

Protein From Waste and Local Crops:

Final Technical/Financial Progress Report for period 2FEB13 – 22JUN13 [RED] and 22JUN13 – 1MAR14

PLEASE NOTE:

Objectives: To recycle certain of the island's waste streams to manufacture a protein product that will lower the cost of feeding poultry and significantly improve the livelihoods of Grenada's farmers. Outcomes anticipated in the first phase include the avoidance of putting noxious organic wastes in the local landfill, the solution of odor problems, providing a method for the disposing of used motor oil on an island that has no such facilities, and to help farmers retake the 95% of Grenada's \$30 million poultry market that they have lost to cheap imports. Finally, in a second phase, to disseminate this highly replicable technology to the surrounding countries in the region who all have the same waste problems and prohibitively expensive imported feed costs.

Executive Summary/Progress to Date: The following activities have been fully completed at this time [the end of month 5]: Procurement, Fabrication and Transit. Assembly will be completed by the end of month 6 and is 75% completed at this time. We are two months ahead of schedule. [See table below]

| Work Plan | | | | | | | | | | | | | | | | | | | |
|------------------|--------|--------|---|---|---|---|---|---|---|---|----|----|----|-------------|-------------|-----------|--------------|--------------|---------|
| Activity | Output | Months | | | | | | | | | | | | Responsible | Indicator | Budget | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | OAS Funds | Co-Financing | Total (US\$) | |
| 1.1. | | | | | | | | | | | | | | | | | | | |
| Procurement | | X | X | | | | | | | | | | | | J Aronson | receipts | 9,000 | 16,150 | 25,150 |
| Fabrication | | | X | X | | | | | | | | | | | R Davenport | receipts | 28,800 | 5,450 | 34,250 |
| Transit | | | | | X | X | | | | | | | | | J Aronson | receipts | 7,100 | 4,150 | 11,250 |
| Assembly | | | | | | X | X | X | X | | | | | | J Aronson | receipts | 2,880 | 8,460 | 11,340 |
| Testing | | | | | | | | | X | X | X | | | | J Aronson | photos | 2,220 | 5,175 | 7,395 |
| First Production | | | | | | | | | | | X | X | X | | J Aronson | photos | -0- | 10,615 | 10,615 |
| Total: | | | | | | | | | | | | | | | | | 50,000 | 50,000 | 100,000 |

Last week we completed our final test of the project with fish waste. This was the reason for the requested one month extension. Once again a quality product has been produced and sent to a lab in the US, [results to follow]. The test was to see if our electric elevator that feeds the cooker could handle fish as well as it has been handling the grain from the brewery. The grinder and the bagging line were also tested. All were part of the OAS commitment and all were satisfactory except that we feel the output should have a bone separator so that bones

alone could be fed to the grinder while all the fishmeal be allowed to by-pass the grinder which can save labor by speeding up the bagging line.

At this time [8MAR14] all activities have been completed: Procurement, Fabrication, Transit. Assembly, Testing and First Production. In the results column: 48,000 pounds of organic waste have been converted, 880 gallons of waste oil have been incinerated displacing 880 gallons of imported diesel fuel, 2 plant employees, a truck driver and a few farm hands have been supported and Poultry Farmers have benefited with over 10,000 lbs of free Protein Supplement, displacing 10,000 lbs of imported feed. [\$3,300 value] in exchange for feedback on palatability and weight gain.

We are about to receive a grant for \$178K from IDB and these results dovetail nicely into that follow on funding. The new grant covers every possible implementation item from help forming the farmers Co-op, to protein analyzers, to a bathroom and a shower for the men. It will permit the PFW operation to enter sustainable and full time production. As in the OAS funding, TGP has to come up with a matching amount of which half is in-kind. Trucks represent all but \$25K of our cash portion.

Challenges and Difficulties:

Installing in the condenser cooling collector was much harder than anticipated creating a big cost and time overrun.

The need for better cooling capabilities required the building of a water accumulator that can store and extra 3000 gallons of water [in 2 hours] to double our water flow coming in from the source stream. This was performed with TGP's funds. The original stream set up was provided by OAS in the first round.

Logical Framework: No changes

Goals: Purposes and outputs: still to go

Activities [reported above]

Goals: All project activities completed [see above] Outputs reported below

Lessons Learned: For costs: add 10% next time. Actually 10% is not enough [see the attached "OAS extra money spent" project country expenses for TGP.

Next Steps: On 10 July, Robert Davenport flies in to see to the completion of Assembly and to commence Testing. He will be here for 3 weeks of working days [15].

Robert Davenport came and worked with us for an intensive seven and a half days. At which point we decided to leave some room in his budget to write our operations manual. TGP paid his travel expenses









April 10, 2014

Mr. Jim Aronson
PO Box 4005
St. Georges
Grenada

Dear Mr. Aronson:

Congratulations! Your application to the Compete Caribbean Program for project support through the Enterprise Innovation Challenge Fund's Innovation Window; has been approved for funding.

Your firm – **Protein From Waste (The Grenada Project)** – GD-CC4018 will receive USD178,020 for further development.

Once again, we applaud you and look forward to working together to ensure that your project is successful.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sylvia Dohnert".

Sylvia Dohnert
Executive Director
Compete Caribbean