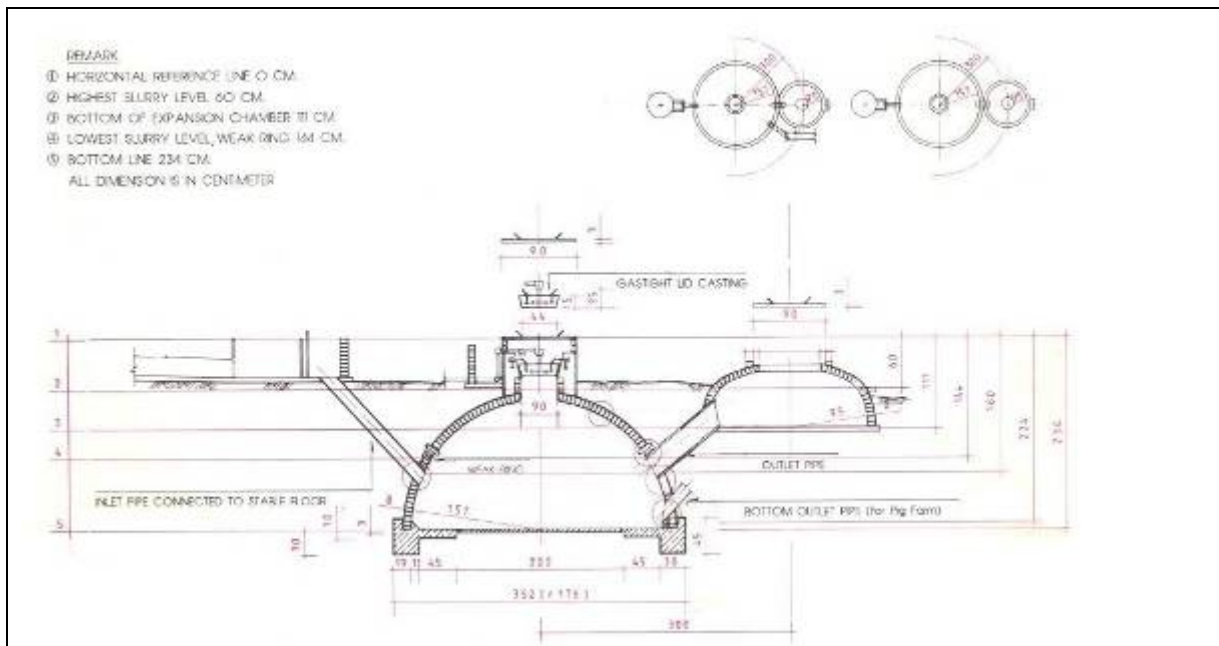


Technology Data Sheet : Lao-Chinese Cooperation program's biogas plants

Type of project: (tick off the type)	PV	Solar Thermal	Biomass to Energy	
			x	
Project name:	Lao-Chinese Cooperation program's biogas plants			
Location of the plant:	Lao PDR Nongphouvieng village, MaiPakngum district, Vientiane municipality			
Year of Implementation:	2004			
Operator: (Name and address)	Local Farmers, with support from village technician			
Planner: (Name and address)	Chinese Technicians, (address is not available)			
Detailed description of the installation: (technology, function, benefit for users, etc. max 150 words)	<p>The Lao-Chinese Cooperation program's has disseminated 30 family size biogas plants including the installations and equipment for biogas use for lighting and cooking in the Nongphouvieng village. This village is characterizes by small-scale pig farming. The biogas plants are fed with the manure of 3-6 pigs. The produced Biogas is used for cooking and lighting. The biogas plants' owners also use slurry as organic fertilizer for growing vegetables for own needs and for sale to merchant from capital city, therefore get additional income besides of selling pigs.</p> <p>The installed fixed dome type biogas plants (see graphic below) are characterized by relatively easy installation because of using ready mold and concrete, where no needs of highly skilled workmanship.</p>			
Generated Energy service: (tick off the energy type)	electricity	heat	gas	light
		x	x	x
Power output of installation: (kWel, m ³ biogas, kW th, etc.)	Biogas production:797,7 m ³ /year			
Financing (tick off the financing type)	private investment	loan	donation	grant
			x	
Investment costs in US\$	450 US\$			
Maintanance costs in US\$.. US\$			
Savings:	4 US\$/month By saving the purchase of charcoal for cooking. Monthly demand without biogas: 2 bags á 20.000 kip/bag			
Energy sale income in US\$:	no			
Comments:	Plants are in a perfect condition. Other farmers in the village are interested in getting a biogas plant too. The farmers miss access to spare parts, e.g. the incandescent mantles for the gas lamps. Therefore, they do not use the gas lams frequently. They use ordinary neon lamps in stead. (see picture)			
Pictures and grafics				



Scheme of the fixed dome biogas plant



Biogas cooker with gas pipeline and pressure measurement device



Gas lamp



Digester

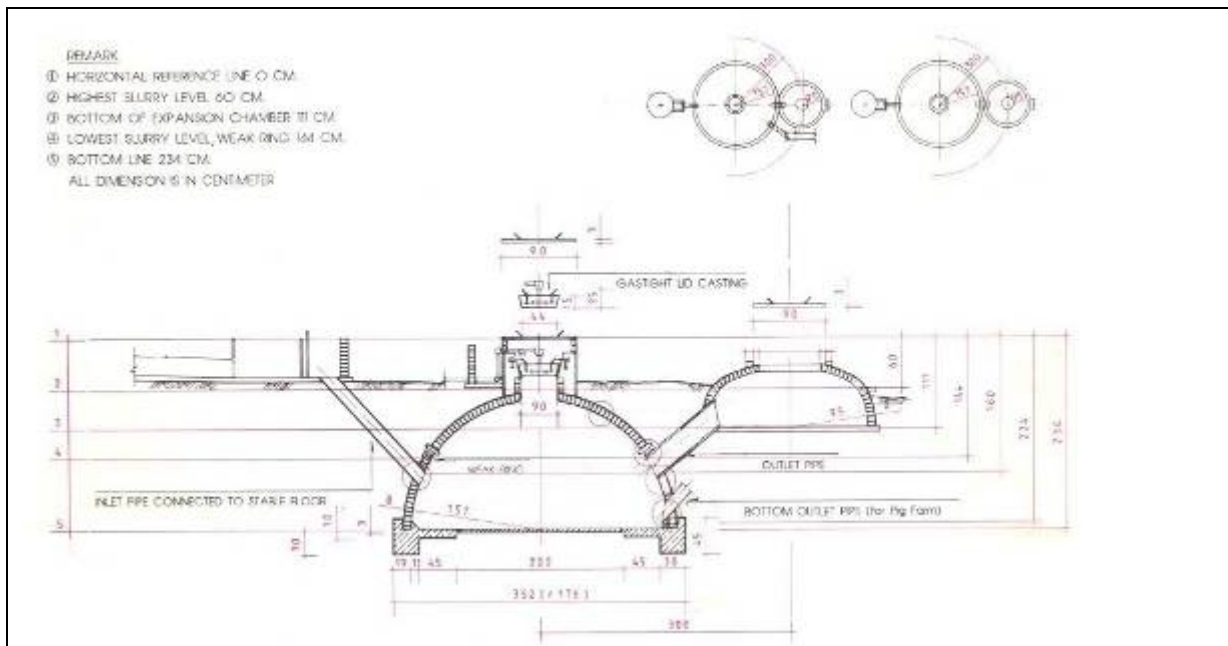


Pig stable

○ **Technology Data Sheet 8 - Lao-Chinese Cooperation program's biogas plants**

Type of project: (tick off the type)	PV	Solar Thermal	Biomass to Energy
			x
Project name:	Lao-Chinese Cooperation program's biogas plants		
Location of the plant:	Lao PDR		

	Nongphouvieng village, MaiPakngum district, Vientiane municipality				
Year of Implementation:	2004				
Operator: (Name and address)	Local Farmers, with support from village technician				
Planner: (Name and address)	Chinese Technicians, (address is not available)				
Detailed description of the installation: (technology, function, benefit for users, etc. max 150 words)	<p>The Lao-Chinese Cooperation program's has disseminated 30 family size biogas plants including the installations and equipment for biogas use for lighting and cooking in the Nongphouvieng village. This village is characterizes by small-scale pig farming. The biogas plants are fed with the manure of 3-6 pigs. The produced Biogas is used for cooking and lighting. The biogas plants' owners also use slurry as organic fertilizer for growing vegetables for own needs and for sale to merchant from capital city, therefore get additional income besides of selling pigs.</p> <p>The installed fixed dome type biogas plants (see graphic below) are characterized by relatively easy installation because of using ready mold and concrete, where no needs of highly skilled workmanship.</p>				
Generated Energy service: (tick off the energy type)	electricity	heat	gas	light	
		x	x	x	
Power output of installation: (kWel, m ³ biogas, kW th, etc.)	Biogas production:797,7 m ³ /year				
Financing (tick off the financing type)	private investment	loan	donation	grant	
			x		
Investment costs in US\$	450 US\$				
Maintanance costs in US\$.. US\$				
Savings:	4 US\$/month By saving the purchase of charcoal for cooking. Monthly demand without biogas: 2 bags á 20.000 kip/bag				
Energy sale income in US\$:	no				
Comments:	Plants are in a perfect condition. Other farmers in the village are interested in getting a biogas plant too. The farmers miss access to spare parts, e.g. the incandescent mantles for the gas lamps. Therefore, they do not use the gas lams frequently. They use ordinary neon lamps in stead. (see picture)				
Pictures and grafics					



Scheme of the fixed dome biogas plant



Biogas cooker with gas pipeline and pressure measurement device



Gas lamp



Digester



Pig stable