

ENERGY FOR LIFE BEST PRACTICE PROJECT

System / Location

Biogas system / Lao PDR

Biomass gasification community system in Lao PDR



8 fixed dome 4m³ biogas systems were installed 2009 for 8 families in the village of Ban Mai, Xai district in the province of Oudomxay in Lao PDR. Each digester is fed with 20 kg of daily produced manure as fuel and produces 1 to 2m³ of biogas that is used for cooking 2 to 3 hours every day. The biogas plants were financed in the frame of the small grant programme of the German embassy in Laos. The plants were not donated to the 8 households; the households were committed to pay back 50 % of the material costs, about 150 USD, within 2 years after installation. This money is used in an establish village fund, which grants social loans for the installation of further biogas plants by further households; this approach makes the project much more sustainable.



Planning/Installation

Community Development
and Environment
Association CDEA
cdealao@yahoo.com

Donation/Support

German Development Service
DED
www.ded.de
German Embassy Laos
zreg@vien.diplo.de

Operator

Local Farmers

PROJECT DATA SHEET (for the 8 digesters)

Year of installation	2009
Type of installation	Biogas
Type of energy produced	Gas
Geographical position	20°43'45" N, 102°3'30" E
Location	Ban Mai village, Xai district, Oudomxay province, Lao PDR
Size of installation	32 m ³ (4 m ³ x 8 biodigesters)
Thermal Power of installation	1,600 - 3,200 Watt thermal
Use of energy produced	Cooking and lighting
Biogas produced	6.4 m ³ to 12.8 m ³ per day (0.8 - 1.6 m ³ each plant)
Type of financing	Grant
Source of financing	German Embassy of Lao PDR
Biomass system investment cost	USD 2,541 for the 8 plants (USD 318 each plants)
System costs	0.79 - 1.60 USD per Watt thermal
Income generated from biogas installation	7.35 USD per month by substituting diesel
Maintenance cost	Negligible
Fossil fuel savings	~ 1,310 - 2,620 liters diesel per year
Environmental gain	~ 3,445 - 6,891 kg CO ₂ eq. per year
Number of beneficiaries	40 persons (8 families)
Presence of renewable energy country program	Yes



Biogas System