

Welcome to Presentation
on
Domestic biogas plant: huge potentials for
sustainable clean energy source of Bangladesh

11-12 Nov 2006; Nairobi

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“Practical Action is new working name of Intermediate Technology Development Group (ITDG)”

Introduction and Country Background:

- The first biogas plant was constructed in 1972 at BAU;
- Biogas generated from animal dung;
- Mainly composed of CH_4 (60-70%) and CO_2 (30-40%);
- Biogas are used mainly for Cooking and lighting (Chicken broad up) ;
- 55% of country energy met through traditional energy source;
- 8 million HHs cook in traditional stove using biomass(40 m tons use in 2000);
- Efficiency of stoves are quite low and vary between 5 to 15% (Dasgupta 2004);
- Dung considers as waste in urban areas and at rural areas 46% as fertilizer, 34% as cooking, 5% as building materials and 15% are not used(Hossain 2003);
- Cattle dung production was estimated 80 million tons in 2000;
- The National average of 2.64 cattle per household and have 1,16,000 poultry firm (BBS, Jan 2005 and BCAS 2005).

Technical and Feasible Analysis

- Technical Potential for biogas amount to minimum 2 million units.
- Climate condition is favorable for biogas production

Plant Size (m ³)	Hours	Cow dung (kg)	# of Cow	Poultry dung (kg)	# of poultry bird
1.2	3	32/35	3	17	200
1.6	4	40/45	4	23	250
2.0	5	50/55	5/6	28	300
2.4	6	60/65	6/7	34	350

- 25 biogas unit has been construct under ‘EIWMTDB’ Project
- Fixed dome type biogas unit with life span 20 years
- Total investment cost 312 US\$ per unit
- Investment cost return by 37 to 40 months
- On an average monthly profit 8 US\$



Biogas Plant



Lighting using Biogas



Flame of Biogas



Traditional Cook Stove

Economic Benefits:

Benefits		HHs/Month
Reducing workload (day)		3.125
Fuel wood saving (kg)		140.5
Agriculture residues saving	Straw (kg)	67.5
	Jute stick (kg)	2.5
Dry leaf saving (kg)		40
Kerosene saving (kg)		1.225
Fertilizer available (kg)		460
Dung cake saving (kg)		131.2
Reduction indoor air Pollution		All HHs
*GHG emission reduction		5 Tons/yr
Cooking utensils do not become dirty		
Biogas helps to keep kitchen and cloths clean		
Encourage people to rear more cattle heads		
Save forests and tree,		

Critical factors:

- Occasional Flooding
- Occasionally plant spread bad smell
- Charge plant everyday
- Sometimes expected amount of gas is not produced
- The outlet helps to growth files and mosquito.

THANKS

