Experiential Learning

- Participatory tools like role plays, case studies, GDs facilitating the process of meaningful reflection, engagement and skilling on real life field situations

Discovery Learning

- Field study on real life market assessment to understand the pulse of the market
- Games, activities and trainer tales to discover the softer aspects of personality needed to become a successful entrepreneur

Simulation Based Learning

- Extensive simulations on real market to acquire skills in marketing, promotion and acquiring customers

XI To know more about the campaign, visit <https://www.youtube.com/watch?v=UBc3BCNmjYk>

Demonstrating Impact:

IFC's partnership with Dharma Life has helped grow the DLE network, improved consumer awareness, increased adoption of social impact products, and generated greater incomes for entrepreneurs. Through the new training program, Dharma Life has included and incentivized women in its rural distribution network and demonstrated the business case for women entrepreneurs. In 2016, IFC undertook an evaluation to measure the impact of its new screening tools and training on the performance of Dharma Life and its entrepreneurs.^{XII} It found the following:

- **Greater diversity in the distribution network:** Dharma Life successfully increased its network of entrepreneurs from under 5,000 in 2015 to over 16,000 in 2019, of which 75 percent were women. Prior to this training, women represented only 15 – 20 percent of their entrepreneur network.
- **Increased sales and income:** After the successful delivery of the training program in 2015, IFC undertook an evaluation to measure the impact of its new screening tools and the entrepreneurship training on the performance of the entrepreneurs. Conducted in 2016, this evaluation compared the incomes of 369 trained women entrepreneurs with 121 women entrepreneurs in the same location who did not undergo the training between 2015 and 2016.^{XIII} It was found that entrepreneurs who were screened through IFC screening mechanisms before undergoing training had 17% higher earnings than those who were not. Additionally, women DLEs who underwent the IFC-designed training increased their average monthly income by almost seven times.^{XIV} In addition, DLEs recruited using the IFC screening tools and who received training reported higher incomes compared to trained DLEs who were not recruited using screening tools (INR 3,272/USD 48 vs INR 2,786/USD 40.97 respectively). DLEs who were neither appointed using the screening tools nor undertook IFC's training earned INR 2,487/USD 36.57.



- **Enhanced employee satisfaction:** Both men and women DLEs reported higher employee satisfaction, and enhanced community and familial recognition of their work. DLEs also reported higher confidence in conducting awareness activities and driving behavior change campaigns.
- **Lower Attrition:** Dharma Life reported that attrition among women DLEs fell by 15 percent within the first year of training. They attributed this to the screening tools and training developed by IFC.

Since 2016, Dharma has successfully trained over 16,000 entrepreneurs, of whom 75 percent are women. Today, Dharma Life continues to deploy the entire Saksham (capable) and Tejasvini (intelligent) modules in its entrepreneurship training curriculum.

XII This evaluation attempted to isolate the benefits of the new screening tools and the new entrepreneurship training designed by IFC. The study analyzed the behavior and income of three batches of DLEs: (i) Batch I – Trainees selected through IFC screening tools & attended IFC training, (ii) Batch II – Trainees not selected through IFC screening tools & attended IFC training, (iii) Batch III – Trainees neither selected through ICECD screening tools nor attended IFC training. It also compared a sample of trained women (2016 income) to a small set of women and separately a sample of men who didn't undergo the training (baseline from the previous year) but within Dharma's network as a control group.

XIII The data set from 2015 (prior to training) is smaller because Dharma did not have too many women DLEs before the IFC training, which focuses on training women entrepreneurs

XIV An increase from USD 1 to USD 7 or INR 63 to INR 478



What Dharma Life says

“The IFC Lighting Asia/India partnership has been one of the key collaborations that has helped Dharma Life achieve several milestones. With support from IFC, we shifted our focus to nurturing women entrepreneurs from village communities, since we believe that including women in the workforce translates to gender empowerment. It has been established that women around the world invest 90 percent of their income back into their families and communities, which translates into greater access to nutritious foods, education, healthcare, and increased economic activities.”

Gaurav Mehta
Founder and CEO, Dharma Life

What a Dharma Life entrepreneur says

“Earlier my family’s income was less than INR 2,000 (USD 28) per month. Now, after being involved in multiple projects with Dharma Life, I am earning enough to be able to keep savings in my bank account and maintain a contingency fund for emergencies.”

Bindu Devi
DLE, Uttar Pradesh

What IFC says

“Promoting clean and inclusive growth is a key strategic priority for IFC and we have been working with the private sector to develop innovative business solutions in this market. Our partnership with Dharma Life to develop and expand the network of women entrepreneurs in rural areas and reach the last mile with quality solar products is an example of how we support gender-smart business solutions by working and growing with our partners.”

Jun Zhang
IFC Country Manager, India

Case Study: Bindu Devi

Age: 32 Village: Hiranpur, Block: Chiraigaon
 District: Varanasi, State: Uttar Pradesh

Bindu Devi always had an interest in sewing and designing, but she lacked the confidence to pursue it as a livelihood. Her husband was the only paid income earner in the family, but his health was poor and when his condition deteriorated, he was unable to work for several months. Bindu did not know how her family would meet its basic needs. Then Bindu came across a Dharma Life staff member recruiting entrepreneurs in her village. After learning about Dharma Life’s business model, she realized that it was the opportunity she had been waiting for. She attended the training and became a Dharma Life entrepreneur.

Now, depending on the season, Bindu earns between INR 500 – 3,000 (USD 7 - 42). She was able to save enough money to buy a scooty (an automatic lightweight self-start scooter) which she uses to visit other villages and grow her sales even further. Bindu has now opened her own workshop. She has set up a sewing unit and trains 40 other women in her village to make school uniforms. She says her business has benefited from Dharma life’s new consumer credit model. This simple credit facility enables rural consumers to overcome high upfront costs associated with products such as induction cooktops and puts women in a better position to make purchasing decisions. Bindu also participated in Facebook’s free ‘She Means Business’ digital marketing training, and she plans to use her new social media skills to further expand her business. She has also contacted local schools and hopes to receive regular orders for student uniforms. In addition to earning her own income, Bindu has won recognition from the wider community. Women and men in the village look up to her as a role model. Bindu also joined a team assigned to take care of her community’s water purifying plant that uses reverse osmosis technology, ensuring access to clean drinking water. In recognition of her work, Bindu has been officially awarded the title of SHG (self-help group) Sahayika (helper) and she also now mentors ten SHGs. Bindu feels secure, self-sufficient, and proud of being recognized as a change maker in her village.^{XV}



“I did not want my kids to face the same difficulties that my husband and I faced due to lack of education. Being a DLE has helped me to provide them with a good education and plan a better future for them.”

Bindu Devi

XV To know more about IFC’s Lighting Asia/ India program and Dharma Life Entrepreneurs, visit https://youtu.be/ZBvnCbos6_c

About IFC

IFC—a sister organization of the World Bank and member of the World Bank Group—is the largest global development institution focused on the private sector in emerging markets. We work with more than 2,000 businesses worldwide, using our capital, expertise, and influence to create markets and opportunities where they are needed most. In fiscal year 2019, we delivered more than \$19 billion in long-term financing for developing countries, leveraging the power of the private sector to end extreme poverty and boost shared prosperity.

For more information, [visit www.ifc.org](http://www.ifc.org)

About Lighting Asia/India

Lighting Asia/India is an IFC program that aims to increase access to clean, affordable energy in rural India by promoting modern off-grid lighting products and systems. The program works with the private sector to remove market entry barriers, provide market intelligence, foster B2B linkages and raise consumer awareness on modern lighting options. The program is currently operational in the states of Bihar, Uttar Pradesh, Rajasthan, Odisha and Assam.

Lighting Asia/India Program is implemented in partnership with Australia, Austria, Canada, Hungary, Iceland, Italy, Luxemburg, Netherlands and Norway.



For more information, visit <http://lightingasia.org/india/>

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