October 2011

Viet Nam - Impact Evaluation of Harnessing Climate Change Mitigation Initiatives to Benefit Women in Vietnam

Prepared by: Southeast Asia Department

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Asian Development Bank
1. **Title**: Viet Nam - Impact Evaluation of Harnessing Climate Change Mitigation Initiatives to Benefit Women in Vietnam  
   **Date submitted**: 18 October 2011

2. **Title of Related Project**: REG: Harnessing Climate Change Mitigation Initiatives to Benefit Women

3. **Sector**
   - Agriculture and natural resources
   - Industry and trade
   - Education
   - Public sector management
   - Energy
   - Transport and ICT
   - Finance
   - Water supply and other municipal infrastructure and services
   - Health and social protection
   - Multisector

4. **Name of Specialist (project team leader)**: Linda Adams  
   **Local Number**: 5351  
   **Name of Alternate Specialist**: Natalie Chun  
   **Local Number**: 6463  
   **Department/Division**: SERD/SEUW

5. **Overview of the Related Project**:
   The Harnessing Climate Change Mitigation Initiatives to Benefit Women (the Project) aims to:
   1. Develop GHG abatement pilot projects with gender co-benefits;
   2. Assist community groups to access climate financing and the carbon markets to demonstrate how climate financing can provide benefits to women for their contributions to GHG reductions;
   3. Develop capacity of provincial agencies responsible for climate change responses, in integrating gender analysis in climate change strategies, actions plans, and screening criteria.

   Concept Paper and NDF grant funding (Euro 2 million) were approved in June 2011. Fact-finding was recently completed and the TA Paper will be considered at SRC on 30 August 2011. The proposed project is due for ADB Board consideration on 15 November 2011.

6. **Rationale for the Proposed Impact Evaluation Study**:
   The evaluation of the Project will help to develop and identify optimal mechanisms for improving women’s benefit shares from climate change mitigation initiatives by (1) linking women’s fuel and waste management tasks with low carbon technologies that generate co-benefits that can be measured, and (2) informing principles and rules of revenue sharing from carbon projects that recognize women’s contribution to reduction of GHG emissions.

   While there are many established low-carbon technologies, there is not adequate financing to widely disseminate and distribute them. High transaction costs have hindered both small-scale project development and access to climate finance despite significant social development impact. This is due to (1) the distributive costs associated with high client spread make human resource-intensive projects less attractive to international finance institutions with respect to overall investment amount, and (2) high-up front project development costs can inhibit small-scale projects from accessing climate finance. Climate financing through mechanisms which support gender equitable benefit distribution may be an effective response to these development challenges as it offers a long-term source of revenue to sustain projects, and low carbon technologies provide a platform to both improve global environment and empower women from co-benefits.

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1. Co-benefits include: access to low carbon technologies which reduce women’s workloads, support their sanitation and fuel management responsibilities; reduction in health and sanitation risks; positioning of income generation opportunities through distribution and maintenance or services arising from the use of low carbon sanitation technologies; female empowerment through reduced time allocated to sanitation and fuel management tasks.

2. Developing carbon projects suitable for climate financing and the carbon markets will involve undertaking a CDM baseline using a methodology subscribed for a given low carbon technology.

3. Landfill methane recovery and utilization as energy, comprehensive waste management, and alternative waste management (recycling, composting and others) have been identified as priority mitigation options.
The formation of women’s entrepreneurial groups enables access to low carbon technologies, and carbon revenue financing is expected to result in improved urban and peri-urban female livelihoods. A mechanism that focuses on women’s groups as agents of change in reducing GHG emissions and linking this agency with carbon benefit distribution is a promising innovation. However, there is a lack of rigorous evidence regarding the sustainability and success of such groups in the context of climate finance projects (urban development projects). The extent to which disparate participants are able to successfully coordinate through women’s entrepreneur groups and realize welfare gains while reducing carbon emissions merits undertaking an in-depth study.

The impact of the TA will be improved urban and peri-urban female livelihoods from low carbon technology access and carbon revenue financing in developing member country (DMC) sites. The expected outcome of the TA will be an improved enabling environment for gender and climate change advocacy and benefit distribution. The proposed impact evaluation intends to assess the mechanisms through which women’s entrepreneur groups are successful at revenue generation and GHG emissions reductions. This will allow us to not only reduce probabilities of coordination failure, but to maximize the welfare of the groups. This will help to select innovations in linking climate change financing mechanisms with sustainable development concerns. Proposed questions that the evaluation will seek to respond to are as follows:

1) What are the effects/co-benefits from a women entrepreneur participating in the project (compared to not participating) on an entrepreneur’s net income and other measures of empowerment such as outlook on life (household status, decision-making power)?
2) What are the factors affecting women’s participation (access to low-carbon technologies at community level) in the project? Can we develop targeting policies which can encourage more participation by women who can maximize the benefits of the program/model?
3) What are the characteristics (including institutional capacity) of women/women’s groups who are more successful at increasing their net income in both percentage and absolute terms? Is there a basis for developing policies that focus on particular women’s entrepreneur models either to maximize the host investment project’s impact or minimize potential increases in inequality from carbon finance distribution and encourage more sustainable development models?
4) What are the impacts of the project on fuel use, natural resources, and improved sanitation/environment?

7. Proposed Methodology:

   The proposed impact evaluation intends to take a closer look at the mechanisms through which the program is effective and how to maximize its effectiveness using rigorous econometric techniques which will bring a quantitative dimension to the analysis. It proposes to do at least one intermediate evaluation after 1.5 – 2 years (when carbon project development is completed) and a larger ex-post evaluation at project completion. It will attempt to measure the statistically meaningful impacts of the program and its distributional effects.

   To accurately measure and assess the impact of the project requires comparing the women entrepreneurs who participated or were “treated” by the project to a “control” group of women who did not participate in the project in order to form a counterfactual regarding what would happen to net income and other co-benefit measures in the event that the same person who was treated did not participate in the program. This requires both a baseline and end-line survey on both the treated and control groups. The control groups will be characteristically similar to the treated group in all aspects and some intermediate surveys will be run on at least a subset of the baseline groups in order to assess the questions above over time to provide up-to-date information on what methods can be used to improve the project. Key variables to be measured include: (1) income; (2) membership in a group; (3) access to carbon finance; and (4) low carbon technology uptake.

   The project will construct a control group by sampling a set of women entrepreneurs outside of the pilot group (and within Quang Binh Province) who have similar profile in terms of age, education, and participation in entrepreneur activities which do not include low carbon technologies. As the project is still in the design phase, it is not immediately clear how many entrepreneur groups and how many women per entrepreneur group the

4 Selected pilot participants will also participate as project level stakeholders (along with Department of Natural Resources and Environment and Vietnam Women’s Union) in improved enabling environment for gender and climate change policy advocacy and benefit distribution component of the overall project.

5 The impact that we are trying to measure is the event that the Project did not occur. Criteria for carbon finance access include aspects of this condition.
project will cover. However, an attempt will be made to have a sufficient size and number of participants that are needed to identify the impacts of the project in regards to the evaluation. Still, the size surveyed is ultimately contingent on the ability to gather a sufficient number of people who are interested in participating in the project and being able to fit this number of women participants in the project within the costs that are allocated to the project activities. If possible, the women or women groups who participate in the pilot groups will be randomly selected from the set of all potential participants in order to create a more appropriate counterfactual. However, this will be assessed at a later date depending on the number of interested participants and the feasibility of implementing the project in this manner.

The base minimum for evaluation is a baseline survey, which occurs prior to treatment, as well as a survey that occurs after the treatment has occurred (at least on part of the targeted population). The end-line survey will contain the same sets of questions and be run on the same population set as the baseline survey to accurately measure and control for group specific factors.

The exact details of the sampling strategy are to be laid out after obtaining more information on the size of the targeted population in comparison to the actual target size of the treatment and doing a basic power calculation under certain assumptions. These include the level of detail at which we hope to statistically identify effects.

The baseline, intermediate and end line surveys should contain details on all aspects of the treatment, demographic characteristics of the women entrepreneurs, and measures of income and empowerment. In this way, we should be able to accurately assess and answer the questions proposed above in a systematic and rigorous way that controls for outside influences that may affect income using statistical analysis using two-stage least squares methodology.

The project is intending to work with ERD on the design and methodology of the evaluation.

8. **Proposed Capacity Building and Dissemination Approach:**

Project participants as well as the government will be briefed on the activities undertaken in regards to the evaluation as well as be provided with the reasoning and rationale for doing an impact evaluation for the project. The project will work with URENCO and VWU staff in assembling baseline data for preparation of the carbon finance component. IE consultant(s)\(^6\) will work closely with Quang Binh Province agency staff in undertaking survey work. The regional knowledge hub\(^7\) will be responsible for conducting background research and field surveys and disseminating knowledge products through established sector and knowledge sharing fora.

9. **Implementation Period:**

   a. Approval of Project: 15 Nov 2011
   b. Start of Project Implementation: 01 Jan 2012
   c. Physical completion of project: 31 June 2015
   d. Proposed timing of IE Preparatory Work: March 2012
   e. Proposed timing of the baseline survey: April/May 2012
   f. Proposed timing of the intermediate survey: October 2013
   g. Proposed timing of the end-line survey: Jan 2015
   h. Submission of final report: 31 June 2015

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\(^6\) Quang Binh Community Development Center (CDC) may be possible counterpart agency in carrying out IE surveys.

\(^7\) Institute for Global Environmental Strategies (IGES) are expected to be recruited.
10. **Cost Estimate:**

The total cost of the subproject is estimated at $174,000, including TA contribution. The cost breakdown is as follows:

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Total ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Survey</td>
<td>25,000</td>
</tr>
<tr>
<td>Intermediate Survey (when carbon project development is complete)</td>
<td>16,000</td>
</tr>
<tr>
<td>Endline Survey</td>
<td>30,000</td>
</tr>
<tr>
<td>M&amp;E Consultants(^8)</td>
<td>104,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>175,000</strong></td>
</tr>
</tbody>
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11. **Implementation Arrangements:**

ADB will be the executing/implementing agency for the subproject, in coordination with the Government of Viet Nam through Quang Binh Provincial People’s Committee, under the guidance of the IE Committee. Consultation with the government on baseline survey and climate change co-benefit assessment will be part of the project’s baseline preparation for climate finance access.

Upon approval of the IE Committee, the Urban Development and Water Division will seek endorsement of Quang Binh Province People’s Committee on a non-objection basis.

The implementation of the actual survey will occur through a survey firm or organization that has experience working in Vietnam. The survey team will be recruited by the Urban Development and Water Division (SEUW), Southeast Asia Department in accordance with ADB Guidelines on the Use of Consultants (2010, as amended from time to time). The IE Study will require 4 person-months international and 8 person-months of national consultants’ services, the terms of reference of which are provided in Appendix 1. SEUW will be responsible for recruitment and administration of the consultants.

The IE will require laptops, printers, digital cameras and other survey equipment which will be procured in accordance with ADB’s Procurement Guidelines (2010, as amended from time to time) and in coordination with ADB’s office of Information Systems and Technology, and the Office of Administrative Services. At subproject completion, the equipment will be disposed of in accordance with project administration instructions.

SEUW will be responsible for the completion and quality of final subproject outputs and reports. The results will be published as a policy brief, a technical working paper, and may be included as part of lessons learned and best practices knowledge products generated by the Institute for Global Environmental Strategies (IGES). The SEUW evaluation study team, with support from the IE Committee, will supervise data collection. The data produced by impact evaluations can be accessed through ADB website.

The SEUW evaluation team will submit progress reports to the IE committee on a quarterly basis, or as required by the IE Committee.

12. **Assumptions and Risks:**

**Assumptions:**
1. There is sufficient capacity within URENCO, Vietnam Women’s Union, and Quang Binh Community Development Center to effectively implement the evaluation, gather the correct information and understand its value.
2. There will be sufficient compliancy to conduct the survey and evoke truthful answers to particular questions or outcomes of interest.

**Risks:**
1. It may not be feasible to randomize the sample given the population set that will participate.

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\(^8\) National Impact Evaluation Specialist at rate of $3000/month is $24,000 total. International Monitoring and Evaluation Specialist at rate of $20,000/month is $80,000 total.
13. Self-Evaluation of Proposal’s Eligibility:

a. Is the Project/Subproject/intervention being proposed for impact evaluation relevant to DMC’s own and ADB-assisted operations in the country—both ongoing and planned? If yes, please describe the relevance.

The Project being proposed for IE is relevant to DMC’s aspirations for green growth roadmaps (Lao PDR), Green Economic Development Plan (Vietnam), and Pilot Program for Climate Resilience (Cambodia). The project is also relevant to ADB investments in the selected countries as the pilots are strategically placed in either existing ADB or development partner host investments where low carbon technology/climate change response is a key intervention and scale up is integral to design (sector, program or nationwide). The project is designed to measure key obstacles identified in supporting climate finance mechanisms to generate sustainable development concerns which are an area that is new and thus lacks very little empirically-based evidence to guide the structure and sustainability of such projects.

b. Will the proposed evaluation generate lessons that will help improve policies and design of future operations? If yes, please discuss while referring to any specific operations, policies, and regulations.

As there are already infrastructure projects being implemented with “climate proofing” components, the lessons generated from the project will help improve sustainable development through targeting community level agents, low-carbon technologies, and seeking supplementary carbon finance that both support investments and community benefits. Not only will the demonstrated lessons inform and help improve current and future operational activities, it can also help our DMCs to promote these types of projects (e.g. DNA project selection criteria).

c. Have alternate methodologies been considered for the proposed evaluation? If yes, please state the alternatives that were considered and why the proposed methodology was considered most appropriate?

The project is still in the design phase so we will consider the optimal impact evaluation methodology that can feasibly be performed within the constraints of the project.

d. Do the regional department and/or DMC have the required expertise to design and conduct the evaluation? If not, have the deficient expertise been clearly identified in the proposal and have the terms of reference been outlined for their procurement through the TA?

M&E Specialist hired for the project as well as assistance from ERD is expected to design and conduct the evaluation.

e. Does the evaluation entail a capacity building component? If so, who will be the target audience? How large will be the target audience group?

There is a strong capacity building component to the project and we intend to work directly with the ministries on the process of doing impact evaluation, rationale, and lessons learned. This will be done through meetings and workshops as well as the TA knowledge hub.

f. Has the proposed evaluation been discussed with the concerned agencies within the DMC? How strong is the buy-in from the relevant planning/oversight and sector agencies within the country?

The project is still in the design phase and we will redefine how “treatment” will take place and how to outline the evaluation before proceeding with talking explicitly about performing the evaluation with DMC counterparts. However, prior projects on water and sanitation executed by development partners (World Bank, SIDA) have included impact evaluation, which the Quang Binh Provincial People’s Committee has welcomed.

g. Can the evaluation be completed by September 2012? If the evaluation cannot be completed before September 2012, how will the endline survey and dissemination activities be financed and what

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9 Allocation of ERD staff time has been approved between D/ERDI and D/SERC on 10 August 2011.
commitments have been secured to ensure completion of the evaluation?
As the project is expected to commence in January 2012 and run through 2015, it will not be possible to complete the evaluation by September 2012. However, financial assistance at the start of the project is necessary to enable the possibility of doing a rigorous impact evaluation at the end of the project. The project will expect to do an intermediate evaluation during the second year of implementation that will allow us to gauge the initial effects of the project model.

<table>
<thead>
<tr>
<th>Endorsed by</th>
<th>Approved by</th>
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</thead>
</table>
| Kunio Senga
(Director-General, SERD)
Date: dd mmm yyyy | Amy Leung
Director, SEUW
Date: dd mmm yyyy |
| {name}
Chair, IE Committee
Date: dd mmm yyyy |
Outline Terms of Reference for Consultants

Monitoring and Evaluation Specialist (1 international expert, 4 person-months intermittent). This specialist will be in charge of leading activities related to the evaluation. The tasks assigned to the evaluation specialist are as follows:

(i) Bring contextual knowledge and background to doing the evaluation of projects related to women’s initiatives and climate change activities.
(ii) Assist in sampling and treatment design. Ensure that survey sample size is sufficiently large to identify statistically significant impacts and that the control group surveyed is a valid comparison for the treatment group at the baseline.
(iii) Modify an appropriate draft questionnaire so that it can effectively examine impacts and distributional effects of the project as well as gather relevant qualitative data.
(iv) Hire and coordinate all survey activities -- including baseline and endline surveys with valid control and treatment groups, impact-oriented surveys, follow-up surveys and qualitative interviews and discussion which will be used in the development and implementation of the pilot activities. Ensure that there is a basic auditing mechanism for checking the validity of a subset of data (5-10% of sample).
(v) Clean the data so that it is easy to analyze.
(vi) Provide a report that does some basic analysis of the data both at the baseline and endline.
(vii) Delivery of the raw survey data and the associated codebook.
(viii) Formulate preliminary and final design and monitoring framework for the project based on stakeholder consultations and study analyses;
(ix) Prepare selection criteria and evaluation procedures for subprojects to be considered under the investment project;
(x) Assist the Team Leader finalizing the investment project design and required reports; and
(xi) Build capacity and assist project proponents and IAs in monitoring and evaluation of the pilot projects and activities under the TA.

Impact Evaluation Specialist (National Consultant – 1 consultant, 8 months intermittent)

1. The evaluation specialist will be in charge of leading activities related to the evaluation in the selected country and coordinating closely with the international impact evaluation expert to ensure standardization of activities, surveys, and analysis. The tasks assigned to the evaluation specialist are as follows:

(i) Bring contextual knowledge and background to doing the evaluation on climate change and women’s cooperatives groups within the respective country.
(ii) Serve as a liaison with the various partners covered under the pilot project.
(iii) Suggest modifications to the design of the project prior to start of evaluation implementation.
(iv) Modify a baseline and endline survey in a way that would be useful for evaluation of key outcomes and to analyze distributional differences in outcomes and the impacts of key characteristics on the outcomes of interest.
(v) Identify the sample population that is surveyed and should represent the target population. The sample population should include both a treatment and a control group with the control group selected to be an appropriate counterfactual to the treatment population.
(vi) Hire and coordinate/oversee all survey activities with proper auditing checks on both survey enumeration and encoding activities and training of enumerators.
(vii) Provide all of the raw survey data that is conducive to analysis.
(viii) Provide a report that does some basic analysis of the data both at baseline and endline.