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The gift of light: Solar initiatives in Malaysia's rural areas

Some NGOs and companies have stepped in to help aid the rural communities receive access to clean electricity

by AZALEA AZUAR & HIDAYATH HISHAM

RURAL areas often lack access to basic needs such as clean electricity but with Malaysia's all-year-round sunlight, renewable solar energy is a solution.

One of the National Energy Policy 2022 to 2024's (NEP) initiatives is to supply electricity to rural areas to improve the communities' socio-economic activities.

However, solar panel maintenance and replacement works result in specific targets not being met, particularly in Sabah and Sarawak, due to the vast size of the regions.

Fortunately, there are some NGOs and companies that have stepped in to help aid the rural communities overcome their limitations.

KampungKu

Deep in Taman Negara, one of the world's oldest remaining virgin forests, a veteran Malaysian naturalist witnessed firsthand the stark divide between the exotic wildlife and the harsh living conditions of its indigenous communities.

For over 18 years, former Malaysian Nature Society (MNS) conservationist Andrew Sebastian has been leading nature tours in Taman Negara.

"Every time we visit a village, we can see them living without basic essentials," said Sebastian, who joined the MNS after spending his childhood at the Forest Research Institute of Malaysia (FRIM), where his father worked for the Forestry Department.

What he witnessed were villagers using fire for light, risking fire hazards, and discarding depleted batteries from flashlights, contaminating the very environments they are meant to be protecting.

"They still use single cell battery-operated torch lights, which then get discarded into their surrounding area," he told *The Malaysian Reserve* (TMR).

Confronted by these scenes during his tours, Sebastian was driven to take action.

In 2018, he joined forces with his nephew Arran Rahul Hashim to launch the KampungKu (My Village) initiative, with an initial goal of delivering sustainable lighting solutions to remote Orang Asli villages.

The solar lights enabled children to study at night, and villagers to safely forage after dusk and to charge mobile phones, maintaining a crucial link to the outside world.



With access to solar lighting provided by Signify Malaysia, villagers can move safely and utilise their communal areas for work and social gatherings at night

Securing funding from corporate partners to purchase solar lights and batteries was the first major obstacle.

Logistics posed another formidable challenge, with some villages only accessible by boat along rivers after gruelling drives from urban centres.

However, perhaps the biggest challenge was ensuring the solar lights could withstand the harsh environments and withstand heavy downpours, floods or being accidentally damaged by roaming wildlife.

"It is not easy to get them to be careful with the products, to maintain it as long as possible. The lights, if used properly, can be used for many years to come," Sebastian said.

It was an ongoing learning process that required extensive engagement and open communication with the villagers themselves. The perseverance paid off, with KampungKu successfully lighting up six villages so far and working on delivering solar power to a seventh community.

But Sebastian, who had served as an official spokesperson for MNS and coordinated grassroots campaigns to protect areas like Belum Temenggong, Perak, and Bukit Larut, Perak, did not stop at just providing light. He went a step further by addressing economic empowerment and self-sufficiency for the Orang Asli.

Sebastian hoped that KampungKu's rights-based approach to sustainable development will inspire more such collaborative grassroots conservation models across Malaysia and beyond, embodying the ethos of the United Nations Sustainable Development Goals (UNSDG) to uplift marginalised communities.

Words quickly spread about

this empowerment initiative, with other villages clamouring for similar opportunities.

While trying to manage expectations, the feedback so far has been resoundingly positive.

Not restricting itself to lighting and economic initiatives, KampungKu has also established a school for the children of the Bateq community in Kampung Kuala Atok, Pahang, providing them a rare opportunity for early childhood learning.

Looking ahead, Sebastian hopes to rapidly scale up and replicate KampungKu's innovative model for holistic indigenous empowerment across more communities, especially those residing precariously near protected forest areas struggling with poaching and encroachment.

The bigger vision is for these empowered communities to become active partners in conservation efforts protecting their ancestral lands.

At its core, KampungKu's philosophy is to engage indigenous groups through sustainable development initiatives that tangibly improve their living standards and economic opportunities, while fostering a symbiotic relationship of mutual trust and shared understanding.

"It is a two-way exchange of knowledge between the modern world and ancient indigenous wisdom," Sebastian said.

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"We hope KampungKu inspires a generation of youngsters to come forward and help local communities," he added.

Signify Malaysia

Consumer and Internet of Things (IoT) lighting professional Signify Malaysia Sdn Bhd conducted its solar lighting corporate social responsibility (CSR) project at Kampung Orang Asli Sungai Jentong in Trolak, Perak, last year.

This project aimed to ensure the provision of lighting accessibility to the villagers.

It conducted research to identify Orang Asli villages in rural areas that could greatly benefit from solar lights before the CSR project's initial stages, and was informed of Perak's increased support for solar lighting installation in rural areas and Orang Asli villages.

The company contributed its expertise in energy-efficient lighting to meet Perak's targeted aim of installing 1,000 smart solar lights in needy areas. Additionally, it aided the government in achieving its target of net-zero emissions, as outlined in the National Energy Transition Roadmap (NETR).

Signify Malaysia faced many challenges during the set-up process due to the village being deep in the palm tree plantations.

To install solar street lights to help illuminate the main road leading up to the village, the team had to be extra careful in determining the suitable placement of each street lighting poles so that the solar panels would be able to receive adequate sunlight.

Signify Malaysia also installed outdoor solar lights and replaced old fluorescent bulbs in house-

holds to ensure they would not disturb the plantation.

The team also took extra precautions to not cut down any palm trees and made sure that the grounds were solid so that the solar street lights were stable enough to withstand environmental changes.

To make this project possible, the company worked with village head Asmah Pejajah (Ibu Amoi) who ensured a smooth installation and became the mediator between the team and the villagers.

With access to solar lighting, the villagers can move safely and utilise their communal areas for work and social gatherings at night.

It also reduces the community's dependency towards traditional lighting such as kerosene lamps and candles, which can produce harmful air pollutants when burned.

Ibu Amoi shared that there were measurable changes where the villagers were able to continue doing their handicrafts activities and crafting tools at night, increasing their overall productivity compared to only working during the day.

On the other hand, the younger generation enjoyed playing outdoor sports after dark while also balancing schoolwork and indoor activities.

The community can also treat emergencies more effectively with the help of solar energy, as well as prevent dangerous predators like snakes from entering their homes.

"We believe that solar initiatives in rural Malaysia can significantly reduce energy consumption and carbon emissions from outdated fluorescent lighting and in turn contribute to the NETR," a Signify Malaysia spokesperson told TMR, adding that it is also in line with the company's Brighter Lives, Better World (BLBW) initiative.

Dealing With High Costs

Abol Ismail has been using solar power in his home in Sabah for the past 20 years. He also has experience setting up solar panels in rural areas.

However, he admitted that it is very costly to do so.

A household in rural areas generally requires 2,000 watts of solar panels, which cost RM7,500 without the battery.

Moreover, logistics in East Malaysia are challenging since most of the goods come from Peninsular Malaysia instead of Kota Kinabalu or Kuching.

Therefore, delivery costs to the region increased by 20%.

"There aren't many shipping companies that want to handle solar panels because the battery is categorised as a dangerous good," he told TMR.

Abol suggested that those who want to ship from Sabah and Sarawak to plan early and buy in bulk, while hoping that the government would subsidise the cost of solar panels.



In 2018, Sebastian (right) launched the KampungKu initiative, with an initial goal of delivering sustainable lighting solutions to remote Orang Asli villages



Abol has experience setting up solar panels in rural areas and admits that solar panel installation is very costly



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