

PROJECT FACTS

SWITCH to BIOGAS



- Project Title : SWITCH to BIOGAS
- Total budget : USD 402,300
- Project period : 2009 - 2009 (12 months)
- Implementing partner : UNDP
- Donor : The Korea Energy Management Corporation (KEMCO) and UNDP

Background

For many smallholders and landless farmers dairy farming has provided a perfect vehicle to lift out of poverty and develop a strong asset base and it has led to significant social change in rural societies in East Java. However, dairy cattle are a significant source of methane emissions that contribute to climate change which are aggravated by the current rapid growth.

Significant methane reductions are possible by using the methane as biogas, which in itself generates affordable renewable energy for the poor. Oil based fuel prices recently increased with 28% in Indonesia, providing a strong incentive for the use of biogas and other sources of renewable energy such as micro-hydro energy. While emissions need to be reduced, communities also need to adapt to impacts of climate change. Renewable energy in particular biogas can assist households with adapting to climate change by providing affordable energy, higher quality manure, saving fuel costs, and providing a cleaner environment.

Climate change impacts are already felt on East Java; initial evidence indicates a longer dry season and shorter albeit more intense rainy season. Dairy farming is very vulnerable as dairy farming requires a reliable and substantial supply of water and fodder. Climate change related impacts such as prolonged periods of drought put these resources under pressure and can result to falling productivity.

While dairy farming has attracted substantial interest on East Java and has proven to enable many to be lifted out of poverty, it is causing significant negative environmental impact when not properly managed at the farm level. Besides greenhouse gas (GHG) emissions, this is mainly due to extremely poor manure management resulting in approximately 80% of the manure being discharged into the environment causing water pollution, poor hygiene, and increasing risks of disease outbreaks (most cattle are kept in close quarters with people). With business as usual, climate change will further aggravate the situation.

With growing attention to climate change and environmental awareness, interest for renewable energy has increased. Dairy farming which creates a significant amount of manure with relative low dry matter content is one of the most potential sectors for biogas development. On East Java, households are already investing in biogas units (BGU). However, a sustainable local supply chain for construction and servicing BGU of high quality does not exist. A recent visit to East Java showed a few of the BGU with major technical shortcomings. Sludge disposal is another major challenge. Most dairy farmers have little or no land themselves and livestock is kept in the backyard. As a result, most sludge is still dumped in the environment. This is causing significant pressure on water resources and loss of valuable organic fertilizing.



Dairy farming is important for rural society in East Java

Investment costs for BGUs are still relatively high, particularly for small-scale farmers. Microfinancing tools for these farmers need to be explored to enhance affordability. The CDM mechanism may provide one of several solutions.

Donor:



Objective

UNDP has developed the 'Switch to Biogas' project to overcome barriers to widespread adoption of biogas starting on East Java. The project will enhance dairy farming community livelihoods on East Java with the introduction of biogas technology and better environmental management in a changing climate. In the initial phase which has duration of one year, the focus will be on laying the foundation for the sustainable introduction of biogas to dairy farmers in combination with overall improvement of dairy farming practices and adapting to climate change. In this initial period, the work will focus on the pilot districts of Malang, Lumajang and Probolinggo.



The biogas technology provide alternative source of energy for daily household needs

Results

Improved technology of the biogas units and increased accessibility to them, especially for poor farmers, is an important aim of the project. In relation to this, 15 sustainable and durable biogas units will be developed and tested in the field.

Sludge management will be improved through work in three pilot districts. This will include i) establishing the baseline situation with regard to current practices in the three districts, and ii) identification and piloting of potential sludge processing technology and marketing.

Financing mechanisms to promote wider adoption of household based biogas will be evaluated. Based on broad stakeholder consultation, the project will result in a recommendation for a pro-poor biogas microfinancing scheme.

The project will result in a clear assessment of climate change impacts, and possible adaptation strategies. Altogether, it will provide recommendations for adjusting mid-to long term policies and business plans for local governments and private sector, and it will provide practical suggestions to farmers to make their farming practices more resilient to climate change.

For more information:

United Nations Development Programme
Menara Thamrin Building, 8th Floor
Jalan MH Thamrin Kav. 3, Jakarta 10250
Phone: (62-21)3141308. Fax: (62-21)3145251
Email: media.id@undp.org
Website: www.undp.or.id