Domestic Biogas Digesters, Haiti

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Abstract: Aidha and myclimate have the intention to conduct a feasibility study and later to implement a bio-digester program on household level in Haiti. The two organisations get technological support through myclimates' Indian partner SKG Sangha, a leading Biogas expert.

With the help of the digesters, the manure of the families' cows and pigs (and eventually the toilet output) will be fermented. The produced biogas can be used for cooking and for lighting, replacing unsustainable charcoal; the fluid output of the digester can be used as a high quality organic fertilizer.

Once the design of the digester and the knowledge transfer to Aidha is proven, the project shall be developed as a Gold Standard Carbon Offset project to support its sustainable operation in the mid term. The long term goal is to set up a Social Business (Biogas Centre) who installs and maintains up to 500 small biogas plants per year through a country wide distribution network.

Rural Haiti, Artibonite Valley with good conditions for domestic biogas.

Foreseen 'Fixed Dome Biogas Digester' under construction (India, SKG Sangha).

Charcoal market in Haiti, deforested, eroded hills in the back.

Conclusions: After a prefeasibility visit to Haiti in March 2013, we defined a potential financing model for the biogas project. The idea is to have social investment and carbon finance as the two bearing financing startup pillars.

Regional distribution centres conduct workshops for local communities and install the digesters to participating, eligible households (enough animals, enough water...) for a leasing fee of e.g. USD 10.- per month over a e.g. three year payback period. The leasing fee shall be below the monthly charcoal expenditure paid by the beneficiary before the project and shall only be charged if the system is properly operating. After the payback period, the beneficiary is the owner of the digester and can profit from lower energy costs for many more years.

Outlook / Impacts: 2014: Installation of 10 Pilot Plants. Analysis and design optimisation.

2015: Knowledge transfer, set up of biogas centre, installation of 50 plants.

In each participating household, the project will include a package of improvements: The construction of the digester, a new gas cook stove, training sessions and if affordable improvements on the toilet and gas lightening are foreseen. The project replaces non-renewable biomass (mostly charcoal) currently used to meet the households' daily energy needs for cooking. Thanks to the projects lowered biomass consumption, deforestation pressure on few remaining trees can be relieved in the project region. Families benefit from improved air quality, a clean affordable energy source, reduced time effort to collect biomass and reduced energy costs.