

Almanac of the Future

A STORY OF SUCCESS

Motivational experience No. 10



**No waste on
the farm**

NO WASTE ON THE FARM

There are many peasant families that incorporate different techniques and management strategies, achieving the conversion of waste into raw material, optimizing the use of resources. The implementation and use of a biodigester is often an important step on the way to the agroecological farm.

The women go ahead

Guadalupe Cepeda is a member of the "Nueva Vida" women's association. The group was formed in 2011, has its legal status and brings together 20 women living in the rural area of El Palmar, Canton La Maná, in the subtropical part in the west of the Latacunga province in Ecuador. Most of the women including Guadalupe started the breeding of fish and pigs in their small farms. They currently have in mind to form a microenterprise to make granulated panela (unrefined whole cane sugar) and marmalade. Guadalupe works together with her husband José Jacomé and her teenage son Marco Vinicio on the family farm "San José". There is a quite diversified production: in addition to raising small animals (chickens, rabbits) and two "Tilapia" fish ponds, the family grows pigs and has 8 dairy cows.

Near the house is the vegetable garden with a variety of vegetables; in other sectors of the farm there are pastures, sugar cane and coffee plantations. The family processes milk by taking out cheese, produces cane, panela and distilled honey.

It all started with two pigs

The women of the group of Guadalupe managed at the beginning to obtain two pigs from a support program; with this they began. Over time, the members received donations to this initial number. Today Guadalupe has 5 pigs and the marketing is simple, she only has to warn the neighborhood when she sacrifices a pig, and sells the portions directly.



Guadalupe explains how the idea of a bio-digester began.

Not so harmonious neighbors

Guadalupe and José say that throughout the farm no agrochemicals are used since they prefer to work with organic fertilizers. But a few miles away there are large banana plantations where glyphosate and other toxic chemical agents are used. Some of the neighboring families use them in the same way. As a consequence, indicates Jose there is a greater incidence of insects and plagues in their pastures; the wildlife of the area seeks refuge in the farms with a more ecological and friendly management with nature.

The group started in a similar form with the fishes. First, the fish farming was tried by the group having at first a fish pond together. Then everyone started on their own farms. Tree rows were planted as wind-breakers.

It was not long before Guadalupe and José realized that the pig breeding had brought strong odor, a lot of flies were attracted due to the fecal contamination of the water. With the technical assistance of the NGO FUN-HABIT and Caritas Latacunga, Guadalupe and José, as well as some other families,

decided to install a biogas plant. They had to invest 180 Dollars but the investment is paying off.

At the time of cleaning the pig stalls with water, a tube leads the fecal material, passing through a sedimentation box to a fermentation pool hermetically sealed by a layer of plastic cover. Bacteria produce biogas that, driven by a simple pipe and passing through a valve that regulates the gas pressure inside the digester, feeds a small stove in the kitchen. The tank with the organic matter has a slight inclination in such a way that the di-



Los alimentadores del biodigestor

gester gradually evacuates the processed matter allowing its further use as liquid fertilizer (Biol).

The biogas plant of Guadalupe and José has a capacity to absorb the excrements of a total of 10 pigs. The biogas is sufficient to prepare coffee and eggs for breakfast. The gas also serves to disinfect the pig stall occasionally. The climate plays a role for biogas production; the warmer the faster. The complex in the visited farm needs 4 to 6 weeks to fill the plastic cover.

Easy handling and good benefits

The owners of the San José farm are convinced of how easy it is to handle the digester. A mixing ratio of one fecal part to three parts of water must be maintained. What should be avoided are chemicals inside the digester. If this happens it is necessary to empty, clean and start the digester filling process again

Guadalupe indicates that the orchard has improved its yield in quantity and quality since the liquid waste of the digester has been used as fertilizer; the same, according to Luis is happening in the cultivation of cane. Marco Vinicio, the son is responsible for controlling the gas pipe and the operation of the valve that regulates the pressure.



“At first, we mistrusted the idea of the biodigester”, says Guadalupe. “It was only when we had visited a community where we saw this system working that we decided to install it at our farm. Today we benefit from the residues the biodigester produces; we use it as an organic liquid fertilizer for the crops on our farm”

In the case of Guadalupe and José, it was thanks to the group of women from the "Nueva Vida" Association that they were encouraged to introduce innovations in their farm, among them the biodigester. The farm is in the process of being converted to an agroecological farm, securing food for the family and the sale of healthy food products.



***Guadalupe and José
about what changed with
the biodigester:***

***The odor is gone and so
are the flies.***

***The bio-fertilizer is very
effective and does not
cost much.***

***What was previously
waste now goes into a
further reutilization
cycle.***



Messages to the future

- The optimization and reuse of solid organic substances generates benefits both for the environment and for people.
- What is initially perceived as an obstacle may be the beginning of a solution.
- Residues and substances, which are apparently no longer good for nothing, can become a raw material for new utilization cycles by using simple and available technology.

The text, which is based on visits and discussions on site, was created by Jorge Krekeler (Misereor adviser), but initially made consensual with the people visited. Special thanks go to Guadalupe Cepeda and José Jacomé as well as Luis Gallegos and the team of FUNHABIT.

Almanac to the Future

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