

453 011 C.Setharavamma – Biogas Unit ID 3790

C.Setharavamma lives in Tirumalaiahpalli village in Chittoor district. In this village, Community Reconstruction of Social Service is building 5 domestic Biogas units, as part of a Biogas units Climate Project undertaken by the Fair Climate Network, with support from IndiGo passengers who contribute to help poor families like C.Setharavamma's overcome hardships caused by Climate Change.



C.Setharavamma's is a landless agricultural family.. They also have 4 Cows & Bulls - Cross Bred. Since Chittoor district is drought prone and they own so little, they are also labourers. They work for wages on fields belonging to better off farmers, go as construction labourers when they can, and for government sponsored MG-NREGA works that give 100 days of assured work for rural families all over India.

Like everyone else in the village, C.Setharavamma used to cook on a traditional 3 stone open fire by collecting 350 kgs of clumps, twigs and branches every month. The meals were simple and sparse, cooked once a day and eaten 2-3 times.

In April 2015 Case Workers from Community Reconstruction of Social Service held meetings in the village and explained that Methane gas could be generated from cow dung (Gobar) and piped into their kitchens. They could cook their meals on gas stoves in a fraction of the time it took with conventional 3 stone open fires. It was smoke free and their vessels and homes could be kept spotlessly clean. Moreover, they will not have to walk to the fast depleting brush land to collect twigs and branches one whole day a week, every week. In the rainy months in Chittoor district, even this was not possible and families often stayed hungry due to lack of firewood. That was when the shopkeepers

would charge really exorbitant prices for a small bottle of kerosene.

C.Setharavamma and other women in Tirumalaiahpalli village listened. But they did not quite believe that kitchens could be anything but black with soot, that cooking could be clean, that they did not have to get smoke in their eyes... Only 3 families came forward to try out this new technology that they had never heard of before, called Biogas. After a while, more women came forward. Today, there are 4 functioning Biogas units in the village, and 1 more are under construction.

On 3 Apr 2015, a JCB happened to come to their village on some other work. C.Setharavamma's family said, "Why not! Let us try out this Biogas thing." They excavated a pit, close to their kitchen, on a piece of land marked by the Case Worker. On 10 May 2015 the Case Worker started supplying construction material like sand, bricks, cement, etc. Then he brought some hardware like a short pipe and gate valve. On 24 May 2015, he sent a Mason to start building the dome. C.Setharavamma and her family helped this Mason and gave him all the support he needed, including food and a place to sleep for 3-4 days.



After waiting for the cement to get cured, they started loading the Gobar into the pit. This took a long time because the pit just swallowed so much cow dung! When it was full and the gas started bubbling out, the Case Worker came and fixed the pipes and Biogas Stove. 19 Aug 2015 is a day C.Setharavamma will never forget! From that day on, she cooks like a rich woman in the town!! Gone are the simple gruel and gravy. Now she can cook fancy curries in just half an hour!

Today, C.Setharavamma doesn't have to kneel over an open fire, blowing through a pipe to keep it going, any longer. Cooking takes much less time and effort. It actually becomes enjoyable. Sometimes even the menfolk

Everything is not always smooth sailing. The 5 women of Tirumalaiahpalli realised that they need someone to do small repairs and also to maintain their Log Book which records actual usage. Otherwise they will not be able to prove that they have made an Emission Reduction. That is why they decided to select an educated young woman from their village as a Village Volunteer. CROSS trained her in simple repairs and gave her the basic tools and instruments she needed. She undertakes minor repairs and charges a small amount for her

effort, and also to replace the parts she uses – knobs, gate valves, pipes, etc. For major repairs, every single woman has the mobile number of the Case Worker. When they call him, he comes as soon as possible, assesses the damage, and sends a Mason (preferably the same one who built the unit in the first place) along with some cement and other material.

Days lost are serious for two reasons. First, the inconvenience of having to go back to firewood. Second, the UNFCCC Auditor deducts the Certified Emission Reduction that each Biogas unit generates (4.38 tonnes of Carbon Dioxide in 365 days) for every day that firewood is used. So they will take longer to repay their debt to IndiGo Passengers. Community Reconstruction of Social Service has drilled these into their heads for so long that C.Setharavamma and the 5 women are truly beginning to think like business women!

This is the really unique part of Climate Projects undertaken by the Fair Climate Network. C.Setharavamma and the women are not beneficiaries of charity. This is not a "build and forget" project.

IndiGo, on behalf of its passengers, has bought, in advance, Emission Reductions that will be generated through the use of these Biogas stoves (i.e. the tonnes of Carbon Dioxide not emitted into the atmosphere through the burning of firewood or kerosene or LPG) from these women at a very fair price. Over a period of 7-8 years, Enduser women in this project will have generated enough Emission Reductions to repay their entire borrowing – not in cash, but in an environmental service they provide.

When one looks at the surrounding landscape where these women had to scavenge for firewood for hours every week, searching for fallen branches, dried palm leaves, sticks and twigs, the negative impact of Climate Change hits us in the face. We wonder how life was before so much Greenhouse Gases were released into the atmosphere; when rains were more timely; when people weren't forced to cut down anything and everything that would burn. Even some of the richer women in Tirumalaiahpalli village told us that they too faced the very same problem; Climate Change doesn't distinguish between the rich and the poor. At times, even poor women have to pay others to find real firewood, in spite of their families not being able to afford.

The benefits of Biogas is not just cooking. The slurry that comes out from the unit is better than any chemical fertilizer. Crop yields are better. When there is a long gap between two rains, the crop doesn't dry up. When they apply Urea, the crop withers when there is a gap in rainfall.

C.Setharavamma's family is hopeful for the future. They know that Biogas is just a first step. Community Reconstruction of Social Service and the Fair Climate Network will show them new ways to make their lives easier in the years to come.

- C.Setharavamma has made an Emission Reduction of 8.16 tonnes of Carbon Dioxide (tCO_{2-e}) by using her Biogas unit for a total of 680 days.
- 4 End User women in Tirumalaiahpalli village have together made a total contribution of 23.35 tCO_{2-e} by using their units for a total of 1,946 days.

