

PHILIPPINES-DUBAI

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- DURATION

Ongoing

- POPULATION 2024

- URA SCOPE

ECONOMY Urban Prosperity Beyond GDP

- TOPICS

WOMEN COOPERATIVES, CLEAN ENERGY, MICROENTREPRENEURS, COMMUNITY EMPOWERMENT

- MAIN ACTORS

Dubai

Department of Environment and Natural Resources Philippines

Al-Futtaim Education Foundation



Liter of Light

At Liter of Light, the belief is that the key to eradicating energy poverty lies in an empowering truth: every person has the potential to make a significant impact. Instead of relying on costly, imported technologies, this grassroots movement demonstrates that sustainable change can arise from within communities themselves. By equipping individuals with the tools to develop their own solutions, a path to a brighter and more sustainable future is being illuminated, one light at a time.

In some of the most climate-vulnerable areas of the world, local leaders, enthusiastic volunteers, and entire communities are empowered to build solar-powered reading lights, streetlights, and mobile charging systems using readily available materials. Resources like plastic bottles, bamboo, and pottery are not merely waste; they are essential materials that enable the provision of simple, affordable, and scalable technology. The micro-solar panels that power these lights are meticulously handcrafted, creating green job opportunities within the community.

Additionally, women's cooperatives are involved in assembling the electronic components, providing vital economic opportunities for local women. With just a screwdriver, participants can complete the circuit and install the lights in a single day, transforming their environment and lives instantly.

These solar lights last for five years, significantly impacting communities by providing clean energy and reducing carbon emissions by 1,000 kg—effectively replacing harmful traditional light sources like kerosene lamps. However, the mission extends beyond merely providing light; there is a dedication to transforming lives and communities. Since 2013, over a million people have been positively affected annually across 32 countries. By imparting green skills and creating job opportunities, partnerships with over 600 women's cooperatives have been formed, fostering long-term resilience and empowerment within local communities.

Moreover, this initiative has created some of the world's largest hand-built solar artworks, inspiring two Guinness World Records—one for the World's Largest Sustainability Lesson (2018) and another for the World's Largest Solar-Powered Artwork (2024). These extraordinary installations engage thousands—youth, city leaders, and environmental advocates alike—in the AMENA (Middle East and North Africa) region, spreading messages of hope and advocating for an end to energy poverty. After their completion, solar lights are distributed to rural and off-grid communities, furthering the essential mission to illuminate the world with innovative and sustainable solutions.



Impact

The approach aims to decrease dependence on complex international supply chains by empowering local communities with customized, "hyperlocal" products. Guided by South-South principles, the strategy emphasizes local ownership, leadership, access to raw materials, and technology transfer. Experience has shown that for every solar-powered light, mobile charger, or streetlight solution provided through training, the number of similar solutions replicated is typically 6 to 10 times higher.

By adopting solar solutions, households can save up to \$3 per day on their electricity bills. This savings allows families to invest in essential areas such as nutrition, health, education, and agriculture, ultimately enhancing their overall well-being. Reliable access to solar energy increases household productivity, whether it's for completing chores, doing schoolwork, or engaging in business activities.

Additionally, it reduces the health risks associated with carbon-based fuels, which can lead to conditions like asthma and respiratory infections. The hand-built streetlights benefit local farmers and fishers by improving transportation to markets and significantly reducing crime and violence by up to 70%. They also provide better study conditions for students at night, boosting their productivity and future opportunities.

Women's cooperatives and community collectives trained as solar engineers are creating small businesses and empowering others in their communities. This successful model is being replicated across various regions, promoting economic growth and sustainability.

Through the "Light It Forward: Messages of Hope" campaign, thousands of young people, city residents, and local leaders have worked together to build solar lights for off-grid, climate-vulnerable communities. This initiative has earned two Guinness World Records for public engagement and impact in 2018 and 2024.

The Challenge

The pressing challenge at hand is the pervasive energy poverty experienced by climate-vulnerable communities, where the reliance on costly and environmentally damaging carbon-based fuels is widespread. In these communities, access to clean and reliable energy is severely limited, leading to significant repercussions on various facets of life. The health of community members diminishes as toxic fumes from traditional energy sources compromise air quality, while productivity plummets due to inadequate energy for essential activities. Families, especially women, are affected by the costs of conventional energy sources like kerosene, which places a heavy financial strain on household budgets. These communities grapple with the dire consequences of air pollution, the depletion of local forests through deforestation, and the ongoing challenges of financial instability, which hinder their ability to thrive and adapt in an already vulnerable environment.

Many communities face a significant challenge in transitioning to cleaner energy solutions due to a lack of technical expertise and resources. It's crucial not only to provide energy but also to ensure that the transition is sustainable and that the community is actively involved in the process. Unfortunately, many initiatives fail because they do not engage the community in the design or implementation stages, resulting in locals becoming passive recipients instead of active participants in creating their own solutions.

Solution Proposed

The model centers on training local women's cooperatives to transition from dirty, costly carbon-based fuels to clean energy solutions, thereby creating income opportunities for their families. We engage these cooperatives from the beginning, co-creating solutions and empowering them with the technical skills needed to address energy poverty while retaining ownership of the process. These cooperatives evolve into micro-entrepreneurs and trainers, capable of empowering other communities. This model has been successfully replicated in disaster-stricken areas, displacement camps, and low-income urban neighbourhoods.

We assist climate-vulnerable communities in transitioning to clean energy by utilizing hyper-local production, repairable technologies, and innovative financing. Throughout this process, we engage with the community through consultations, ensuring they take the lead in finding solutions. Our network includes local cooperatives, migrant communities, and volunteers from youth groups and professional organizations.

In 2020, we launched "Light It Forward," an online campaign aimed at sustaining our mission during the pandemic. Over 8,000 young leaders from the Philippines and the UAE constructed solar lights, benefiting more than 100,000 people over three years. Our solar art installations, the largest of their kind, raised awareness and offered sustainable lighting solutions to communities in need.

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