

Coffee Wastewater Treatment: Project Collaboration With the University of Central America - Managua

CENTER FOR ENVIRONMENTAL JUSTICE AND SUSTAINABILITY (CEJS)

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1. Project Background and Description

Smallholder coffee farms in Nicaragua produce industrial strength wastewater but have little to no regulatory oversight, resulting in discharge of the wastewater to surface waters. This deteriorates water quality and can prohibit productive use of the surface waters by downstream users. This project aims to design an updated coffee wastewater treatment system for smallholder farms in Nicaragua, and to disseminate the design and project experience.

2. Project Scope

The CEJS specific aspects of this project include assessment of collaborative performance with our UCA partners via questionnaires completed at various points in the project, dissemination of the final design via a one-page flyer written in Spanish, and dissemination of the assessment data and overall project design via journal publication.

3. Project Update

The project is progressing according to schedule. To date we have accomplished:

- Assessment of the student exchange experience with our University of Central America partners.
- Preliminary design of the coffee wastewater treatment system.

Ongoing work includes:

- Laboratory testing of filter performance.
- Final design of coffee wastewater treatment system.

Future work includes:

- Preparing a one-page flyer to disseminate the final design to other farmers and co-op's in the region.
 - Expected completion date: June 2013
- Preparing a journal manuscript to disseminate project results and experiences.
 - For submission to *The International Journal of Service Learning in Engineering*
 - Expected completion date: October 2013