

**PROJECT INFORMATION DOCUMENT (PID)  
INITIATION/CONCEPT STAGE**

Report No.:

<b>Project Name</b>	Carbon Asset Development – Methane Recovery from Waste Management Project
<b>Region</b>	EAP
<b>Country</b>	Philippines
<b>Sector(s)</b>	Solid Waste Management
<b>Theme(s)</b>	Climate Change
<b>Lending Instrument</b>	IPF
<b>Project ID</b>	P152805
<b>Borrower(s)</b>	Land Bank of the Philippines
<b>Implementing Agency</b>	Land Bank of the Philippines
<b>Environmental Category</b>	C
<b>Date PID Prepared</b>	7 January 2015
<b>Estimated Date of Approval</b>	15 January 2016
<b>Initiation Note Review Decision</b>	
<b>Other Decision(s) (as needed)</b>	

## **I. Introduction and Context**

### **Country Context**

The Philippines is considered one of the most vulnerable countries in the world to climate change as evidenced by the increasing frequency and intensity of typhoons and seasonal droughts. While the Philippines has taken steps to address the issues of climate change, it is still faced with a number of obstacles and constraints to both mitigation and adaptation.

The agriculture sector contributes about one-third of all greenhouse gas (GHG) emissions in the Philippines, the vast majority of which are in the form of methane from rice cultivation and livestock. In 2009, the Global Methane Initiative (GMI) estimated that 2.5 MMT CO<sub>2</sub>-equivalent per year are emitted by the Philippine livestock and food waste sectors, where the swine sub-sector accounted for over 50 percent of the total emissions. With both increasing population and incomes growth, emissions from agriculture and waste management will continue to grow rapidly. Solid waste collection and management has become an acute problem in many urban areas in the Philippines. Less than 50 percent of solid waste is collected, and dumping in open dumps, canals, waterways, and other open areas is still common.

### **Sectoral and Institutional Context**

The Philippine Clean Water Act has been in place since 2004 to increase treatment of wastewater from domestic, livestock, and industrial sources. The Ecological Solid Waste Management Act has been in place since 2000, and slowly municipalities have begun to phase out their use of open dump sites and

construct more modern facilities. The Renewable Energy Act of 2008 aims to increase the utilization of renewable energy including from captured methane.

The Philippines has participated in the CDM since the Philippine CDM Designated National Authority (DNA) was established within the Department of Environment and Natural Resources (DENR). So far, 84 CDM projects have been developed in the Philippines. Many of these projects were developed and closely managed by international private sector CDM developers, and a large number were subsequently closed or abandoned as a result of the very low carbon prices in today's international carbon market.

Prior to the establishment of the CDM Program of Activities within LBP, lending for methane recovery projects was uncommon in the Philippines. The reasons for this is a combination of lack of demand for these investments, lack of awareness of these technologies and their financial and environmental payoffs, and above all, a higher level of perceived risk, which all necessitate a sustained marketing effort to promote new technologies, building up of domestic capacity and – in the current carbon market situation – the sustained support from international partners.

### **Relationship to CAS/CPS/CPF**

GHG mitigation efforts are in line with the new Country Partnership Strategy (CPS) for the Philippines. The existing World Bank project (Philippines Methane Recovery from Waste Management Project, P115080), which the grant supports, is aligned with the CPS's Engagement Area No. 4. "Resilience to Climate Change, Environment, and Disaster Risk Management", which promotes an increase in physical and financial resilience to natural disaster and climate change impacts and improvement in natural resource management and sustainable development. In the CPS, the World Bank emphasizes the importance of low carbon development for the overall sustainable development agenda and reaffirms its support to the Philippines in its efforts to implement climate change action and reduce environmental pollution from gaseous, liquid and municipal wastes and persistent organic pollutants. In addition, the productive use of animal waste from pig farms in the existing World Bank project is aligned with CPS Outcome 3.3 "Increased Economic Growth, Productivity and Employment in Rural Areas".

LBP and the World Bank have collaborated on several environmental programs in support of the government's goal to mitigate climate change and promote sustainable development, in particular:

- Support for Strategic Local Development and Investment Project (S2LDIP),
- Metro Manila Wastewater Management Project (MWMP),
- Metro Manila Third Sewerage Project (MTSP),
- Third Rural Finance Project/Countryside Loan Fund,
- Ozone Depleting Substances (ODS) Phase-out Project.

The USD30 million ODS phase-out grant proves that LBP has been a technically and administratively sound partner. For 17 years up to its closing in October 2011, the project phased-out a total of 2,563 Ozone-Depleting Potential (ODP) metric tons, benefiting 17 enterprises from the manufacturing sector; 2,294 refrigeration and mobile air conditioning service shops nationwide; and provided capacity development for various government agencies and project partners. These achievements enabled the country to comply with its commitment to the Montreal Protocol.

The World Bank's continued engagement with LBP led to the development of the Carbon Finance Support Facility (CFSF). Over the past six years, LBP has developed and registered three CDM Programs of Activities (PoAs) for landfill waste, animal waste and small scale hydro, for which LBP is the coordinating and managing entity (CME). LBP has been well suited in the development of these

activities, since LBP is a lending source of domestic finance for agricultural and waste management projects.

LBP's role as CME includes technical and financial intermediation and ensuring compliance with the rules under the PoA. More recently, LBP has made significant efforts to take on additional roles, including managing monitoring and verification activities, aggregating project information, and monitoring data from subprojects. In addition, LBP has scaled up its portfolio development ahead of two new Emission Reduction Purchase Agreements (ERPAs) with LBP, which the Bank plans to sign on behalf of the Carbon Partnership Facility (CPF).

The envisaged scale and timeline of the two programs and the complexity of the activities to be carried out by LBP justify additional support of the CFSF in order to improve the success of the new ERPAs over the expected project horizon until about 2020. Thus, the proposed grant from the Carbon Asset Development Fund (CADF) is considered instrumental in achieving the desired outcome of the existing World Bank project, under which the new ERPAs will be signed. At the same time the grant will help prepare LBP to play a leading role in the implementation of mitigation projects under any financing regime that may emerge along with a new climate change agreement in the years ahead.

## **II. Proposed Development Objective(s)**

### **Proposed Development Objective(s) (From CN)**

The objective of the proposed activities is to assist Land Bank of the Philippines (LBP) with the development of carbon assets for purchase by the Carbon Partnership Facility (CPF).

### **Key Results (From CN)**

- Capacity development: 15 LBP staff trained three times a year and 3 managers trained annually.
- Marketing: Communication and marketing strategy implemented, good program visibility achieved.
- Monitoring: Monitoring system established and operated, supported by adequate monitoring equipment.
- Technical support: High quality technical and financial support delivered to subprojects and LBP.
- Verification: Inclusion of subprojects and emission reduction verifications conducted regularly.

## **III. Preliminary Description**

### **Concept Description [and Implementation Arrangements]**

LBP is a government financial institution and its mission is to promote growth and development in the countryside. LBP has taken the lead in extending financial assistance to its priority sectors, such as small farmers and fisher folk, cooperatives, agri-infrastructure and agribusiness, and environment-related projects.

In 2006, LBP established the Carbon Finance Support Facility (CFSF) as part of its voluntary initiative to catalyze clean technology investments in the country through the CDM. In 2012, LBP was able to register three PoAs with the United Nations Framework Convention on Climate Change, namely PoAs for piggery waste, landfill gas and mini-hydro projects (the latter is not part of the World Bank operation).

As a Coordinating and Managing Entity (CME), LBP will promote voluntary coordinated actions for the adoption of bio-digester technology in hog farms and landfill gas recovery and combustion in municipal solid waste management projects in the country. Moreover, LBP will provide carbon finance and investment finance for the installation of methane capture and combustion with power generation

facilities for these projects. LBP will also act as the project entity providing assistance with preparation of Project Design Documents (PDD), inclusion/validation of subprojects and verification activities, and aggregating project information and monitoring data to establish greenhouse gas (GHG) emission reduction. LBP is committed to the development and implementation of the two PoAs in order to generate, sell and transfer resulting certified emission reductions (CER) to the CPF, which will be arranged through new ERPAs under the existing project.

The PoA for pig farms aims to reduce environmental and social impacts and GHG emissions from animal waste. The waste produced from the participating farms will be treated in an enclosed anaerobic system that will prevent the release of methane. The methane will then be flared and/or combusted for electricity generation, thus eliminating methane emissions and reducing the use of fossil fuels. The PoA for landfill gas aims to reduce environmental and social impacts and GHG emissions from solid waste management. The PoA will encourage Local Government Units (LGUs) and private developers to manage dumpsites and set up sanitary landfills in compliance with Republic Act 9003 (Philippine Ecological Solid Waste Management Act of 2000) and generate additional revenues from CERs. With the installation of electricity generating equipment, GHG emissions will be reduced by destroying methane in landfill gas and replacing fossil fuel-based electricity from the grid with renewable energy.

In 2013, Land Bank signed a participation agreement with the CPF, and subsequently a mid-term review for the project was planned and conducted in 2014, which drew lessons from the implementation of the project since the ERPA signed in January 2010 for the Spanish Carbon Fund. In 2014, the CPF started preparations to negotiate a new ERPA for each PoA (pig farms and landfills) – with subproject eligibility no longer limited to LBP clients. For this purpose, the ERPA under the Spanish Carbon Fund will be terminated, the delivery of CERs over the new contract period will be scaled up significantly, and the closing date of the existing project (P115080) will be extended (until 2021 depending on pending ERPA negotiations). In addition, to support LBP in the creation of the carbon asset, and based on the lessons learned from the mid-term review, the CADF plans to make a grant to LBP in the amount of USD 410,000 for activities that are linked to, and will support the success of, the CPF purchase program.

The activities targeted by the grant include (1) internal capacity building and technical support, (2) communication and marketing, (3) subproject inclusion, monitoring and ER verification and (4) project management. A final grant proposal was received and approved by the CADF manager in October 2014 along with LBP's communication and marketing strategy. As per the proposal, the activities under the grant will be implemented in the period 2015-2018 with the majority of expenses occurring in the first two years. The grant will be implemented in the following four components:

#### Component 1: Capacity building and technical support – USD 73,583

Several levels in the LBP organizational structure need to be capacitated and trained to effectively market and implement the two PoAs. The implementation of the PoAs is managed by the Environmental Program and Management Department (EPMD) at LBP, which carries out and/or oversees all project cycle steps from subproject identification to monitoring and reporting. In addition, Account Officers (front-liners) in LBP's Lending Units and other staff in LBP's local Lending Centers need to be knowledgeable about the program, since they are expected to help market the program along with investment loans to LBP's clients and assist with project monitoring (e.g. they will conduct site visits and receive monitoring reports). Also, LBP management should be well aware of the program and its many details, including often complex CDM processes, in order to support the program implementation strategically.

- (a) 15 LBP staff will be trained 3 times a year on subproject identification, assessment, inclusion and marketing, calculation of CERs, management of the information system and CDM database, preparation of project documents, monitoring and reporting.
- (b) 3 LBP managers will be trained once a year on lessons learned from other PoAs and CMEs, application of successful approaches to PoA management, relevant technologies, and trends at the program and global level that would benefit the PoAs.

There are currently no established standard designs in the Philippines for methane projects in pig farms or landfills, nor are there reliable cost estimates or investment analyses for different project types and scales; and there is only limited availability of specialized CDM equipment like flare systems and monitoring equipment (flow meter, data logger) and information on methane capture technology, which are all needed to help LBP's clients make sound investment decision and join the PoAs. Moreover, LBP, being a government financial institution, has limited knowledge, skills and expertise to evaluate and make proposals to its clients on the commercial scaling, costing, designing and installation of appropriate technologies. The grant will therefore support the hiring of the following technical consultants to assist LBP in strengthening its institutional capacity and expanding its portfolio of methane projects:

- (c) Two consultants (one for each PoA) to assist LBP in training staff and conducting workshops for LBP clients, LGUs and subproject developers, subproject inclusion and verification, technical and financial analysis, marketing, monitoring, and other relevant topics. The two consultants will carry out the following tasks among others:
  - Capacitate LBP staff in identifying potential clients to be included in the PoA,
  - Assess and evaluate appropriate technologies for each PoA,
  - Develop standard parameters and tools, financial models, feasibility assessments, and financial and technical analysis that are useful for the CME in marketing the PoAs,
  - Explain to clients and policy-makers during workshops, training sessions and roadshows the different designs, technological options and operational parameters for successful subprojects, and
  - Prepare lists of technical specifications for CDM monitoring equipment.
- (d) One local consultant to review and perform quality-checks on the next 6 subproject documents (CPA-DDs) and train LBP staff in CDM project document preparation. In addition, the consultant will evaluate the first 15 already registered CDM projects, if such projects enter the LBP program.

#### Component 2: Marketing and communication – USD 113,160

LBP has prepared a Communication Strategy and Marketing Plan (CSMP) for the two PoAs, which anticipates the following major activities. LBP plans to carry out targeted customer-oriented marketing activities over the next 18 months in order to:

- Create brand awareness and product positioning to establish LBP as national leader in Climate Finance,
- Institutionalize LBP's services as a national program for climate change mitigation for the animal and solid waste management sectors including through strategic partnerships,
- Attract clients through online and other media, and
- Conduct a National Forum and regional roadshows for target clients.

The marketing program will support the production of marketing materials (brochures, posters), advertising and sponsorships, website and social media, and development of business partnerships. In addition, LBP will create a recognition and reward program for subprojects as well as for LBP lending units and program/account officers, to incentivize good performers and highlight best practices. The reward program will be an annual event and highlight during the National Forum, which is expected to generate enthusiasm and encourage more participants towards achieving program objectives.

### Component 3: Subproject inclusion, monitoring and verification – USD 213,257

This component will support the vital CDM process that must operate without fail to ensure the generation of marketable CERs. LBP will:

- Refine and further develop the existing project monitoring and information system to ensure that information on the performance of the subprojects is readily available for reporting and verification. This is particularly important for the piggy PoA as some pig farms are small and in remote locations,
- Procure monitoring devices and software (e.g. portable gas analyzer, tools etc.) for each PoA for use by the Program Officers during their regular visits to the project sites,
- Create a special lending program to help subprojects obtain CDM monitoring equipment, and
- Establish a revolving fund to finance the cost of subproject inclusion and verification of ERs.

The cost of CDM monitoring equipment has been recognized as a challenge for pig farm owners and a hurdle to convince them to participate in the PoA. To encourage investment in required monitoring equipment, LBP plans to use grant proceeds to create a special lending program in the form of a small soft loan at zero interest to help participating farms obtain needed monitoring equipment and later repay the loan with proceeds from selling CERs to LBP. Similarly for the landfill program, the first landfill will be allowed access to the special lending program as incentive to participate and to facilitate its role as demonstration project.

Under the standard sub-project agreement, subprojects will bear the cost of PoA inclusion/validation and emission reduction verification, which shall be deducted from the proceeds of the CERs. In order to finance the upfront cost of inclusion and verification, LBP will use grant proceeds to hire third party auditors (i.e. CDM Designated Operational Entity) to conduct inclusion and verification activities. LBP will later deduct from payments to its clients' for CERs the corresponding inclusion and verification costs. LBP plans to use the collected amounts to establish a revolving fund to be used for the same purpose, if necessary.

It should be noted that any reflows to LBP from its clients will not be managed under this project and the grant agreement. Once the special lending program and the revolving fund have achieved their purpose, LBP plans to reallocate any returning funds to other program activities in support of the overall program goal during the final years of the program.

### Component 4: Project management (reporting and audit) – USD 10,000

LBP will manage the grant as an integral part of the existing project. Management costs will therefore not be paid out of the grant with the exception of the costs of the required annual financial audit and reporting.

#### IV. Safeguard Policies that Might Apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	YES		
Natural Habitats OP/BP 4.04		NO	
Forests OP/BP 4.36		NO	
Pest Management OP 4.09		NO	
Physical Cultural Resources OP/BP 4.11		NO	
Indigenous Peoples OP/BP 4.10		NO	
Involuntary Resettlement OP/BP 4.12		NO	
Safety of Dams OP/BP 4.37		NO	
Projects on International Waterways OP/BP 7.50		NO	
Projects in Disputed Areas OP/BP 7.60		NO	

#### V. Financing (in USD Million): Grant from the Carbon Asset Development Fund (CADF)

Total Project Cost:	0.41	Total Bank Financing:	0.41
Total Co-financing:	0	Financing Gap:	0
<b>Financing Source</b>			<b>Amount</b>
BORROWER/RECIPIENT			0
Total			0.41

#### VI. Contact point

##### World Bank

Contact: Johannes Heister  
 Title: Senior Environmental Specialist  
 Tel: 202-458-4280  
 Email: jheister@worldbank.org

##### Borrower/Client/Recipient

Name: Land Bank of the Philippines  
 Contact: Prudencio Calado III  
 Title: Manager  
 Tel: 09189087705  
 Email: pcalado3@mail.landbank.com

**Implementing Agencies**

Name: Land Bank of the Philippines  
Contact: Prudencio Calado III  
Title: Manager  
Tel: 09189087705  
Email: pcalado3@mail.landbank.com

**VII. For more information contact:**

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Web: <http://www.worldbank.org/infoshop>