

RESILIENT AND RENEWABLE ENERGY SYSTEMS FOR BARANGAY CENTERS AND DESIGNATED RESETTLEMENT SITES WITHIN THE YOLANDA CORRIDOR



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Resilient nations.

Duration	:	Phase I: 6 months Phase II: 24 months
Proposed Budget	:	Phase I: USD 1,000,000 Phase II: 3,000,000
Location	:	Affected barangays (villages) in 43 Typhoon-affected Municipalities
Beneficiaries	:	The poor and most vulnerable communities
Project Execution	:	UNDP in partnership with local government units, NGOs, CSOs/POs, cooperatives

Project Context

In the early morning of 8 November 2013, typhoon Yolanda (internationally called Haiyan), made landfall in the eastern Visayas region of the Philippines. With winds up to 250 kph sweeping through the region, accompanied by a storm surge of up to 5 m, the typhoon caused wide spread damage and losses. As of 10 December, 5,924 people were reported killed and 1,779 were missing. Along the north-west trajectory of the typhoon, a total of 14 million people across nine of the country's poorest provinces were affected. More than 1.1 m houses were destroyed. The eastern coasts of Samar, Eastern Samar and Leyte were among the worst affected. The city of Tacloban, the fifth fastest growing urban center in the country, recorded the highest loss of lives and property. The national government, the local government units, national and international NGOs, relief teams from more than 20 countries, and the UN launched a large humanitarian response to the disaster. Although the affected communities have already begun their own recovery efforts with the limited resources available, the magnitude of the disaster is so severe that it will take several years for them to recover fully. The total cost of damage from this disaster is estimated to reach over PhP 35 billion (over US\$ 806 million), with the damage to infrastructure particularly extensive in parts of Eastern Samar and Leyte, especially Tacloban, Guiuan and surrounding municipalities.

Other affected areas reported less damage to major infrastructure, with the exception of the electricity grid. Across most regions of Panay, northern Cebu, Negros Occidental and northern Palawan, electrical transmission lines (including some high-voltage transmission lines), were destroyed by the unprecedented winds.

As it is, the widespread nature of the destruction caused by Yolanda has overwhelmed national repair and restoration capacities. Despite considerable assistance from electricity transmission companies in other islands, the electricity cooperatives in the typhoon-affected regions continue to face considerable delays in restoring supply. This is even more apparent in remote rural and upland areas that only had limited coverage to begin with. The expansion of the grid to these underserved areas may be further delayed for years by the damages and losses due to Yolanda.

Access to electricity is a critical need in disaster and post-disaster situations in order to ensure that critical communications, health and basic needs can be provided. The vulnerability of the grid system to natural calamities, however, highlighted the need for more resilient, local sources of power supply to augment the on-grid system in disaster-prone regions. Renewable local energy systems, such as solar, micro- and pico-hydro or local biomass systems, are less vulnerable to disruptions, not to mention being more affordable to run and more environmentally sustainable.

This initiative proposes to provide self-contained renewable energy systems to critical local centers (barangay offices with associated health centers, health clinics, etc.), as well as to selected relocated households (targeting the poorest beneficiaries) in order to provide affordable and sustainable access to electricity that is more resilient to disasters and natural hazards. Technical assistance will also be provided to local enterprises interested in investing in renewable energy equipment such as solar dryers and solar water pumps. These installations will also serve as high-profile pilot demonstrations for resilient local energy solutions, which can help inform and

INDICATIVE BUDGET

Project Activities	US\$)
Renewable energy systems	4,400,000
Solar dryers, solar powered water pumps, etc	700,000
Energy efficient lighting and cookstoves	900,000
TOTAL	6,000,000

educate surrounding communities and enterprises on the benefits of off-grid energy solutions in disaster-prone situations.

Project Objectives

- To establish functional renewable energy systems (e.g. solar, wind, hydro, biomass or hybrid) that will provide affordable energy to barangay centers and relocated households in the poorest affected areas, paired with livelihood applications
- To contribute to energy security and raise awareness on sustainable energy and energy efficiency

Project Activities

- Provide support to rapid assessment of renewable energy (RE) system requirements of target barangay centers and designated resettlement sites
- Design and set up appropriate RE systems in public facilities such as barangay halls, multi-purpose areas and barangay health centers and resettlement sites in the poorest affected areas
- Install energy efficient lighting (e.g. compact fluorescent lamps or CFLs and light-emitting diode or LEDs) in public facilities such as barangay halls, multi-purpose areas, barangay health centers, public markets and resettlement sites in the poorest affected areas
- Provide renewable energy/energy-efficient cookstoves to relocated households
- Provide access to RE-based equipment like solar dryers or solar-powered water pumps to support various socio-economic activities like post-harvest processing, communal irrigation or potable water distribution in resettlement sites
- Conduct hands-on training of local authorities and community members in implementing RE technologies and operating, managing and maintaining community RE systems; as well as organize a pool of local RE technicians

Project Impact

- Contribute to resilience of public facilities in the poorest barangays through energy self-sufficiency, while increasing the utility of these facilities through sustainable energy sources for response in times of disaster
- Reinvigorate the local economy by immediately supporting sustainable livelihoods
- Build the capacities of local authorities and communities on RE to support their primary needs
- Strengthen community solidarity

Implementation modality

The project will be executed by UNDP directly, with financial, technical and programming support. Complementarity with UNDP projects will be ensured, especially with the newly approved proposal entitled, "Development for Renewable Energy Applications Mainstreaming and Market Sustainability (DREAMS) Project", with the Department of Energy. Project implementation will be carried out by non-government organizations (NGOs), civil society organizations (CSOs), and people's organizations (POs) in the affected areas in partnership with the Affiliated Renewable Energy Centers, local authorities and technology providers.

Monitoring and Evaluation

Regular monitoring visits to the project sites will be conducted to ensure that activities are implemented and that targets will be achieved. At least one monitoring and evaluation officer will be engaged to conduct monitoring and evaluation throughout the course of the project.

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December 2013



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