

Domestic Biogas



needs

connected with

solutions

Thankot village, Kathmandu district, Nepal – In the past, Ram Maya Rijal had to rise at 3am every day and spend two hours collecting firewood. The smoky open fire in her kitchen was bad for her health and that of her family. It was also slow to cook on. And because each local household used three tonnes of wood a year for fuel, the forest she visited for firewood was getting smaller.

In the early 1990s, the Biogas Support Programme (BSP) was established by the Government of Nepal and SNV with financial support from the Netherlands Ministry of Foreign Affairs (DGIS) to develop a market for domestic biogas plants. These plants convert readily available animal manure into clean gas.

The Rijals heard about biogas on Nepalese radio and invested in a plant themselves. Today, Ram Maya can cook cleanly and quickly, with no need to visit the forest, which is recovering. And the nutrient-rich waste from her family's biogas plant has increased the crop yields of their farm by 40%.

Netherlands

Development

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Connecting People's Capacities

Unsustainable energy sources perpetuate **poverty**

Worldwide, about two and a half billion people lack clean and safe cooking fuel. To meet daily energy needs, they rely on traditional biomass sources such as wood, agricultural residues, dried manure and charcoal. Traditional fuels are usually gathered by women and children, denying them time that could otherwise be spent on productive activities, at school or for leisure. Cooking on these fuels exposes woman and children to in-house fumes that cause serious respiratory illnesses and eye ailments.

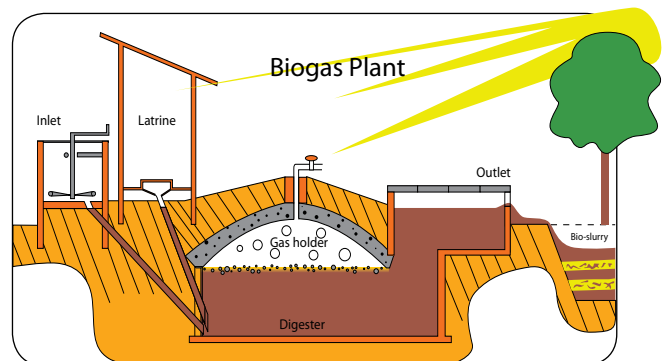
In many developing countries people rely heavily on the environment for their daily needs. However, the collection of traditional fuels and production of charcoal is exhausting natural resources and damaging the environment. The use of agricultural residues and dried manure for cooking reduces soil fertility, thereby endangering food security in the longer term.



A sustainable **solution** for households with livestock

Domestic biogas plants convert animal manure, human excrement and potentially other organic materials into small but precious amounts of combustible methane gas, known as biogas. Biogas can be used in simple gas stoves for cooking and in lamps for basic lighting. This digesting process generates a potent organic fertiliser, known as bio-slurry, which can be used to increase agricultural productivity.

On average, farmers with at least two head of cattle or six pigs can generate sufficient biogas to meet their daily basic cooking and lighting fuel needs. The investment cost for a quality 'fixed dome' biogas plant varies between EUR 200 and EUR 900, depending on plant size, location of construction and country. Such plants have a technical life of at least 15 years. Operating a biogas plant is easy and maintenance is cheap.



From national programmes to **sustainable** sectors

SNV started supporting biogas activities in Nepal in 1989 and in Vietnam in 2003. Since 2006, domestic biogas programmes have also been established in Bangladesh, Cambodia, Lao PDR, Pakistan and Indonesia. By mid 2009, approximately 285,000 households in Asia had been equipped with biogas plants, improving the quality of life of 1.75 million people.

More recently, SNV's activities have been expanded to Africa to demonstrate the potential of domestic biogas. The national programme in Rwanda has been running since 2007. Another six countries (Ethiopia, Tanzania, Uganda, Kenya, Burkina Faso and Senegal) are targeted as part of the 'Africa Biogas Partnership Programme'.

These national programmes aim to develop a commercially viable biogas sector in which local companies market and install biogas plants for households who are willing to invest.



A biogas plant generates multiple **benefits**

Daily use of a typical biogas plant benefits a household by:

- reducing workload, especially that of women and children;
- saving traditional cooking fuel;
- reducing indoor air pollution;
- improving hygiene if a toilet is attached to the biogas plant;
- improving sanitation through reduction of smell and organic pollution;
- potentially increasing agricultural production;
- reducing greenhouse gas emissions.

Large-scale biogas programmes generate substantial income and employment opportunities for local companies, masons and financial institutions, especially in rural areas.



Share our aims? **Contact us!**

In addition to government, private sector and civil society partners in the countries in which we work, SNV also cooperates with a wide range of other organisations. These include the Netherlands Ministry of Foreign Affairs (DGIS), the German Development Bank (KfW), the Asian Development Bank (ADB), the Netherlands Development Finance Company (FMO) and the Humanist Institute for Development Cooperation (Hivos). In order to spread the benefits of biogas even further, we wish to collaborate with like-minded organisations willing to share knowledge, experience and resources.



SNV's role

Working with partners, SNV supports the design and implementation of nationally-owned biogas programmes. Its 'multi-stakeholder sector development approach' aims to:

- maximise the number of households and people using quality biogas plants;
- develop the capacity of local organisations and establish institutional arrangements to achieve a sustainable biogas sector.

Useful websites of national domestic biogas programmes:

Bangladesh www.idcol.org (click on 'Projects')
Cambodia www.nbp.org.kh
Lao PDR www.biogaslao.org
Nepal www.bspnepal.org.np
Vietnam www.biogas.org.vn

For more information, please contact us:

Website: www.snvworld.org
(click on 'Our Work > Renewable Energy')

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