CARBON CREDITS FOR LAKE BASIN MANAGEMENT

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ILEC-JICA TRAINING COURSE ON INTEGRATED BASIN MANAGEMENT FOR LAKE ENVIRONMENT

March 11, 2008
Otsu City
Shiga Prefecture
JAPAN
Total no. of cities = 14
Lakeshore municipalities = 25
Non-lakeshore municipalities = 22
Total no. of barangays = 2,655

TOTAL AREA: 3880 km² including the 900 km² lake
Threats: impacts of economic development

Results: Pollution and sedimentation of the lake
Laguna de Bay

Laguna de Bay
Community Carbon Finance Project (Carbonshed Project) (2004-2008)
Component 1: CO-MANAGED INVESTMENTS FOR WATERSHED DEVELOPMENT

NG-LGU Cost-Sharing Policy

**Green/Blue Subprojects** – Reforestation, Forest Related Activities, Soil Conservation, Mangrove & Watershed Protection, River & Seashore Protection

<table>
<thead>
<tr>
<th>LGU Income Class</th>
<th>Municipalities and Provinces</th>
<th>Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loan</td>
<td>Grant</td>
</tr>
<tr>
<td>1st &amp; 2nd</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>3rd &amp; 4th</td>
<td>45</td>
<td>40</td>
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<tr>
<td>5th &amp; 6th</td>
<td>40</td>
<td>50</td>
</tr>
</tbody>
</table>

**Brown Subprojects** – Solid Waste Management Project, Drainage, Sewage, Sanitary Support Facilities

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Laguna Lake Development Authority
Laguna de Bay Watershed Environmental Action Planning (LEAP)

- basic framework is the microwatershed
Laguna de Bay Community Carbon Finance Project
(Carbonshed Project)

- Being implemented through a grant from the Japan Trust Fund – Special Program on Climate Change Initiatives which the World Bank administers

- Grant amount: US$358,450.00


- Buyers of Emission Reductions are the Community Development Carbon Fund (CDCF) and the BioCarbon Fund (BioCF) which are managed by the World Bank.
OBJECTIVES:

- Build the capacity of LLDA as an intermediary to enable small-scale environmental projects to result in certifiable emission reductions (CERs).

- To implement carbon emission reducing interventions, such as waste management and erosion reduction in order to address priority environmental issues: pollution and sedimentation of the lake.
OBJECTIVES:

- to mitigate the emission of greenhouse gases by engaging the cooperation and participation of local government officials and communities with the purpose of enhancing their capacities in environmental governance and in getting benefits from Carbon Finance, through the Clean Development Mechanism (CDM) of the Kyoto Protocol.
Clean Development Mechanism (CDM)

- Article 12 of the Kyoto Protocol
- Assist developing countries to achieve sustainable development
- Assist developed countries to meet commitments through projects in developing countries
**Baseline Scenario:** Emissions produced under Business-as-Usual (BaU) condition

**CDM Scenario:** CO2 emissions due to CDM projects

$ or €
Methane Avoidance

From an open dumpsite
*(Business as Usual)*

To a Materials Recovery Facility with Composting *(CDM project)*
Methane Recovery through wastewater treatment

Laguna de Bay

Balanac River

Methane Recovery through wastewater treatment

1,200 kg/yr
7 backyard piggeries
2 commercial piggeries
coconut area
176 households
34 backyard piggeries
14 commercial piggeries

8,100 kg/yr
23 backyard piggeries
19 commercial piggeries

7,900 kg/yr
23 backyard piggeries
19 commercial piggeries
coconut area
19 households
52 households

Laguna de Bay

Balanac River

Methane Recovery through wastewater treatment

1,200 kg/yr
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Carbon Sequestration through reforestation of denuded areas in the lake’s watershed
Steps in Developing a CDM Project:

1. FS and due diligence
2. PDD documents
3. Approval by the Designated National Authority (DNA)
4. Validation by the Designated Operational Entity (DOE)
5. Registration by the CDM Executive Board (EB)
6. Implementation
7. Verification by the DOE
8. Issuance of VERs or CERs (Upon verification and approval of report by the EB)
9. Transaction of ERs

CDM website: http://cdm.unfccc.int/index.html
**SMALL-SCALE CDM PROJECTS IN LAGUNA DE BAY**

**BUNDLE 1: Avoidance of Methane Production from Biomass Decay Through Composting-1** *(CDM-SSC-PDD, Version 03 - in effect as of: 22 December 2006).*

ER Threshold: Not more than 60 kilo tonnes tCO2-e

**BUNDLE 2: Methane Recovery in Wastewater Treatment-1** *(CDM-SSC-PDD, Version 02)*

ER Threshold: Not more than 60 kilo tonnes tCO2-e

**BUNDLE 3: Watershed Rehabilitation Project –1** *(CDM-SSC-AR-PDD, Version 02)*

ER Threshold: Not more than 8 kilo tonnes tCO2-e
Registered CDM Projects in the Laguna de Bay Basin

- **Morong-Teresa Micro-watershed**
  - Morong Materials Recovery Facility with Composting
  - Teresa Materials Recovery Facility with Composting

- **Tanay Micro-watershed**
  - Tanay Micro-watershed Enhancement (Composting)

- **Biñan-San Pedro Micro-Watershed**
  - General Mariano Alvarez (GMA) Materials Recovery Facility with Composting

- **Pagsanjan-Lumban Micro-watershed**
  - Kalayaan Integrated Solid Waste Management

- **Sta. Cruz Micro-watershed**
  - Sta. Cruz Materials Recovery Facility with Composting
  - Liliw Community-Based Materials Recovery Facility with Composting
This interface provides information on the last 15 CDM project activities that have been registered by the CDM Executive Board. CDM project activities registered earlier are accessible through the Project Search interface.

<table>
<thead>
<tr>
<th>Registered</th>
<th>Title</th>
<th>Host Parties</th>
<th>Other Parties</th>
<th>Methodology *</th>
<th>Reductions **</th>
<th>Ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 Mar 08</td>
<td>Baotou Iron &amp; Steel Blast Furnace Gas Combined Cycle Power Plant Project</td>
<td>China</td>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>ACM0004 ver. 2</td>
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<td>AWMS Methane Recovery Project BR08-S-30, Mato Grosso and Mato Grosso do Sul, Brazil</td>
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<td>16 Mar 08</td>
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<td>669071</td>
<td>1437</td>
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Required Legal Agreements
1. Memorandum of Agreement between the Project Participant and the LLDA for the Intent to Sell and Purchase Verified Emission Reductions

Signing of the Memorandum of Agreement (cMoA) between the LLDA and Municipal Mayors as witnessed by Dr. John Morton-World Bank (5th from left) and Cong. Baculio, Vice Chairman, Committee on Ecology, Philippine House of Representatives (7th from left).
3. sub-Emission Reduction Purchase Agreement: Conditions To Sell and Purchase Verified Emission Reductions between the LLDA and the project participant

Mayors of the town of Tanay and Pililla in the Province of Rizal

25 June 2007
Capacity Building Activities
Marketing of Carbonshed Project
Dr. John Morton, Task Team Leader from the World Bank discussing the Operations Manual

The Carbon Finance Team
Proponent Workshop

Participants from fifteen (15) LGUs at Vivere Suites, Alabang, Muntinlupa City, February 9-10, 2006
Training on CDM Project Monitoring

22 June 2007

Alumni Center, UP Diliman Campus
Greenhouse Emission Inventory
TOTAL GHG EMISSIONS

![Map showing total GHG emissions with values from 200,000 to 1,600,000 tons.](image)

- TOTAL CO$_2$e (tons)
  - 1,600,000
  - 1,400,000
  - 1,200,000
  - 1,000,000
  - 800,000
  - 600,000
  - 400,000
  - 200,000
Continuing and Next Steps:

- Signing of a sub-ERPA between the LGU and the individual project participants
- Application for approval of the Designated National Authority
- Validation by the Designated Operational Entity
- Registration of the bundled sub-projects by the CDM-Executive Board
- Training of Project Participants and LLDA staff on monitoring Carbon Emission Reduction
- Emission Reduction delivery and payment of corresponding revenue
LLDA Carbonshed Project Team

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