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Carbon Finance Support Facility Methane Gas Recovery and Combustion with Renewable Energy Generation from Anaerobic Animal Manure Management Systems

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COUNTRY PROFILE: THE PHILIPPINES



Republic of the Philippines

- Location : Southeast Asia
- Capital : Manila
- Land Area : 115,830 sq. miles
- Population : 103 million
(As of Dec. 2012)
- GDP: US\$ 240.6 B
(As of Dec. 2012)

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COMPANY PROFILE: LANDBANK



Ownership	100% National Government Principal depository of the Philippine government
Industry Ranking (as of 31 December 2012)	4 th largest bank in the Philippines <u>Asset Size:</u> <i>PhP 683 B or ~ US\$ 17 B</i>
Reach and Network (as of 31 December 2012)	333 Branches/Bank Units and 8,332 manpower
International Standard Certifications	ISO 14001:2004 Environmental Management System (EMS)
	ISO 9001:2000 Quality Management System (QMS)



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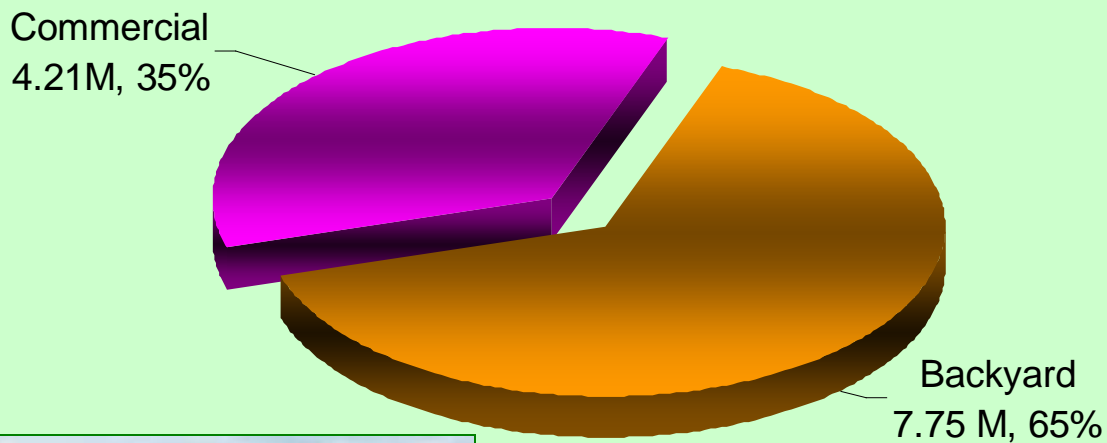
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Philippines Livestock Sector Overview

Philippine Swine Inventory by Farm Type
as of July 1, 2012 (Source: www.bas.gov.ph)



- Farms have taken the most cost effective route for the management of swine wastes, by constructing lagoons and settling ponds



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Carbon Finance Support Facility (CFSF)

CFSF

Objective:

To promote climate change-mitigating activities to clients by providing financing and CDM services

LANDBANK CDM Programs of Activities (PoAs)



Methane Recovery and Combustion from Anaerobic Animal Manure Management Systems – PoA 5979



Landfill Gas Recovery and Combustion from Sanitary Landfill Sites – PoA 6707



Philippines Mini-Hydro - PoA 8674



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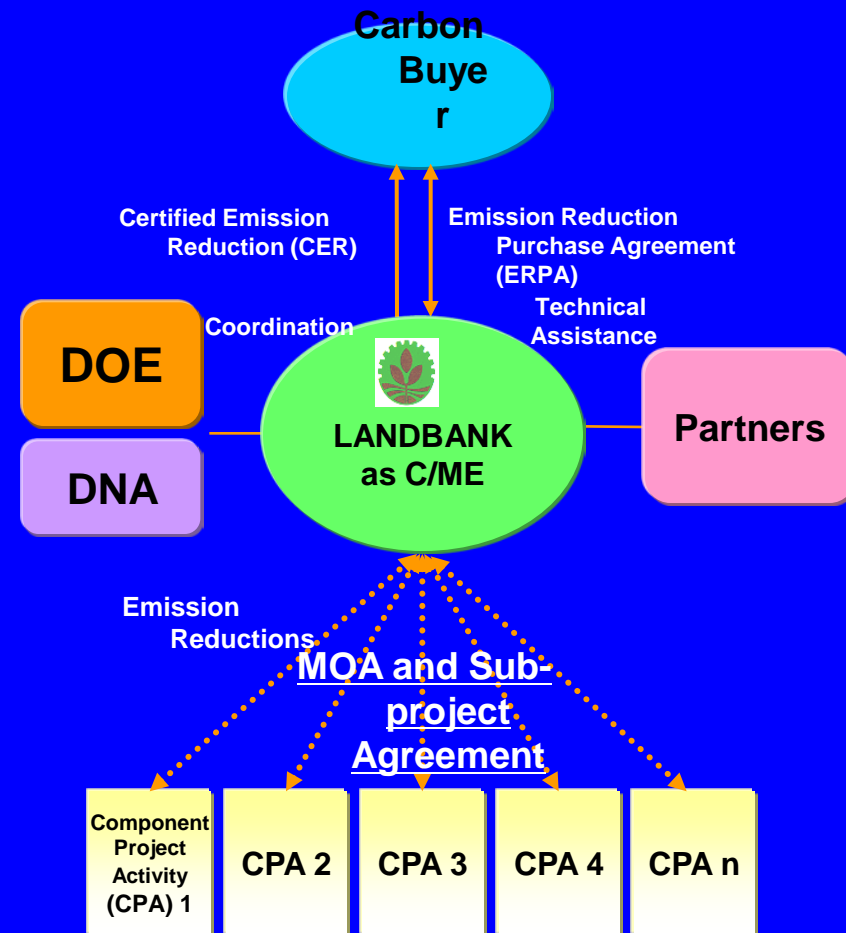
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LANDBANK, as the Coordinating and Managing Entity (C/ME) of the PoA

- Conducts due diligence activities
 - Facilitates DNA endorsement
 - Provides assistance in CDM documentation, verification and monitoring
- ➔ **Uses CER as additional source of loan repayment / security**
- ➔ **Charges management fee**



POA for Animal Waste-to-Energy Project (UNFCCC registered POA 5979)



- **PoA Title:**
 - Methane Recovery and Combustion with Renewable Energy Generation from Anaerobic Animal Manure Management Systems under Land Bank of the Philippines' (LBP) Carbon Finance Support Facility

- **Methodologies Used:**

- AMS III.D v.17
- AMS I.F v.2

- **Registration Date:**

- 10 May 2012

- **Carbon Buyer:**

- WB (as Trustee of Spanish Carbon Fund)



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POA for Animal Waste-to-Energy Project (UNFCCC registered POA 5979)



- **1st CPA:**
 - Project Name:
Marcela Farms
 - Capacity: 4,100 sow level
 - Location:
Lourdes, Cortes, Bohol,
Philippines
 - Estimated CERs:
23,105 tCO₂e/yr (for 7 yrs)
- **Investment Cost (Biogas):**
 - P13.5 M or US\$ 337,000
- **Power Generation**
 - 840 Kwh (based on design capacity)

Potential of the PoA

- **Pipeline projects:**
 - 45 pig farms (58,000 sow level)
- **Potential CERs:**
 - 263,000 tCO₂e/yr
- **POA life: 28 years**
- **First and only in the country** - Program is ready to include eligible pig farms, even the relatively small farms



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GMI's Assistance to PoA



- Technical due diligence
- Conduct of specialized lectures/hands-on training
- Provision of equipment like flares and flowmeters



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Barriers Encountered

- **Access to finance** – no local banks would provide financing for biodigester as stand-alone project
- **Technological barrier** – no national standard design nor accredited technology provider for biodigester / animal waste-to-energy project
- **Common Practice** – use of open lagoon to dispose wastewater; policy regulation does not require capturing the methane
- **CDM process** – tedious documentation, high transaction cost and need to conduct stakeholders consultation



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Actions Taken/Way Forward

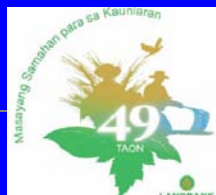
- LBP mainstreamed financing of biodigester / methane capture in its lending programs by considering the following:
 - Savings on power
 - CER as additional loan security / repayment source
 - Co-benefits of the project
- LBP collaborated with the World Bank, GMI and national agencies for the promotion of the PoA
- Expand the PoA to other local financial institutions



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THANK YOU!



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