Flame of Hope

Rural fisher communities are using biogas plants as an alternative livelihood resource, as a clean energy resource, and as a community building component.

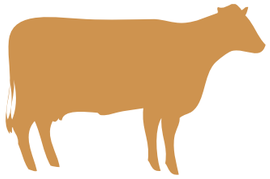
The CBO members in Kot Addu, Ghotki and Sukkur know exactly where the tons of dung their cattle produce each day are going: into biogas plants. Originally built under the aegis of the Alternate Energy-Early Recovery Programme after the 2010 floods hit, the biogas plants are a boon to energy starved communities and provide more than just an alternative energy resource to people. They also produce slurry as a by-product, hence giving those with farms and kitchen gardens a nutrient rich and cost-efficient alternative to traditional urea fertilizer. Originally, 6 to 8m^3 plants were installed, and bigger plants were built for people based on their capacity and usage. However, the biogas plants have been so successful in these areas that many people outside of the project communities have started contructing their own plants.

Building a biogas plant is an exact science. Specifications, location and construction need to meet a certain quality criteria for a fully functional plant. To ensure that the highest standards were set and met in plant construction, the project team selected and trained masons in Kot Addu, Alam Mirani, Chuttal Mirani and Saeedabad.

These masons are actively involved with their CBOs and engage with other community members. Most have been employed by landlords and large farmers to construct biogas plants for them on their land. The masons not only construct the plants, they also advise those willing to invest in biogas plants regarding size, location, expected outcomes and maintenance. These masons have been vocal about the installation of plants and have managed to earn up to Rs. 30,000 for the construction of at least four to six biogas plants in their communities or by helping in their maintenance.

A properly built biogas plant does not require much human input apart from the deposit of cattle dung and water. The masons know this, and ensure their creations are structurally so sound that they would not need further intervention for a very long time. The plants don't just take in waste matter, they also serve the dual purpose of giving respectable livelihood to the masons, and providing their users a clean energy source which

a. Kot Addu
b. Alam Mirani
c. Chuttal Mirani
d. Saeedabad

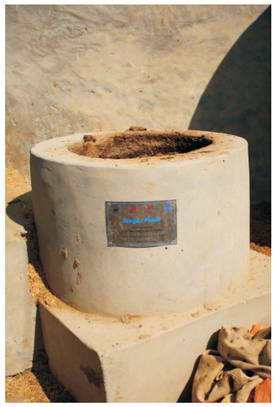


The ecological and environment friendly use of dung in biogas plants has changed the way communities address their energy needs.

doubles as a cost-efficient fertilizer as well.

Illegal logging of trees is one of the main reasons why riverine forests along the Indus are being lost. These areas play a critical role in soil and water conservation, floodplain management and are home to rich biodiversity. Their ecological importance is undermined due to stress on available vegetation for domestic use. People living within or close to riparian areas indulge in illegal logging and use wood as fuel to cook their food and build fires in winters. What seems like a small scale activity has a large scale impact. When confronted, most cite poverty and lack of alternatives as their defense. However, the communities working with WWF-Pakistan near Taunsa and Sukkur barrages do not use this excuse anymore.

A total of 40 biogas plants in Kot Addu and 45 in Sukkur project sites have helped communities cut their wood consumption by half. Community members now prefer procurring any additional wood through legal and sustainable means. Biogas is now used to cook food and heat water, which has significantly reduced the expenditure of community members on procuring other energy sources like wood and gas cylinders. The flame from biogas plants is also used as a smoke and odour-free alternative to burning wood or coal in winter for warmth. An additional benefit to those who believe in these plants as a suitable alternative energy resource is that their families now experience less respiratory irritation and ailments as they used to in the presence of smoke from wood. And for those who have kitchen gardens and small tracts of land where they farm, the slurry that is produced as a by-product of the production cycle is as good as gold.



Biogas plants produce a steady odorless flame that is beneficial in cooking and heating purposes.

Used as a cost-efficient and nutrient rich fertilizer, the slurry is plentiful and free. Members of the CBO in Kot Addu have reported a steady decline in the need for urea and other chemical fertilizers for their crops ever since they have started using the slurry in their fields. This has helped small to medium scale farmers in saving thousands of rupees worth of fertilizers. As one farmer reports, the money that they have saved from this whole process has gone into buying more cattle, which, in turn,

The biogas plants are an environment friendly and economical solution to fulfill energy needs of the communities.

produces more raw material for the biogas plant. The women of CBOs who tend to their kitchen gardens have also been successful in growing organic produce due to the slurry.

Homegrown innovations have also become a part of the whole procedure. In Kashmore, the members of the CBO Sindhu Mallah Goth Sudhar Tanzeem have reported that since they do not have enough space to utilize their slurry, they are now in talks with other villagers to take the slurry from them to use in their fields. This sort of enterprising behaviour is bringing the community together, and certifying the fact that when you put your mind to it, nothing goes to waste, even waste.

Biogas plants limit the need for illegally logging trees and burning firewood or coal to run stoves and heaters.