SECTION 1: PROJECT SUMMARY

**PROJECT NAME:** Demonstration of an Integrated Farming Model for Poor Farmers

**Purpose:** To achieve significant increases in productivity of small farmers, including women farmers, by integrating duckweed production with fish farming.

<table>
<thead>
<tr>
<th>Country Administrator</th>
<th>Beneficiary Country</th>
<th>Group</th>
<th>Subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUYANA</td>
<td>GUYANA</td>
<td>ENV</td>
<td>AGRI - Sustainable Agriculture</td>
</tr>
</tbody>
</table>

**Executing Agency:** INSTITUTE FOR PRIVATE ENTERPRISE DEVELOPMENT

**Design Team Leader:** Leitch, Janelle

**Supervision Team Leader:** Leitch, Janelle

**TIMELINE**

- Approved date: Mar.08
- Signature date: Apr.08
- First disb.: Jun.09
- Report date: Jun.10
- Original last disbursement date: Oct.10
- Current last disbursement date: Dec.11
- Original execution date: Oct.10
- Current execution date: Jun.11

**FUNDS**

- Disbursed: $125,972.00
- Available amount: $48,994.87
- Counterpart: $2,880.00
- Disbursed: $0.00
- Available amount: $22,880.00

**PERFORMANCE SCORE**

- Current score: Satisfactory: 2.162
- FOMIN Average: 2.327

**EXTERNAL RISKS**

- FOMIN risk average: 0.809

**INSTITUTIONAL CAPACITY**

- Financial Management: ---
- Procurement: ---
- Technical Capacity: ---
Summary of project performance since inception

The project has been moderately successful. One hundred and twenty nine (129) farmers (project target 300) are practicing integrated farming of which 49% are women (target 25%) and 21% have fish pond or fish cage (target 30%). Twenty five (25) demonstration model farms have been established of a target of 30 of which at least 2 in each of the 10 Administrative Regions. The minimum target of 2 was achieved for Regions 2, 4, 5, 6 and 10. Only 1 demo farmer was active in each of Regions 1, 7 and 9. Twenty (20) farmers have shared their experiences in integrated farming in 26 on-farm workshops against an annual target of 20 workshops after the first half-year.

A manual for growing tilapia produced by the government Mon Repos Aquaculture Station is being used by the Project Extension Officers for work with farmers. A bio-digester manual prepared for IICA Guyana is being used as the initial basis for the design and establishment of bio-digesters. This manual has been distributed to interested farmers. Two (2) promotional brochures developed for the use of Lemma duckweed to feed ducks and pigs respectively were distributed to farmers and interested persons. A decision has been taken to contract a consultant to prepare a single “Farm Manual on Integrated Farming Systems” with four modules (1) Introduction to Integrated Farming Systems for Poor Farmers, (2) Growing and Feeding of Duckweed, (3) Construction and Operation of a Low Cost Bio-digester and (4) Construction of Fish Pond and Growing of Fish. This manual will consolidate the information of the previous manuals that were being utilized and the information gathered from practical experiences in the field and research on the Internet. Another consultant will be recruited to prepare a training video on these same topics.

Dr. Leslie Chin retired as CEO of IPED at the end of December 2009, but continued to function as Project Coordinator.

The main obstacles faced were:

(i) The delay in the achievement of the key objectives of 30 demonstration farms and being on course for project target of 300 farmers adopting integrated farming is partly due to the phenomenon of risk aversion for early adopters. This kind of risk will be minimized when the farmers see successful farmers benefiting from the technology. The under achievement of 30% fish ponds will be addressed by creating a greater focus on promotion of fish ponds.

(ii) Lack of financial capacity of the beneficiaries to invest in a fish pond will be addressed by loans from IPED.

The likelihood of the Project achieving its final objectives in full are marginal, although because of the inherent sustainability of the model through its demonstration effect, the major objectives are achievable in another 12 to 18 months beyond the Project. It is expected that the Project would gain an extension of six (6) months based on the unused budget amounts.

Comments from the Supervision Team Leader
Agree with the Executing Agency comments

Summary of project performance in the last six months

The Project’s performance over the last six months has been moderately satisfactory with respect to the planned activities for the semester. The main achievements of the semester were 47 new farmers practicing integrated farming against an average project target of 60 per semester. Thirteen (13) new demonstration farmers are in various stages of operating integrated farms within the reporting period. However ten (10) demonstration farmers were declassified for a number of reasons. This then equates to a cumulative total of twenty five (25) demonstration farmers. The objective was to establish thirty (30) demonstration farms at the end of nine (9) months of the project’s operation.

The main obstacles faced were:

The under achievement of 30% fish ponds was reduced by creating a greater focus on promotion of fish ponds by outlining the high potential revenue generation by fish farming. Farmers were asked to build ponds as small as 2.5 m x 2.5 m as pilot fish ponds with an initial stocking of 50 to 100 mixed-sex tilapia. Food For the Poor was not interested in digging ponds in multi-locations since it was not cost effective.

The Execution Unit will pay special emphasis over the next few months to the following critical actions:

(i) The Project Coordinator will create a focus on bio-digesters as the component that is of primary interest to many farmers and later integrate them with duckweed aquaculture.

(ii) Increase the number of work shops to at least two per month.

Comments from the Supervision Team Leader
Agree with the Executing Agency comments

SECTION 3: INDICATORS AND MILESTONES

<table>
<thead>
<tr>
<th>Purpose: To achieve significant increases in productivity of small farmers, including women farmers, by integrating duckweed production with fish farming.</th>
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</thead>
<tbody>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>P.I1 Farmers that have adopted integrated farming into their operations</td>
</tr>
<tr>
<td>Apr 2008</td>
</tr>
<tr>
<td>P.I2 Proportion of project beneficiaries that are women</td>
</tr>
<tr>
<td>Apr 2008</td>
</tr>
<tr>
<td>P.I3 Farmers that have adopted fish farming as part of the integrated farming model</td>
</tr>
<tr>
<td>Apr 2008</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component 1: Establishment of demonstration units</th>
<th>Weight: 31%</th>
<th>Classification: Satisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL.I1 Farmers have established integrated agriculture-aquaculture model farms</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Apr 2008</td>
<td>Oct 2010</td>
<td>Jun 2010</td>
</tr>
<tr>
<td>CL.I2 Agri/aqua farms per region</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Apr 2008</td>
<td>Oct 2010</td>
<td>Jun 2010</td>
</tr>
<tr>
<td>CL.I3 Persons identified and invited to participate in establishment and operation of integrated agriculture-aquaculture demonstration units.</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Oct 2010</td>
<td>Jun 2010</td>
<td></td>
</tr>
<tr>
<td>CL.I4 Candidates selected from each Administrative Region.</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Oct 2010</td>
<td>Jun 2010</td>
<td></td>
</tr>
<tr>
<td>CL.I5 Database potential model farmers established by IPED.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Oct 2010</td>
<td>Jun 2010</td>
<td></td>
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</tbody>
</table>

JUNE 2010
CRITICAL ISSUES THAT HAVE AFFECTED PERFORMANCE

[None reported in this period]

SECTION 4: RISKS

MOST IMPORTANT RISKS AFFECTING FUTURE PERFORMANCE

1. Lack of market demand for produce
   Level: Medium
   Mitigation action: Produce from farmers to be absorbed within the communities of origin,
   Responsible: Project Coordinator

2. Receptiveness and willingness of farmers to adopt integrated agriculture
   Level: Medium
   Mitigation action: Extensive outreach campaign to promote the benefits of integrated farming,
   Responsible: Project Coordinator

3. The bio-digester technology and aquaculture have been promoted in the past without the achievement of a substantive base that could be used for further diffusion of the technology.
   Level: Medium
   Mitigation action: Documentation of the technical aspects of bio-digester construction and operation anf fish pond construction and fish farming in a Farm Manual that would be widely circulated.
   Responsible: Project Coordinator

4. The technology for duckweed production is relatively new to Guyana
   Level: Medium
   Mitigation action: Documentation of technical aspects of duckweed production in manuals based on project and other experiences,
   Responsible: Project Coordinator

PROJECT RISK LEVEL: Medium
TOTAL NUMBER OF RISKS: 4
IN EFFECT RISKS: 4
NOT IN EFFECT RISKS: 0
MITIGATED RISKS: 0

SECTION 5: SUSTAINABILITY

Likelihood of project sustainability after project completion: HP - Highly Probable

CRITICAL ISSUES THAT MAY AFFECT PROJECT SUSTAINABILITY

[None reported in this period]

Actions related to sustainability which will be or have been implemented:

A Farm Manual and a Training Video on Integrated Farming are being planned for production in the third quarter of this calendar year. Copies will remain with IPED whose officers will distribute as they promote the adoption of integrated farming systems by their farmer clients.

SECTION 6: PRACTICAL LESSONS

1. The project has three technology components that are new to poor farmers. These are duckweed production and feeding to livestock and fish, biogas production and use for cooking and fish farming. The establishment of demonstration farms was part of the project strategy to show farmers. However we were much behind target in getting these demonstration farms operational since farmers were reluctant to make the investments in what were perceived as untested technologies.

In the project design we could have assisted financially in the start up of demonstration farms once the costs did not exceed 5% of total project costs. The Project could have had a loan guarantee fund to guarantee loans to demonstration farmers and to project beneficiaries. Loan guarantee would be at the level of 50% loan balance.