

BIOGAS DIGESTERS

IMPROVED LIFE CONDITIONS FOR RURAL HOUSEHOLDS

NEXUS MEMBER	The Center for Rural Communities Research and Development (CCRD)
OBJECTIVES	<ul style="list-style-type: none"> • Reduce household fuel consumption and expenses • Protect forest ecosystems and biodiversity • Mitigate global warming by reducing greenhouse gas emissions • Reduce health hazards by improving indoor air quality, animal waste management and hygiene
TARGETS	<ul style="list-style-type: none"> • Families with regular animal husbandry activities, using charcoal and wood for cooking • Secondary target group: local masons and technicians

CONTEXT AND STAKEHOLDERS

With a high population density such as Vietnam's, the development of environmentally friendly renewable energy sources is a priority in order to maintain agricultural production while meeting energy requirements. Rural populations rely heavily on wood and coal to address their cooking needs, which is a main cause of respiratory diseases and eye ailments. Improper disposal of animal and human waste is a cause of pollution of the local water bodies causing a number of severe health problems such as diarrheas as well as foul odors.

At the same time, the wood and coal burning activities needed to insure the basic needs of family cooking exert a strong pressure on forests.

In order to address the health, energy and environmental problems related to household cooking practices and manure management, CCRD has designed the VACVINA biodigester, a domestic biogas system which offers advantages on many levels: access to sustainable energy, socioeconomic development, environmental protection, waste management, hygiene, health, and sustainable agricultural practices for farmers.

Today, over 9500 families have been equipped with VACVINA biodigesters, in 53

provinces of Vietnam. CCRD is supporting the program through constant capacity building of local masons on building and marketing skills, supporting relevant promotional activities, quality control and monitoring.

CCRD also performs the installation of the equipment and the training of end users, and constantly assesses the efficiency and impacts of the project through user satisfaction surveys.

KEY FIGURES

- 20 year lifetime for each VACVINA biogas plant
- 100 % displacement of biomass and coal by biogas for cooking
- Estimated 4 to 6 tons CO₂ reduction/unit



Building a VACVINA biodigester

IMPACTS AND BENEFITS

On the environmental level, most of the fuelwood in Vietnam comes from unsustainable and illegal logging of local forests. Providing an alternative to fuelwood **reduces the pressure on national forests**. Hence, the VACVINA project helps to fight against deforestation and degradation of local resources by promoting improved domestic energy equipment in a sustainable, market-based manner.

In terms of social benefits, combustion of biogas emits no smoke compared to fuelwood and coal, thus **drastically improving indoor air quality and users' health**. The improved management of manure limits bad smell and pollution of the water bodies.

Moreover, no fuelwood means **no time spent by poor families and children gathering wood**, time that can now be dedicated to education or income generating projects (from 50 to 90 days/person/year difference). In addition, cooking on biogas saves time on cleaning cooking pots and the kitchen and allows for faster cooking.

Furthermore, the money saved by families on fuel expenses can now be spent on health, education or new economic activities. And since **VACVINA biodigesters are manufactured locally**, this project creates new job opportunities and capacity building for local enterprises, masons and technicians in production, distribution and sales.

ACTION PROGRAM

- **Community awareness and promotion**
 - Radio broadcasting, dissemination of information flyers and promotional discounts for biogas plant sales.
 - Creation of 40 biogas information and distribution shops
- **Training and capacity building**
 - Training and capacity building of 430 local masons on technical and marketing skills, installation of the equipment and training of end users
 - Creation of over 20 biogas construction enterprises
- **Monitoring and follow-up support**
 - Monitoring and quality control of the VACVINA biodigesters.



Biodigester Beneficiaries

CCRD AND ITS PARTNERS

The Center for Rural Communities Research and Development :

CCRD is a Vietnamese NGO, established in 1997 by the Vietnam Gardening Association (VACVINA). It focuses on enhancing people's lives in rural areas, improving people's capacity to implement socioeconomic development plans and improving environmental conditions.

Supporting partners:

- VACVINA
- ETC
- EASE
- Nexus

