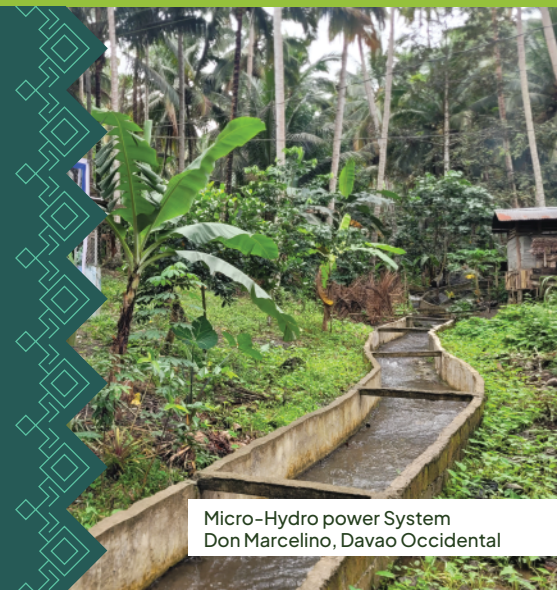


# Ex-post Evaluation of the Access to Sustainable Energy Programme (ASEP) in the Philippines



## Towards a sustainable energy transition

ASEP was a programme funded by the European Union and implemented mainly by the German development cooperation agency GIZ, the World Bank, the National Electrification Administration (NEA), International Organisations, local and international NGOs and CSOs, in close cooperation with the Department of Energy (DOE) and other key energy sector agencies. ASEP ran from December 2015 until October 2023, whereas the independent ex-post evaluation was conducted by NIRAS from September 2024 to March 2025 to assess the programme's performance and draw lessons. This brief presents the key learnings and recommendations resulted from the evaluation, and which can benefit future renewable energy programmes in the Philippines and beyond.



Micro-Hydro power System  
Don Marcelino, Davao Occidental

## Lessons Learned

# 1



Solar Photovoltaic (PV) systems can be an effective and sustainable solution for off-grid island communities, both as mini-grids and as household-based systems, like Solar Home Systems.

For off-grid investments to be sustainable, they should be located in really remote areas which will unlikely be reached by grid expansions. If households eventually get served by the grid, community-run off-grid systems might become obsolete.

# 2



Solar PV systems can now be expected to have a 20-year service life with suitable long-life lithium-iron-phosphate (LFP) batteries.

The sound technical design and implementation of renewable energy systems, including the need for suitable types of batteries, is crucial for systems to keep working sustainably.

Solar Home Systems under maintenance  
SOCOTECO II, South Cotabato



# 3



Electric cooperatives are well placed to perform the operation and maintenance of centralised and decentralised renewable energy systems in their geographical coverage areas, as they already have the necessary in-house technical expertise.

Further involving and capacitating Electric Cooperatives in renewable energy should be a priority in the Philippines' sustainable energy transition.

# 4



Building disaster-resistant solar PV systems can further strengthen communities' resistance to, and recovery from, extreme weather events and increase the sustainability of solar PV system investments. Island schools powered by solar PV systems can serve as important evacuation centres for communities to shelter and then recover from typhoons and other disasters.

Solar energy then serves both climate change mitigation and adaptation.

# 5



Community development and empowerment has been shown to be crucial for community-run energy systems and to yield cascading community and individual effects from the enhanced provision of energy access.

Beneficiaries having formal ownership of the infrastructure, and the organised, systematic and accountable collection of funds for ongoing operation and maintenance and major equipment replacements are key factors to ensure the sustainability of locally owned renewable energy systems.

# Lessons Learned

6



School electrification is a good starting point for island or rural electrification, but schools should allocate part of their annual budget for operation and maintenance and replacement parts, employ a maintenance staff member or, at least, count with the support of an Electric Cooperative.

Activities that benefit the wider community, such as phone charging stations, small shops and productive activities, should be well planned and organised in order to work after the project is completed, especially since agreements might not be kept with ongoing school staff turnover.



Developing livelihoods through the establishment of new business activities is more effectively achieved by providing direct support to associations and cooperatives to develop their own renewables.



Datal Basak, Sarangani

7



Basic access to electricity through Solar Home Systems supports women in their economic empowerment, as it allows more productive hours at home for domestic and income generation activities.

It also supports children and youth in their studies, as it allows them to study and complete homework assignments at night.

8



The concept of Productive Uses of Renewable Energy (PURE) is too complex to be delivered in single development projects of limited duration. The relevant partners or government agencies need to first support the development of viable productive uses through an existing or newly created community organisation, or with a private sector partner.

Then, once the productive activity is running, and only if it is really located off-grid, should the renewable energy element be considered for development. Otherwise, it is worth investing in energy access for off-grid communities.

9



Capacity development through technical assistance focusing on policy development and education curricula development on energy policy and management (at the graduate level) and electric installation and maintenance (at the technical education level) are needed to ensure the incentives and capacities required to drive the sustainable energy transition.

10



Renewable energy projects need to be carefully and realistically designed in remote areas. The deployment of staff, procurement of imported equipment, number of compliant bidders, supply availability, fees and complex customs procedures can delay and even cause non-completion. It is important that future interventions account for those implementation periods and challenges.



Solar panels pump water to goat dairy farm Santa Cruz Multi-Purpose Cooperative Maasim, Sarangani



# What's next?

## Recommendations from the evaluation

### For the EU and other development partners



Continue to finance local Civil Society Organisations working to support clean energy development and environment at the community level and focus on the most vulnerable.

Those interventions should include community strengthening and livelihoods development, as well as partnering with Electric Cooperatives to guarantee the technical capacity and generation of required ongoing operation & maintenance funds.

ASEP implementing partners, including the grantees, need to fulfil their legally binding contractual obligations and have clear timelines until project closure, under supervision of the EU Delegation.

This includes seeking alternative sources of funding to resolve outstanding elements of ASEP, such as handing over equipment to beneficiaries and establishing financing mechanisms for the replacement of all existing off-grid projects' batteries with 20-year service life LFP batteries.

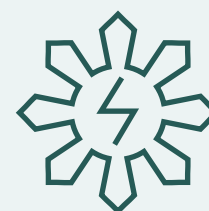
A discussion forum, led by DOE, is established with NEA, NPC and Electric Cooperatives, to improve payment possibilities of Solar Home Systems to better serve remote communities, monitor results and share learnings.

Among the options that can be explored are mobile payments and new options such as households paying for maintenance services rather than using one single electricity load rate. The forum could also cover the experiences that Electric Cooperatives have with tampering and share solutions to work with the communities to reduce tampering levels.

DOE and NEA work to ensure that the next generation of Solar Home Systems is designed to be more robust and harder to tamper with, as well as to include latest technology of long-life LFP batteries.

### For Philippine energy stakeholders

DOE, NEA, ERC, NPC and others



### For Electric Cooperatives

Actively pursue investment opportunities in solar power plants utilising available land near the Electric Cooperative's substations and connecting to the distribution grids.

SOCOTECO II Solar Farm, South Cotabato