

The biogas boom

Once hated for consuming human feces to produce energy, this alternative fuel now goes viral



Sunita Bote rotates the wheel of her biogas plant.

OM ASTHA RAI/REPUBLICA

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For Sunita Bote, the idea of connecting her kitchen room with her toilet was disgusting.

"At first, I shuddered at this idea," says Sunita. "I just could not tolerate it."

Sunita is a quintessential woman in indigenous Bote community -- deprived of education and exposure. A resident of Kumroj village, situated in the buffer zone of Chitwan National Park, Sunita had been traditionally cooking food with fuelwood.

A few years ago, when her neighbors began building biogas plants in their houses, Sunita wondered how people could eat foods cooked on stoves linked with their toilets.

Sunita resisted the idea for years. Finally, she relented.

"Collecting fuelwood was getting difficult," says Sunita. "On the other hand, those who built biogas plants were now living easy and better life. They no longer had to spend hours in collecting fuelwood and cooking food."

Today, like most of the women in Kumroj village, Sunita, too, is cooking foods with biogas.

"It's really easy," says the 30-year-old. "We mix human waste with animal dung; and the biogas plant provides sufficient energy to cook food for my family of seven."

As of now, out of 1750 households in Kumroj, 1,450 households have already built biogas plants. In June 2013, Kumroj was declared by the government as Nepal's first model biogas village.

"Only 300 households are now left," says Kul Prasad Bhushal, a local resident of Kumroj village. "They, too, will have biogas plants in the next few years."

Bhushal, who is chairman of Budhi Rapti Users Committee, an organization of people living in the CNP buffer zone, says, "In Kumroj village, indigenous communities like Bote and Tharu were initially reluctant to build biogas plants. At first, only those who migrated from the hills and settled in the Tarai were receptive to the concept of biogas plants. But, people's perception about biogas plants has completely changed in Kumroj."

Bhushal says, "Pressure on local forests has now decreased. Only a few people go there to collect firewood. And they are well

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managing cattle dung, too. Dung is no longer scattered everywhere."

Bhushal believes that biogas boom in Kumroj has helped declare the village as an Open Defecation Free (ODF), too. "When they saw multiple benefits of biogas plants, the people in Kumroj started building toilets, as well," adds he.

Until not so long ago, the thought of cooking food on biogas stoves was quite disgusting to many people, like Sunita, in Nepal. In some villages, those who installed biogas plants were even ostracized by their neighbors.

The dislike for biogas energy is still there; but not as much as it was until two decades ago, when the government involved private sector in promotion of renewable energy in Nepal.

"It is, in fact, human feces that caused troubles," says Govinda Pokharel, Vice Chairman of the National Planning Commission (NPC). "Especially those illiterate and living in villages were dead against the idea of using their feces for cooking food."

Pokharel, who also served as Director of Alternative Energy Promotion Center (AEPCC), a government agency responsible to promote renewable energy, says the idea of connecting toilet with kitchen no longer sounds disgusting in Nepal now.

"Barely any one is ostracized now for using biogas," says Pokharel.

According to the AEPCC, more than 300,000 biogas plants have been installed in Nepal, which provide clean energy for nearly six per cent of the country's total households. In Nepal, about 80 percent of biogas plants use human feces, too, in addition to animal dung.

"When animal dung is mixed with human feces,

greater power is generated," says Pokharel.

SAVING TREES

A recent report, prepared by a Kathmandu-based NGO in coordination with the AEPCC, shows that every single biogas plant could save 1.25 trees per year in Nepal.

Simply put, if four families install one biogas plant each and completely rely on them for cooking, they do not have to chop five trees in a year for fuelwood.

The AEPCC says 316,560 biogas plants have already been installed in Nepal by mid June. If the theory of one plant saving 1.25 trees a year is to be believed, Nepal's biogas boom is now saving more than 395,000 trees every year.

"Biogas not only replaces fuelwood but also kerosene and cooking gas," says Raju Laudari, Climate Change and Productive Energy Use Manager at the AEPCC. "It is a significant contribution to reduction of greenhouse gas emissions."

REDUCING EMISSION

It is believed that one biogas plant helps reduce anything between three to five tons of greenhouse gas emission ever year. As one plant is believed to be

reducing 3.5 tons of greenhouse gas emission on an average per year, it would not be inaccurate to claim that biogas in Nepal is helping reduce more than one million ton of greenhouse gas every year.

"It may not be a huge contribution at the global level," says Pokharel, the vice-chairman of the NPC. "But, it is not negligible, either. Considering how little Nepal emits greenhouse gas, contribution of biogas plants to fighting climate change is quite significant."

The AEPCC says it has a plan to install 26,000 biogas plants every year in Nepal. "The more we install biogas plants, the more we save trees," says Pokharel. "And, saving of each tree is important for combating climate change."

The AEPCC has already registered its biogas project at the Clean Development Mechanism (CDM) of the United Nations Framework Convention on Climate Change (UNFCCC); and is now earning money through carbon trade.

In Nepal, a majority of people still depend on traditional sources of energy like fuelwood, agricultural and livestock residues. And, fuelwood makes up for nearly 90 percent of fossil fuel.