



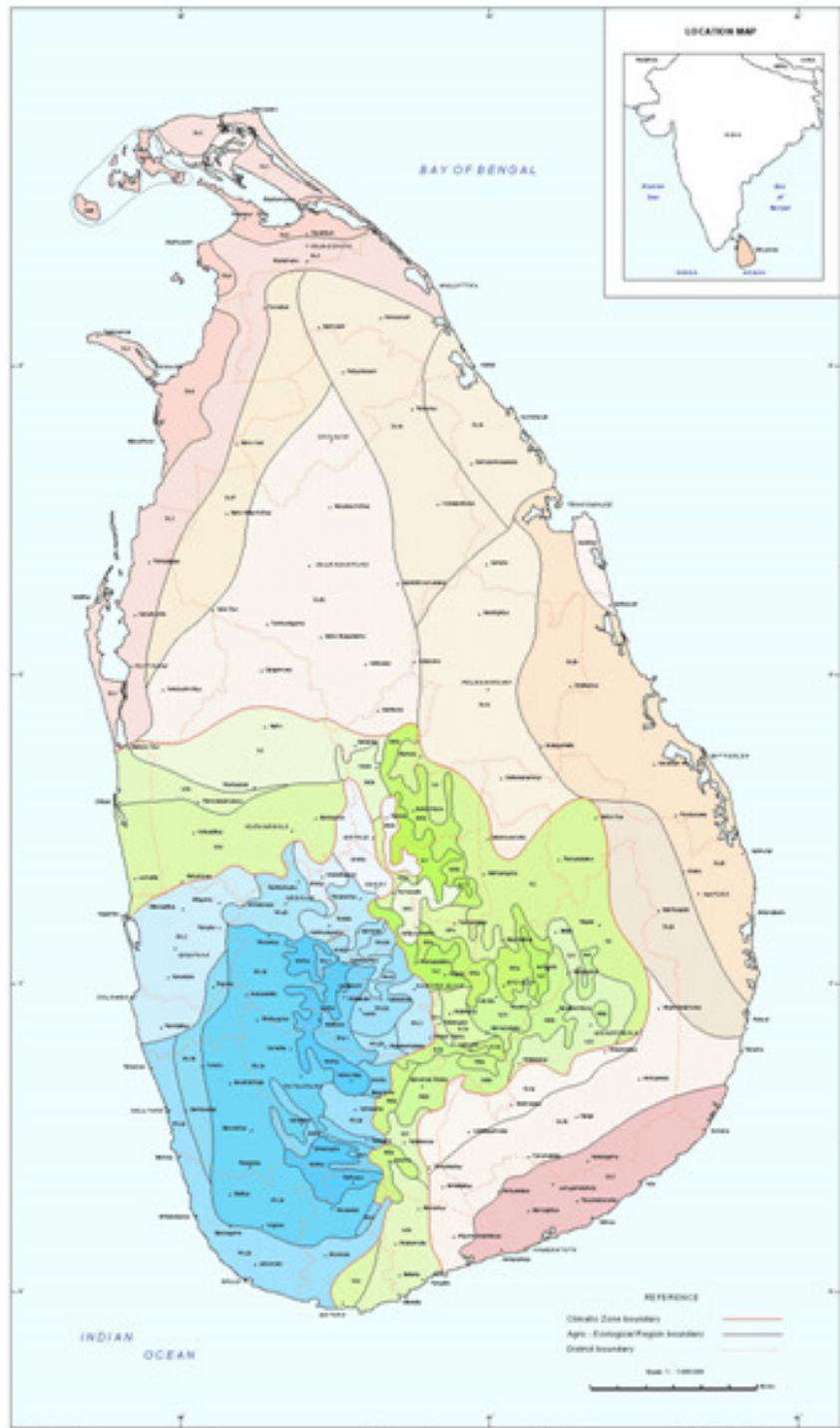
Rural Energy in Sri Lanka:

Mature biogas as a solution to energy and development in Sri Lanka

Sri Lanka's Challenges



- Sri Lanka is an agriculture-dependent country
- Livestock generates large amount of waste
- Domestic energy shortage
 - Potentially high emissions
 - Imported fossil fuels
 - Heavy firewood collection/usage



Agro Climatic Zones in Sri Lanka



Dry Zone



Hill Country



Wet Zone

Biogas: a rural energy solution in Sri Lanka

- Energy and Fuel
 - Lamps and stoves
- Climate and Environment
 - Reduced use of fossil fuels
 - Management of livestock waste
 - Improved air quality
- Development
 - Improved livelihoods
 - Beneficial to agriculture



GEI's Biogas Project in Sri Lanka

- Objectives
 - Creating an integrated solution to Sri Lanka's rural energy and development challenges through household biogas

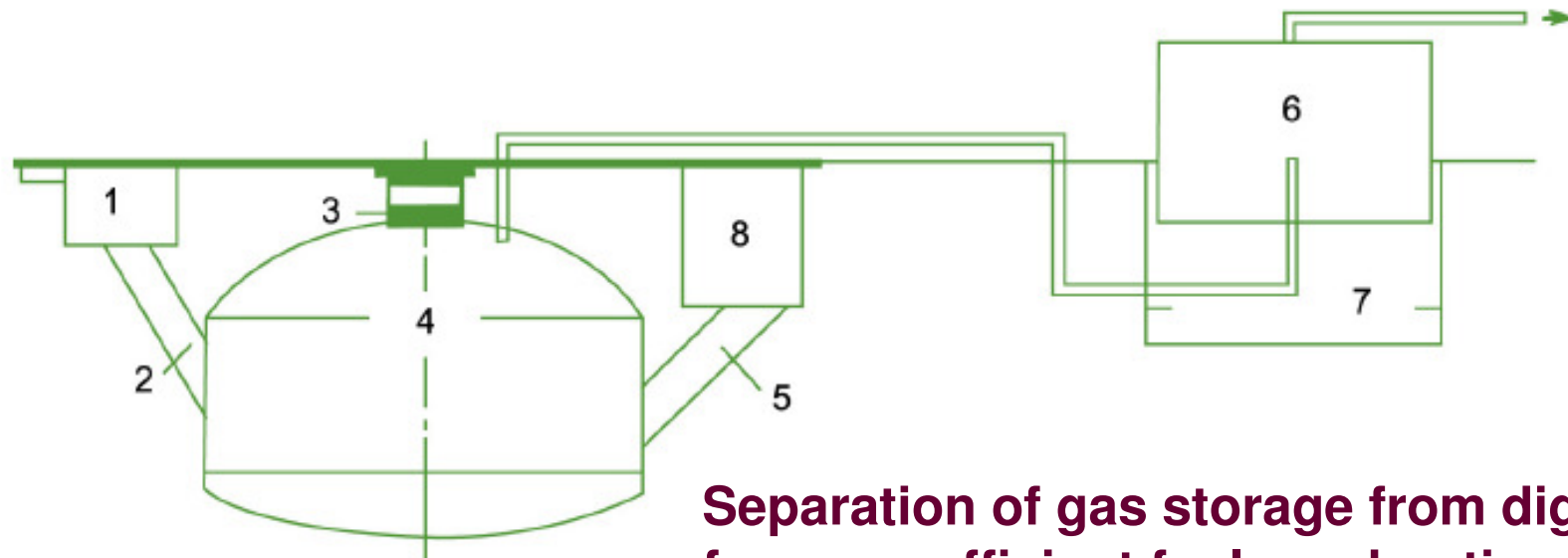


GEI's Biogas Project in Sri Lanka

- Approach
 - Employing China's rural development model
 - Design and implementation of new biogas tank known as **“Floating Drum”**
- Nov 2007: Start of Program



Diagram of a Floating Drum Biogas Digester



Separation of gas storage from digester for more efficient fuel combustion

- | | |
|------------------------------|-------------------------------|
| 1. Raw material feed chamber | 5. Outflow pipe |
| 2. Inflow pipe | 6. Gas storage |
| 3. Removable lid | 7. Water tight isolation tank |
| 4. Fermentation chamber/tank | 8. Outflow chamber |

GEI's Biogas Project in Sri Lanka

- Biogas construction
 - About 100 Floating Drum biogas units in 5 out of 9 provinces
- Training
 - Government officials
 - 50 technicians trained
 - Multilingual Biogas Handbook
- Awareness building
 - Community empowerment through exhibitions and press



Impact of the project in Sri Lanka

- Rural Communities
 - 10 m³ biogas digester reduces at least 3 tons of CO₂ annually
 - Slurry can be used as organic fertilizer and sold on the market
 - Livestock waste used as raw material for digesters

Impact of the project in Sri Lanka

- Rural Communities
- Policy Level
 - Sri Lanka government invested in additional biogas construction
 - Sri Lanka government applies for a USD \$6,000,000 grant for biogas from the Chinese government