



**WINROCK**  
INTERNATIONAL



Winrock International

Environment Programs

## Indonesia



Beginning in 1960, through the Agricultural Development Council, Winrock International provided more than 50 advanced degree scholarships, training Indonesian leaders in fields such as environmental and natural

resource management, economics, sociology, agriculture and rural development. Today, Winrock continues to build upon these initial successes through integrated sustainable forest management, clean energy and climate change programs designed to improve the livelihoods and surroundings of those who inhabit this Southeast Asia archipelago.

### Improving Remote Energy Access

In more than two decades in Indonesia's renewable energy sector, Winrock has successfully increased access to energy for rural communities, improved policy frameworks and investment programs for renewable energy, introduced renewable energy options for livelihood and poverty alleviation initiatives, and built the capacity of NGOs, private project developers and government agencies.

Since 2009, Winrock has been working on the **Sumba 'Iconic Island' Project**, providing ongoing technical assistance to the project lead, **Hivos International**. Winrock prepared preliminary renewable resource assessments, baseline studies and detailed GIS-based mapping of Sumba Island to provide a solid basis for a renewable energy blueprint issued by the Ministry of Energy and Mineral Resources. Winrock's work on Sumba continues with renewable energy

implementation projects, working with developers, local governments and communities. Upcoming work includes working with a private sector company to install 0.5 MW of wind power in 2014 and installing a PV-powered water pumping system for irrigation.



Beyond Sumba, Winrock has been actively working on larger-scale grid-connected renewable energy development and smaller-scale off-grid renewable energy projects. Winrock has been assisting **General Electric** to conduct **on-site wind measurements** since early 2009, and facilitated cooperation with project developers in large-scale wind farms. For the **USAID Environmental Cooperation-Asia Clean Development and Climate Program (Eco-Asia)**, Winrock led work from 2006 to 2011 to address energy challenges and reduce greenhouse gas (GHG) emissions through targeted technical assistance, training, regional cooperation and knowledge sharing. Work with partner banks and project developers resulted in three financial closures for one biomass and two mini-hydro projects with a combined capacity of 77.5 MW, annual GHG reduction of 281,700 tCO<sub>2</sub>eq, and investment of \$88.2 million.

## Reducing Emissions

Since the early 1990s, a number of conservation, renewable energy, and carbon-centric projects and programs have been implemented to address and combat the growing climate change threat. Winrock has provided expertise to assist in developing and implementing sustainable development including cutting edge forest carbon collaboration, renewable energy resource development and biodiversity preservation using advanced remote sensing and spatial analysis tools for improved forest management.

Indonesia is the world's leading producer of palm oil, with more than 8 million hectares of land dedicated to oil palm growth. A key part of the economy, the industry is also a significant source of GHG emissions. The USAID-funded **Capacity for Indonesian Reduction in Carbon from Land Use and Energy (CIRCLE)** project is working with more than a dozen palm oil mills to address carbon challenges in the sector via projects that convert waste into renewable energy. Ongoing assistance, through technical and financial feasibility assessments and sustainability screenings, is building capacity for renewable energy generation and methane capture at these sites. This assistance will lead to the construction of two biogas power plants and financial closure on a third.

Drainage of tropical peatland forests in Indonesia for logging purposes and for conversion to rice and palm oil plantations is a key source of GHG emissions. Peatland drainage leads to wild fires and emissions from the decomposition of organic peat soils. Sebangau National Park in Central Kalimantan is a former logging concession where a network of canals constructed for logging activities contributes to the reduction of groundwater level, decomposition of the peat and ultimately degradation of the entire ecosystem. The **Sebangau Carbon Project** aims to stop peat drainage in the National Park to mitigate GHG emissions and protect the peatland ecosystem. In 2011, as part of the project, Winrock completed the first draft of a methodology for Peat Rewetting and Conservation under the Verified Carbon Standard (VCS). The proposed project type covered by this methodology is aimed at reducing GHG emissions

from peat oxidation by rewetting previously drained tropical peatlands through technical means (e.g., the establishment of dams in drainage canals), which means fewer carbon emissions through decomposition of peat and a reduced risk of fire.



*Lamandau River Wildlife Reserve*

Reducing Emissions from Deforestation and forest Degradation (REDD+) is a global effort to combat deforestation and resulting carbon emissions, and foster conservation and the sustainable management of forests. Indonesia has the third largest tropical forest in the world, and has a high rate of deforestation due to illegal logging, unsustainable forest management, forest fires and forest conversion. In 2012, funded by the **Clinton Climate Initiative (CCI)**, Winrock completed a feasibility assessment for the proposed **Lamandau River Wildlife Reserve Buffer Zone REDD+ Project** in Central Kalimantan. The assessment identified the GHG impact of converting forest to oil palm and identified potential project activities. In 2013, Winrock will provide technical assistance to CCI and local partner Yayorin to support the development of a carbon project using VCS and Climate, Community and Biodiversity (CCB) standards for an avoided peat swamp forest conversion project in the Lamandau River Wildlife Reserve Buffer Zone.

Winrock International is a nonprofit organization that works with people in the United States and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources.