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Renewable Energy Access for off-grid Communities and Households

REACH NEWSLETTER

CLEAN ENERGY FOR A RESILIENT WORLD

REACHing for Sustainable Development

MA. RUTH S. SURID, the president of the Kapatiran Pamana Sustainable Livelihood Program Association shares about her dreams of achieving success for their community-based business in Silvino Lubos.

Today, it is clearer than ever that our solutions are in nature.

Renewable energy is key for sustainable development, and its uses are far greater than a means of light. For the communities in Northern Samar, it is a source of electricity for their daily needs, an opportunity for them to improve their businesses and organizations, and a part of the answer towards better disaster risk reduction and resiliency from climate change.

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Situated in an area that witnesses an average of 3 to 4 major typhoons in a year, the pacific-facing towns of the province of Northern Samar are prone to threats of storm surges and tsunami. Electrical lines are also vulnerable to strong winds, typhoons and earthquakes. Sometimes, it can take anytime from a week to over a month before power is restored following a major typhoon. Costs of both electricity and repairs spell a major problem for the energy sector in the area. Moreover, many communities are too far for traditional power sources to reach, and therefore have little to no access to electricity.

This is why renewable energy should no longer just be an alternative, but a priority. Often known as sustainable energy, it refers to energy that can be replenished or replaced within one's lifetime. The greatest and most popular form is solar energy, which harnesses the rays of the sun and converts it into electrical energy using photovoltaic cells. As long as the sun's light is available for consumption, it can be utilized for day-to-day activities even during typhoons. Its benefits address a wide scope of environmental, social, and economic issues.

Perhaps one of its greatest advantages is its resiliency in case of natural disasters and emergencies. Unfortunately, Municipal Disaster Risk Reduction and Management plans have not adequately incorporated renewable energy into the strategy. This is especially alarming for health sectors, which use solar photovoltaic panels for freezers used in vaccine storage, but do not have enough of these to run a full operation in case of a power outage. In the midst of a global pandemic, which can mainly be countered by herd immunity through vaccination, access to reliable energy for health sectors is a necessity.

Initiatives to install solar photovoltaic systems in off-grid communities are also more likely to come from non-government organizations or donors rather than directives from the local government. This exposes the large gap in transforming the essential demand for renewable energy in disaster resiliency into concrete and strategic action at a municipal and provincial level.

In order to address this need, the **Renewable Energy Access for off-grid Communities and Households (REACH) Project** funded by the **European Union through the Access to Sustainable Energy Program (ASEP)** and implemented by **People in Need (PIN) Philippines, Entrepreneurs du Monde (EdM) and Malteser International (MI)** was created. This consortium is determined to advocate for a complementarity towards renewable energy through providing solar home systems to households and community-based organizations and businesses, and enjoining local government units and private sectors in this goal.

Business Operations (Community-based Organization and Businesses)

Increase productivity: more produce or processed products in half the time

Goods are more available to consumers

Easy access to Radio News and Provincial/Municipal Disaster Risk Reduction Management Office (P/MDRRMO) announcements

Calls to colleagues, business partners, government entities can be continued even during typhoons

Continuous production because of no power cuts

Reduce the risk of spoilage in processed products

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How can RE benefit you?

Households

Stable and reliable access to energy

Zero fuel cost of energy from the sun

Price certainty of hardware (PvM) with a 5 to 10 year warranty and affordable solutions (connection fees and monthly billing)

Can be utilized for productive use like charging cellular phones

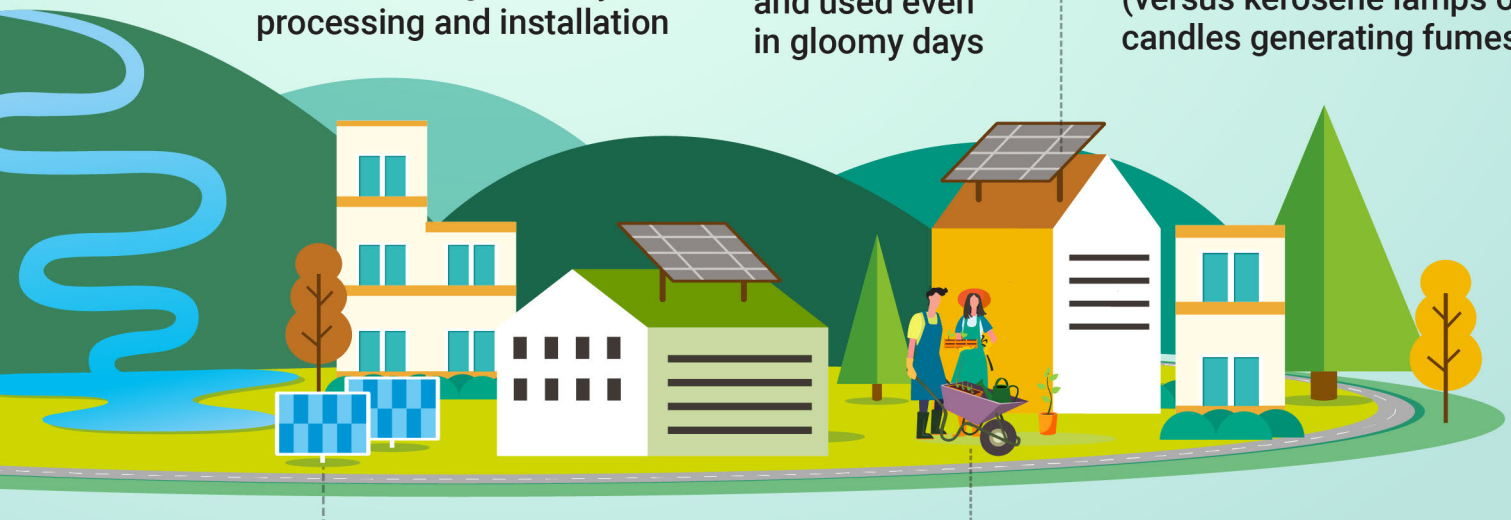
Can easily be stored in times of strong winds and typhoons, and used even in gloomy days

Eco friendly solutions, with no indoor pollution (versus kerosene lamps or candles generating fumes)

LGU, Municipal, Provincial, National and Global

Renewables have the potential to create employment in the industries of the future (50 percent more jobs than coal)

Creates economic development and jobs in farming activities, manufacturing industry, processing and installation



Solar facilities are cheaper than constructing new coal power plants.

Can attract international investment and improve public health

More time with family, friends, neighbors for study, leisure and other day-to-day activities (i.e. cooking, cleaning, chores)

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FAUSTINA YOSORES, head of the Northern Samar Indigenous Handicrafts and Coco Coir Producer Association (NSIHCCPA), in front of their newly woven lamps, baskets and bags in Rawis, Laoang. NSIHCCPA is one of the People in Need's chosen Community-Based Organization beneficiaries.

Forging partnerships with UEP-AREC and NORSAMELCO

People in Need (PIN) took some major strides in the road towards electrifying rural poor off-grid and under-electrified households (HHs) in Northern Samar. The first one was the identification of a winner for the procurement of **photovoltaic model solar household system (PVM-SHS)** which is for the **500 HHs residing in off-grid and far-flung areas in the province.**

Another initiative taken is the negotiation for partnership with the **University of Eastern Philippines – Affiliated Renewable Energy Centre (UEP – AREC)** which has strong possibilities for linking beneficiaries with expert guidance on renewable energy. Part of the opportunities for collaboration between PIN and UEP-AREC is an **Awareness Raising Campaign** component for the 500 household beneficiaries of the project.

PIN also organized the **Capacity Building of Norsamelco for the Department of Energy (DoE) Photovoltaic Model Solar Home System (PVM SHS) Implementation** at Sophie's Farm, located in Barangay Doña Lucia, Mondragon on 17 to 19 Feb 2021. The Resource Person of the training was **Pelagio A. Pastor** who is also the current **Consultant of the Federation of Electric Cooperatives** in Region 8. The training was well-participated by a total of 19 personnel coming from both Norsamelco and PIN.

The activity aimed at developing organization and management systems, including the procedures to establish, operate as well as manage the RE PVM SHS of 500 HHs in off-grid and under-electrified communities in the province. Moreover, after the training, the two decided on the **creation of a Solar Business Unit (SBU) within Norsamelco** that would manage the collection system generated by the use of the SHS. The next highlighted achievement was the establishment of a **regular coordination mechanism between PIN and Norsamelco** specifically for the REACH Project to fast-track just and relevant implementation schedules. An **Action Plan for the installation of the PVM-SHS of 500 HHs** in the REACH target areas covering 10 municipalities was also formulated. Upon the end of the training, Norsamelco personnel were more committed and eager to engage work with the REACH Project through the SBU.

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REACH Project Induction and RE Assessment

Malteser International (MI) has finally begun its implementation on the **Renewable Energy Access for Off- Grid household and Community (REACH) Project** incorporating the **Inclusive Community-based Disaster Risk Reduction and Management (ICBDRRM)**. This project is in partnership with **People in Need (PIN)** and **Entrepreneurs Du Monde (EDM)**, and aims to reduce the vulnerability of rural poor Filipino communities towards the adverse impacts of climate change through enhanced use of renewable energy sources.

The team is closely working with 35 Barangays in 8 municipalities in Northern Samar. This was the result of the thorough deliberation anchored to the criteria set of exposure to major hazards and vulnerabilities, capacities to recover from disaster, and access to energy and electricity. From the courtesy calls down to Barangay validations, the 35 Barangays were identified and are considered as off-grid and vulnerable communities prone to disaster. Listed below are the 35 Barangays included in REACH project.

MUNICIPALITY	NO. OF BRGYS.	BARANGAYS
1. Lao-ang	**5**	Cabagnan; Gibatangan; Palmera; Sibunot; and Yabyaban
2. Las Navas	**5**	Caputoan; Lakandula; Mac Arthur; Rufino; and Sag-od
3. Lope de Vega	**5**	Cag-aguingay; Osmeña; Paguite; Roxas; and Sumuroy
4. Mapanas	**2**	San Jose and Siljagon
5. Mondragon	**1**	Cagmanaba
6. Palapag	**5**	Bangon; Jangtud; Maragano; Nabobtac; and Sangay
7. Pambujan	**5**	Cagbigajo; Manahao; Senonogan; Tula; and Ynaguinganyan
8. Silvino Lobos	**7**	Caghilot; Geparayan; Gicboan; Imelda; San Isidro; Sinunogan de Tobang; and Tobgon
TOTAL NUMBER OF BARANGAYS	**35**	

MI'S RE TECHNICAL OFFICER conducts an RE Assessment with the Barangay Council for improvement of the BDRRM Plan.

In line with this, the team had just finished its Municipal and Barangay Induction on the aforementioned municipalities and barangays. To ensure the harmonious partnership in engaging Municipalities in the project implementation, a **Memorandum of Agreement** (MOA) is being negotiated with respective Barangays.

An RE Assessment was administered by a RE Technical Officer through a meeting with the Barangay Council and other sectoral groups present in the community. Apart from the power source and evacuation practices, the RE Technical Officer was able to identify the facilities and equipment that will be provided under the project and improved **Barangay Disaster Risk Reduction and Management (BDRRM) plan**. Based on the findings, energy sources generally used before, during and after emergencies were the generator, kerosene, dry cell battery and small solar 3 w bulb with 12 v motor cycle battery as an immediate source in absence of electric power in the locality.

Map of Northern Samar

RE ARE YOU AN whiz?

How knowledgeable are you when it comes to renewable energy? Take this quiz to find out!

1. TRUE OR FALSE?
Geothermal energy comes from the heat of the sun.

Answer:

2. What do you call energy that comes from sources that are harmful to the environment and will never be replenished?

Answer:

3. What is renewable energy?

Answer:

4. This is the source where solar panels and battery gets its energy that is needed to produce electricity so that it can power lights and other appliances.

Answer:

5. How many hours of sunlight is equivalent to one year's worth of energy for the entire earth?

Answer:

6. There are five major types of RE. Give at least 2.

Answer:

7. YES OR NO? Solar energy is utilized for lighting, and many more. If you are currently connected to the grid, can you still have solar installation?

Answer:

8. TRUE OR FALSE?
Solar panels cannot be exposed to rain; they must always be dry.

Answer:

9. TRUE OR FALSE? Solar panels capture the heat coming from the sun, and transform it into electricity through the battery and inverter.

Answer:

10. TRUE OR FALSE? During rainy and cloudy days, solar panels are able to generate electricity.

Answer:

11. Which among the following appliances cannot be powered by solar? (bulbs, tv, fan, rice cooker, fridge, freezer, razor, drilling machine)

Answer:

See answers on Page 8

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Awareness campaigns and 2 RE-powered houses

Last December 2020, the **Entrepreneurs du Monde (EDM)** team installed **two model houses in Barangay Cabungaan and Barangay Camanggaran**, in the municipality of Silvino Lubos. While waiting for their procurement to reach the province, they decided to let these two communities discover their smart-grid systems by exhibiting their products in easily accessible areas.

The smart-grid system allows interconnecting households to utilize a solar mini grid where each house is equipped with a battery, and a charge controller, as well as any necessary appliances, while the solar panels are shared between households. Both barangays captains offered their homes as demonstration houses, and welcomed the community to visit and see various appliances such as lights, fans, tv and receiver, and fridge and freezer powered by solar energy. Upon viewing the variety of products, the residents confirmed their interest in employing solar energy.

The local electric cooperative, **Norsamelco**, visited Barangay Cabungaan last January to help them understand their systems and learn about alternative sources of power. This activity was in support of their extension to remote areas of the province. Their feedback was encouraging and led to fruitful discussions on how to maintain and operate such systems in order to provide quality service to Nortehanon households. Norsamelco and EdM will work together over the coming year, and design a sustainable model for the future. A **Memorandum of Agreement** was signed between Norsamelco and EdM, marking the official start of EdM installations with their first beneficiary barangay in the municipality of Silvino Lubos.

By the end of January 2021, EdM had raised **RE awareness** with more than 750 household representatives from 60 Barangays across various municipalities of Northern Samar. Barangay officials

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A HOUSE IN SILVINO LUBOS, the municipality with the highest number of off-grid barangays, equipped with a solar home system.

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POTENTIAL BENEFICIARIES of the solar home systems play a board game about renewable energy for EdM's awareness campaign.

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and community members were eager to participate in their workshops to talk and learn more about renewable energy. They were enthusiastic in exploring safe and affordable alternatives to power their homes. The residents participated in interactive events that featured a human-sized board game and mobile photo booth with different facts about sustainable energy. At the end of the campaign, all participants expressed interest to use RE products, and emphasized how beneficial these solar-powered solutions would be for their daily lives.

RE QUIZ ANSWERS
(from Page 6)

1) No! Geothermal Energy comes from the heat from deep inside the Earth. It generates steam to make electricity through the technology; 2) Non-renewable Energy; 3) RE comes from sources that are naturally replenished such as sunlight, wind, rains, tides, waves, and geothermal heat; 4) Sun; 5) 1 hour; 6) Solar, wind, hydro, geothermal, & biomass; 7) Yes; 8) False! Solar panels can stay under the rains. But the battery should always be protected from sunlight and rain; 9) False! Solar panels capture the light, or the brightness coming from the sun; 10) True! As long as there is light, there is power! Solar panels will capture the light until the sun sets. But of course, the more sun there is, the faster the battery will charge; 11) None! You can power them all but you need to have the proper equipment capacity to provide enough watt hour.

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EdM: https://www.entrepreneursdumonde.org/en/
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