Philippine solar light bottles offer hope

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Illac Diaz (R) and Siplicio Mondas inspect a solar light bottle installed by Philippine soldiers in a shanty town in Manila. With the help of some plastic bottles plus a social media campaign, Diaz is aiming to help a million poor people in a year.

Filipino entrepreneur Illac Diaz is aiming to help a million poor people in a year, and with the help of some plastic bottles and a clever social media campaign may do even better.

Diaz's project appears simple -- fill discarded soft drink bottles with water, place them in roofs of houses and allow the refracted light to brighten homes during the day instead of using electric bulbs.

However, what began as a small-scale effort in a Manila slum early this year has quickly spread throughout the Philippines and even into impoverished communities as far away as Colombia, India and Vanuatu.

It has also earned Diaz accolades from the United Nations, which will bring him to its climate change summit in South Africa next week to show world leaders how "solar light bottles" are helping to tackle global warming.

"This has blown us away," Diaz, head of MyShelter Foundation, told AFP of the international reaction to the project that is in part due to a powerful YouTube clip and smart use of social media sites such as Facebook.

"Our original concept was just a Philippine project. We didn't think it was going to be possible to do it on this scale."

More than 15,000 solar light bottles have been installed in slums around the Philippine capital this year, and the project was set to ramp up with another 10,000 to be put in homes during a mass day of volunteer action on Wednesday.

Soldiers install solar light bottles on a roof in a Manila shanty town. The idea is simple - fill discarded soft drink bottles with water, place them in roofs and allow the refracted light to brighten homes during the day.

Diaz said another 100,000 would be installed in the Philippines' second-biggest city, Cebu, in December, putting the project on track to meet or exceed its goals of helping one million people over 12 months.

"This is a grass-roots revolution, a people-powered revolution, using simple and low-cost technologies," Diaz said.

Diaz described the bottle concept as the opposite of Al Gore's Inconvenient Truth model, which he said required poor countries to import or develop clean energy technologies such as windmills and solar panels.

"These are expensive and not a lot of people... actually benefit from them," he said.

"So instead of going high-tech, high-specialty, why not go with something that could be done by hand and cheaply, but could be replicated thousands or millions of times. You can affect more people, save more carbon."

Diaz said each solar light bottle each year saved 17 kilograms of carbon dioxide, one of the gases that causes global warming, compared with a household using an electric light bulb instead.

"If you multiply that by a million bottles, that will save more carbon than one huge windmill which costs more to run."

In the San Pedro slum community on the outskirts of Manila where the project started, residents think not about the climate but of the extra light they enjoy during the day without having to use an expensive electric bulb.

Inmates and jail guards manufacture solar light bottles at a jail in Manila. Illac Diaz said another 100,000 would be installed in Cebu in December, putting the project on track to meet or exceed its goals of helping one million people over 12 months.

Many of the slum houses are dark even during the brightest days, with few windows in the concrete or corrugated iron walls to let the daylight in.

Monico Albao, 46, has five solar bottles installed into the corrugated roof of his tiny home that he shares with his 22-year-old daughter, her bus conductor husband and their two-month-old grandson.

"My electricity costs have halved. The money we save, we spend on food and clothes for my grandson," said Albao.

The solar light bulb emits the same amount of light as a 55 watt electric globe, and is expected to last for up to five years, according to Diaz.

All that is required is a disused soft drink bottle, which is then filled with purified water and a small amount of bleach to stop any bacteria from growing.

The bottle is then placed inside a hole in the roof and sealed so that rain does not leak through. When the light passes through the bottle, it refracts and shoots into the room in all directions.

MyShelter Foundation is not the first group to use the solar light bottle -- Brazilian Alfredo Moser is largely credited with coming up with the concept a decade ago.

However Diaz's organisation has been singled out for praise from the United Nations for its ability to upscale and reach so many people.

In this regard, Diaz said one of the keys to his success was using the Internet to make people aware of the solar bottle while also giving them a solution online so they could immediately begin installing lights on their own.

Diaz said a person in Colombia began a replica project in September after watching MyShelter Foundation's YouTube clip, while others had been set up recently in South Africa, India, Indonesia, Vietnam, Nepal and Mexico.

Diaz, who oversees a permanent staff of just a dozen people, also uses the online publicity to attract volunteers in the Philippines and sponsors from abroad.

"This is all part of us becoming an NGO 2.0 -- helping a million people without being a multi-million-dollar foundation," said Diaz.