



Project Fact Sheet

Updated: February 2010

Promotion of Small-scale biofuel production and use in Honduras (Gota Verde)

Programme area:	STRO Foundation, Gotaverde
Target countries:	Honduras
Status:	Finalized
Coordinator:	Peter Moers STRO Foundation, Netherlands E-mail: moers@strohalm.nl Tel (+31) 30 231 4314
Partners:	HIVOS, The Netherlands IEEP, United Kingdom Dajolka, Denmark Ageratec, Sweden FACT Foundation, The Netherlands FUNDER, Honduras FHIA, Honduras
Website:	http://www.gotaverde.org
Objective:	Demonstrate the feasibility of small-scale biofuel production for the local market in Central America
Benefits:	Agricultural and processing skills to produce local biofuels offer new opportunities to activate the local economy, thus creating new employments.
Keywords:	Biofuels, transfer of know-how, local economic development
Duration:	01/2007 – 12/2009
Budget:	€ 1.158.002 (EU contribution: 48.05%)
Contract number:	EIE/06/277/S12.448446



Short description

In this 3 year project a high-quality consortium of European, specialized partners developed and tested an integrated regional economic development approach based on the promotion of small-scale production and local use of biofuels in Honduras. The final goal is to provide important new income and employment opportunities to the disadvantaged (mainly rural) population in Northern Honduras. The project ran from January 2007 to December 2009.

The project focused on the transfer of appropriate technical know-how in the area of agricultural production of oil yielding crops, agro-industrial (biofuel) processing and the adaptation of diesel engines to pure plant oil (PPO), as well as the introduction of innovative financial and commercial mechanisms that increase the impact and sustainability of the action. Although the project concentrated its capacity building efforts in northern Honduras, it also made an important contribution to the dissemination of the technologies and development models to other countries in Central America.

Achieved results

- Establishment of 599 ha of oil yielding crops, of which 373 ha permanent Jatropha plantations, and improved knowledge about the cultivation techniques of these crops (including a.o. sunflower, soy bean, sesame).
- Installation and operation of a low-tech and mainly locally built biofuel processing facility, including dehullers, presses, a biodiesel processor and storage facilities.

- c. The creation of the biofuel processing enterprise BYSA, which is owned for 49% by 196 oil crop producing farmers and 51% by FUNDER, the Foundation for Rural Enterprise Development.
- d. Capacity building of local car mechanics in the adaptation of diesel engines to the use of pure plant oil (PPO). In total six engines were adapted.
- e. Establishment of a local currency (called *Peces*, “fishes”) that is emitted by BYSA and backed by its biofuel inventory. In total more than 100 000 *Peces* were emitted in 2009 and 26 local businesses accepted them.
- f. The creation of a regional centre for the promotion of small-scale biofuels, by the main local partner of the project: FUNDER.

Lessons learnt

- a. The main lesson of the Project is that the creation of a fully sustainable biofuel chain, based (mainly) on jatropha, takes at least 5 to 6 years. Main reason is the low productivity of Jatropha during its first years. Other reasons are the time needed to train local technicians (agronomists, car mechanics, processing personnel) and to convince potential clients of the safety of the biofuels. It is possible that in the future, when improved jatropha cultivars are developed and biofuels become more mainstream, this time span can be shortened.
- b. Small farmers generally have short horizons. A short-term benefit is needed to keep small farmers motivated to maintain the jatropha plantations. Providing support for the establishment of short-cycle intercrops (preferably oil crops) has proven to be a good strategy: farmers maintain and fertilize the areas between the Jatropha rows that are used for intercrops.
- c. In the agricultural component many lessons were learnt about appropriate cultivation techniques, especially for jatropha in the area of site selection, soil preparation, pruning and intercropping. The results of these lessons are incorporated in a jatropha manual elaborated by the project. A more comprehensive manual, that also includes the lessons from other projects, is elaborated by Co-beneficiary FACT Foundation.
- d. In the processing component, the project learnt that – within a proper technological context – many existing appropriate technologies (e.g. for corn and coffee) can be adapted to the Jatropha production chain. The viability and sustainability of these innovations, however, depend on the presence of a technical capacity in the intervention region, such as a technical school.
- e. Small-scale biofuel producers are necessarily less efficient than larger producers in the processing component, due to its smaller volumes. In a context of a highly volatile fuel market (prices almost tripled and then fell 70% within the project period) small-scale biofuel producers need to find appropriate strategies in order to survive. The strategies that the project has started to explore are:
 - Take full advantage of the subproducts of the transformation process (e.g. turn press cake into biogas and organic fertilizer, turn glycerine into soap, etc.).
 - Use the oil for higher value uses, e.g. jatropha oil for soap making or as a biopesticide. These markets are limited, but because of their higher margins, they can contribute significantly to the profitability of the enterprise.
 - Make connections with other, existing production chains in which the supplying farmers are involved: e.g. organic fertilizer production (sludge from biogas production), grain drying (biogas), milk cooling (with electricity produced from biogas), cattle fodder (from press cake of edible oil seeds) etc.
 - Focus on PPO, in stead of biodiesel, because of its higher margins.
 - Focus on local large consumers, especially agro-industries with stationary equipment that use large amounts of diesel. This reduces distribution and marketing costs.

The project has only tested some of these strategies on an experimental scale. The scope and duration of the action was too limited to implement the strategies on a commercial scale.