



“Biogas Comes to Madhuban: A Story of Change”

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BIOGAS COMES TO MADHUBAN

A STORY OF CHANGE



Mohan Tharu, 51, lives in the small village of Madhuban, in Khata Corridor in Bardia, mid-western Nepal, where the majority of the inhabitants are Tharus. He served as the chairman of Madhuban Community Forest for 11 years and is a farmer by profession.

Mohan is one of the many beneficiaries of WWF's Gold Standard Biogas Project in Nepal's Terai Arc Landscape.

This is his story, and it is a story of change.



UPROOTING HISTORY

In 1990, Madhuban village was no longer what it had once been. Its formerly lush woodlands were seriously depleted from overuse. The notion, passed down by their forefathers, that the forests were theirs to use for their own benefit had led the people of Madhuban to virtually erase their forests.

The forests provided people like Mohan firewood for their daily use. Mohan remembers chopping down entire trees just for the sake of firewood. Starting early in the morning and returning home before sunset, this vital chore saw Mohan and his family spending at least seven hours a day collecting fuel from the forest.

Back at home, Mohan's wife Thagiya had to spend six hours a day cooking at least two meals for the household. Firewood cooked food slowly, and the smoke emanating from it practically engulfed the entire house, leading to a lot of respiratory and eye illnesses for the family.

Toilets were a rarity in the village and Mohan's house was no exception. Backyards, village streets and forests—these were the usual spots for Mohan and his family to “use the facilities.” With toilets considered an unnecessary expense, Madhuban village was rife with sanitation problems.

But this was Mohan's way of life then, and it was what he and the rest of the villagers were accustomed to.



PEOPLE OF THE FOREST

Then, in 2001, a profound change came to Madhuban: With the help of WWF Nepal, the people initiated a community forestry program with Mohan serving as the first chairperson of the community forest. The change had begun with WWF Nepal's community mobilization and awareness programs, which armed the villagers with information and built their understanding of the importance of protecting their forests. Under the program, the villagers started with putting a stop to tree-felling as well as cattle grazing while also planting fresh trees to enrich their forests. Through these actions, Mohan and the people of Madhuban set about the task of rewriting their future—a future intricately linked to their forests.

Mohan takes pride in calling his community, the *Tharus*, “the people of the forest.” They are known to have lived in the forests for hundreds of years. Because of the community forestry program, Mohan and his fellow villagers now saw sense in adding sustainability into their plans for forest use—a new and different way of honoring their forefathers’ message of using the forests to their benefit.



THE FIRST STEP TOWARDS CHANGE

In late 2007, 59-year-old Bikhu Tharu installed the first biogas unit in Madhuban village.

WWF Nepal had introduced biogas as an alternative to using firewood—thereby saving trees and complementing the community forestry program—and as a new technology to provide clean energy to rural households. The units use a combination of animal dung and water, mixed in a digester, to produce methane—a clean cooking and heating gas.

An average biogas unit cost NPR 40,000 (roughly USD 500) and was financed by a revolving fund managed by the local cooperative in Khata Corridor and a subsidy provided by WWF Nepal. The subsidy came with a condition—that part of it be used for constructing a toilet in the household that would be connected to the biogas unit.

The first biogas unit in the village sparked a lot of curiosity among the villagers, especially the women. One day Mohan's wife Thagiya left her chores to drop by Bikhu's house for a glimpse of the biogas unit.

Biogas burns with a blue flame, and Thagiya found it hypnotic. She was amazed at how quickly food cooked over biogas, and surprised at how clean and smoke-free the kitchen and house were. To top it all, she realized that she and her husband no longer had to spend countless hours in the forest in search of firewood with which to cook their next meal.

Thagiya made up her mind that the blue flame needed to light up her house as well.



A WORTHWHILE STRUGGLE

In February 2008, Thagiya got her wish. Mohan had a biogas unit installed at their house. The installation, however, did not come easily.

First, Mohan had to take out a loan of NPR 12,000 (USD 160) from the local cooperative at an interest rate of 8% per annum. While he was quite aware of the benefits of biogas, he was not sure how he would be able to repay the loan—he already had an outstanding loan of NPR 130,000 (USD 1,700) which he had borrowed to send his only son to Malaysia for better work opportunities.

Mohan also had less than an acre of land around his home—insufficient space for placement of both the biogas unit and the cattle shed and buffalo that would be needed to supply the dung for the biogas. However, Mohan and his three brothers co-owned a larger piece of land about 600 meters away, where they did their farming.

A meeting of the four brothers was held, an agreement was reached, and the ancestral land was divided equally among them. Mohan decided to move out and build a new home on the farmland—all this, to install a biogas unit!

Mohan still wasn't certain if it was necessary to bring all this effort and turmoil upon his family and himself for the sake of biogas, but Thagiya was.



THE BLUE FLAME TRANSFORMED LIVES

Today, four years later, Mohan is a happier man thanks to biogas.

He says that the use of biogas has had a cascading effect when it comes to benefits for his family and for the village as a whole. From relieving the pressure on forests to improving people's well-being, the changes brought about by biogas are manifold.



THE FORESTS ARE ALIVE AGAIN

Since he installed a biogas unit, Mohan has not had to rely on the forest for firewood. Thirty-eight other households have switched to biogas as well. Their reduced dependence on the forest means the trees are now better protected and the forest in general is kept more intact. Now Mohan and the people of Madhuban are managing 130 acres of their community forest for sustainable harvesting of fodder and wood, ensuring that its benefits are passed on to future generations.

Research indicates that an average sized biogas unit (capacity 6 M³) saves nearly five tons of firewood, and reduces the emission of four metric tons of CO₂ equivalent, annually.



A DOUBLING OF INCOME

Now that he doesn't have to spend his days in the forest, Mohan has time for more productive activities. Vegetable farming is one of them.

The dung residue, or slurry, from the biogas unit works as an excellent bio-fertilizer while also improving the land's soil quality. This has proved very beneficial for his crops. On about one acre of land, Mohan raises vegetables such as cauliflower, cabbage and potato, all of which are organically grown. People from Madhuban, and even some from neighboring villages in India, buy his produce.

Mohan today makes NPR 135,000 (USD 2,000) annually from vegetable farming alone, and his overall income has doubled. Mohan has also paid back the loan he took from the local cooperative.



CLEANER AIR CLEANER HOMES

Mohan is happy with the changes brought about by the addition of the biogas unit, but Thagiya is the happiest person in the household.

Her family can now breathe better thanks to her smoke-free kitchen. And with the construction of the toilet, her family also has developed better sanitation habits, which means fewer chances of illness.

From the money earned from vegetable farming, Mohan has also purchased a *Kanchan* Filter, which is a locally made water filter, and installed solar lighting in his house. His home today is a model for other villagers to learn more about cleaner technologies and drinking water solutions.



EMPOWERMENT FOR WOMEN

Thagiya and her daughter-in-law, Kolani, now spend less time in the kitchen and more time participating in village life.

Prior to using biogas, the womenfolk of Madhuban village were tied to their homes. Today they are more engaged in community programs. They take part in village meetings. Some enroll in education programs. All of these used to be primarily men-centered activities.

Thagiya presently chairs two women's savings groups, while Kolani is an active member of a women's savings group. The savings group is an informal set-up comprising of women members who regularly save in their accounts and also take loans, based on the group's decision, for income generation activities.



A BETTER FUTURE FOR CHILDREN

With his son employed in Malaysia, Mohan's two grandsons, Aashik and Suresh, live with their grandparents. Mohan has taken on the responsibility of educating them, and the money made from his vegetable farming helps pay for the boys' school fees and supplies.

Second-grader Aashik's favorite subject is Nepali, while sixth-grader Suresh loves math.

Mohan sees a bright future for his grandchildren. With a good education, he feels they need not leave home or the country in search of better opportunities.



A NATIONAL RECOGNITION

In May 2010, Mohan and the 38 others who had installed biogas units in their homes gathered for a special ceremony, as the government recognized Madhuban as the third biogas-model village in Nepal. Along with Madhuban, there are four biogas-model villages in Nepal's Terai Arc Landscape today.

Besides the economic, health and social benefits from biogas at the household level, Madhuban village, with 54 households, is also a recipient of funds collected from the sale of verified carbon credits by WWF under the Gold Standard Biogas Project. Based on a collective community decision, the funds can be used in community development and conservation projects. Mohan considers this an added incentive for the people of Madhuban to protect their forests and a sustainable means of financing the future.

THE GOLD STANDARD BIOGAS PROJECT

Established in 2003 by WWF, The Gold Standard is an award winning certification standard for carbon mitigation projects and is recognised internationally as the benchmark for quality and rigour in both the compliance and voluntary carbon markets. It certifies renewable energy and energy efficiency carbon offset projects to ensure that they all demonstrate real and permanent greenhouse gas (GHG) reductions and sustainable development benefits in local communities that are measured, reported and verified.

There are 7,500 Gold Standard biogas units in Nepal's Terai Arc Landscape today. This is saving nearly 617 acres of forest annually, or the equivalent of 33,000 tons of fuelwood. The Gold Standard Biogas project also serves as an important mechanism for sustainable carbon financing, with USD 1 million already received from the sale of verified carbon credits.

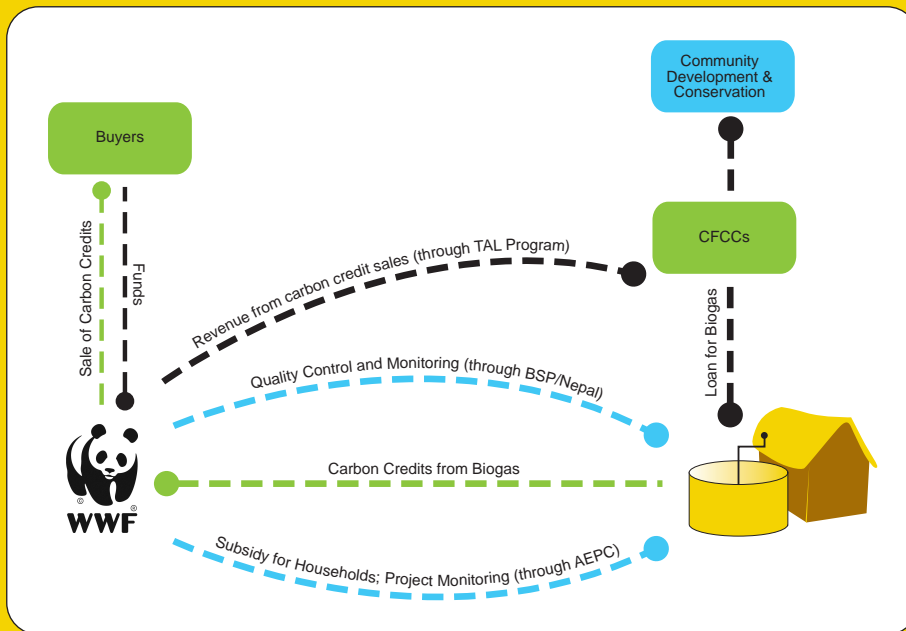
Community-based cooperatives are at the heart of the biogas project in providing micro-credit to local households for installing biogas. These cooperatives are today managing a revolving fund of nearly USD 700,000 to help finance the biogas project locally.

The biogas project is a perfect example of building harmony between humans and nature, where a simple conservation idea has helped provide sustainable benefits to both.

BENEFIT SHARING MECHANISM

The WWF Nepal Gold Standard Biogas Project implemented in the Terai Arc Landscape (TAL) uses the voluntary market approach. The resources for kick-starting the project were provided by WWF's network donors namely WWF US, WWF UK, WWF Finland, WWF Germany, WWF Netherlands and WWF Switzerland while the remaining resources were raised through carbon financing through MyClimate (www.myclimate.org).

WWF technically facilitates the whole process of carbon accounting and offsetting of credits and then disburses the funds to local communities both as subsidies as per the national subsidy delivery mechanism, delivered through Government of Nepal's Alternative Energy Promotion Centre (AEPCC) under the Ministry of Environment, and as revolving funds through Community Forest Coordination Committee (CFCC) cooperatives.



BSP Nepal, an NGO, is responsible for constructing the biogas plants in the project by engaging the private sector, managing the data and ensuring quality control of the plants. The CFCC and the TAL program play a key role in micro-financing and operating the revolving fund and providing toilet subsidies at the local level.

The biogas project offers credits for 21 consecutive years in three intermittent periods of seven years each starting from 2007. The project has been validated and the first verifications for 2007 and 2008 provided carbon credits worth 12,125 tons of CO₂ equivalent from 2,685 plants. The second verification accounted 13,606 tons of CO₂ equivalent for 3,973 plants for the period 2009.

MyClimate is the buyer of these credits and has offered 13.5 Euros per ton of CO₂ equivalent. Through this financing mechanism, communities now have access to around USD 400,000 from the biogas project. Once the biogas project is over, the communities can allocate these funds for upscaling the existing project, developing new renewable energy projects, enhancing conservation efforts or addressing sustainable development and livelihoods issues.

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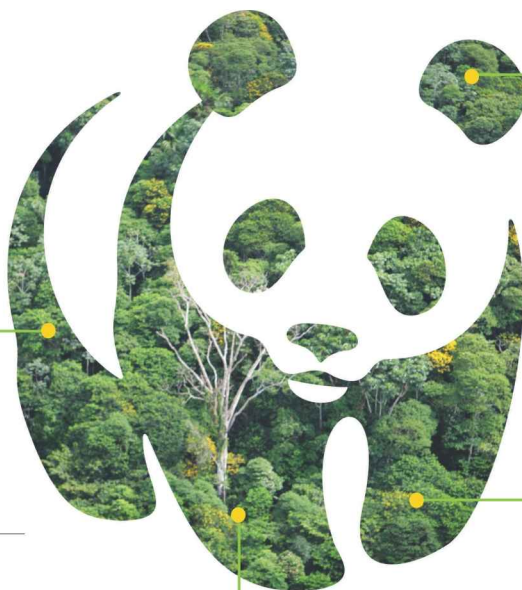
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