Insights From A Biogas Project

ECHO Inc.

Technical information is often much easier to obtain than perspective on its use. Rus Alit's discussion on biogas digesters in his newsletter *AppropriateTechnology* (vol. 6, 1995) shows the value of perspective.

Biogas is produced by placing a slurry of animal manure in a closed container. Gas bubbles to the surface and is collected for cooking or lighting. Excess water, rich in nutrients released from the decaying manure, is directed towards gardens or fish ponds. It sounds wonderful–so why do we not see these inexpensive units everywhere?

Rus faced two problems in his village in Indonesia: lack of fuel for lighting and loose pigs that destroyed gardens and spread disease. "Obtaining methane gas is usually the main attraction ... unfortunately [in most cases] there is not enough manure to run the system...." Rus says that to get enough gas for cooking and lighting for a family, we need one cow or buffalo or two mature pigs PER PERSON. So a family of five would need 10 pigs or five cows. What about using human manure? "Don't put your hope on generating much out of human excreta. It doesn't produce much gas. I ran a unit using the product of 20 orphanage children, and the gas produced hardly matches the production of gas from a couple pigs." He feels that the primary value is in using the effluent as fertilizer. [Ed: I question whether there is a linear relation between people and required manure. Surely adding one family member does not put that much more demand on the rice pot or lighting system.]

The inexpensive $70 design had a fatal flaw when a key component rusted out. But his project succeeded at his second goal. People had to fence in their pigs to collect the valuable manure. The roaming pig problem is now history. No more are the neighbors fighting each other over damage caused by the others' pigs. "Even though biogas is not operating anymore, the pig fences are there to stay." Fungal infections caused by scattered pig manure are virtually gone and tapeworms are curbed.

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