



**MINISTRY OF AGRICULTURE
AND RURAL DEVELOPMENT**



ASIAN DEVELOPMENT BANK

MEMORANDUM OF UNDERSTANDING
LOW CARBON AGRICULTURE SUPPORT PROJECT
LOAN 2968-VIE (SF)
MIDTERM REVIEW MISSION



Hanoi, September 2016

GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIETNAM

ASIAN DEVELOPMENT BANK

MEMORANDUM OF UNDERSTANDING

LOAN 2968-VIE: LOW CARBON AGRICULTURE SUPPORT PROJECT

MIDTERM REVIEW MISSION

12-30 September 2016

I. INTRODUCTION

1. On 12 December 2012, ADB approved the provision of a loan in the amount equivalent to SDR48,170,000 (US\$74 million equivalent) to the Socialist Republic of Viet Nam for the Low Carbon Agriculture Support Project (Project/LCASP). The Loan Agreement was signed on 7 March 2013 and became effective on 5 June 2013 with the closing date of 30 June 2019.

2. The expected impact of the Project is less agriculture-related pollution, as measured by better water quality due to reduced presence of livestock waste effluence. The expected outcome is greater uptake of climate-smart agricultural waste management practices (CSAWMP), as measured by increased use of clean biogas energy and organic bio-slurry fertilizers. To attain this outcome, the Project's outputs are (i) expanded use of livestock waste management infrastructure; (ii) credit lines for biogas value chains (BVC); (iii) enhanced CSAWMP technology transfer and (iv) effective project management. Implementation of the various components and sub-components is being done through the executing agency (EA), the Ministry of Agriculture and Rural Development (MARD) represented by the Central Project Management Unit (CPMU) of the Agricultural Projects Management Board (APMB) and 12 implementing agencies (IAs) including provincial people's committees of the 10 participating provinces (Bac Giang, Ben Tre, Binh Dinh, Ha Tinh, Lao Cai, Nam Dinh, Phu Tho, Soc Trang, Son La, and Tien Giang) and two financial intermediaries (Vietnam Bank for Agriculture and Rural Development - VBARD and Co-operative of Vietnam - Co-opBank).

3. A Midterm Review Mission from the Asian Development Bank (ADB)¹ visited Viet Nam from 12 to 30 September 2016 to work with the Government to (i) review overall project implementation progress; (ii) review compliance of the loan covenants and assess whether they are still relevant or need to be changed, or waived due to changing circumstances; (iii) assess likelihood of achieving project impact, outcome and outputs, and the need to restructure or reformulate the Project and, if so, the effects of this on the outcome and expected impact of the Project; (iv) revise and update the Project's Design and Monitoring Framework (DMF) where restructuring or reformulation is necessary or its immediate objectives will change, and where better information on actual targets and indicators have become available since project formulation; (v) revise and update the Project Administration Manual (PAM) (if needed); and (vi) update the detailed implementation plan with projected schedules of contract awards and disbursements of ADB loans and provision of counterpart funds for all key activities of CPMU.

4. The Mission met with the representatives of (i) the EA; (ii) 12 IAs; (iii) other departments under MARD (International Cooperation Department; Department of Finance; Department of Science, Technology and Environment; Department of Livestock Production), (iv) Government Agencies (Ministry of Finance, State Bank of Viet Nam); (v) other biogas projects (SNV, LIFSAP) and (vi)

¹ The Mission comprised Sanath Ranawana, Senior Natural Resources Economist (Mission Leader), Leonard Leung, Natural Resources and Agriculture Economist, Pham Quang Phuc, Environment Officer, Nguyen Thanh Giang, Social Development (Gender), Truong Thi Minh Hue, Associate Project Analyst, Do Thi Huyen, Consultant (Environment), Tran Thuy Hai, Consultant (Gender), and Ngo Thuy Quynh, Consultant (Social Safeguards).

Vietnam Bank for Social Policies. A list of persons met and those present at the wrap-up meeting is given in Appendix 1.

5. This Memorandum of Understanding (MOU) of the Mission as discussed at the wrap-up meeting on 30 September 2016 summarizes the findings and agreed actions. The meeting was chaired by Mr. Tran Kim Long, Director General, International Cooperation Department of MARD. Agreements reflected, reached and recorded in this MOU are subject to approval by higher authorities of the Government and ADB.

II. REVIEW OF PROJECT IMPLEMENTATION

A. Overall Progress

6. **Follow-up actions agreed upon during the last review mission:** The agreed actions and status are presented in Table 1.

Table 1: Status of Agreed Follow-up Actions from the Previous Review Mission

No	Issue	Agreed Action	Time frame	Responsibility	Status
1	Output 1: Expanded Use of Livestock Waste Management Infrastructure	(i) Biogas sector database consolidation - Procured - Operational	Oct 2015 June 2016	CPMU	Done Done
		(ii) Study into Environmental regulation of agricultural waste – proposal and TOR	Oct 2015	CPMU	Done
	(iii) Secure funding for MONRE participation	Oct 2015	ADB PO	No action yet	
	(iv) Report on the status and recommendations	Mar 2016	MONRE/CPMU	No action yet	
	(v) TOR for physical audit	Oct 2015	CPMU	On-going	
2	Output 2: Credit Lines for Biogas Value Chains	(i) Contract credit specialist	1 Dec 2015	CPMU	Done
		(ii) Credit study final report	June 2016	Cons.	Done
		(iii) MTR briefing note of proposed changes to credit line resources and procedures	August 2016	CPMU	Done
3	Output 3: Enhanced Climate Smart Agricultural Waste Management Practices Technology Transfer	(i) Research strategy elaboration	30 Oct 2015	CPMU	Done
		(ii) Value Chain Pilot review and proposal formats	30 Oct 2015	CPMU/EA	Done
		(iii) Procurement methods and procedures for Pilots	30 Oct 2015	ADB PO	Done
		(iv) First Provincial demonstration full proposal with recommended procurement packaging and discussion with ADB on appropriate procurement procedures	30 Oct 2015	CPMU	Done
		(v) Provincial Demonstration program procedures and procurement guidelines	30 Nov 2015	CPMU	Done

No	Issue	Agreed Action	Time frame	Responsibility	Status
4	Output 4: Effective Project Management	(i) Audit reports	30 Dec 2015	CPMU/Audit	Done
		(ii) LIC technical review (ADB)	15 Sept 2015	ADB PO	Done
		(iii) Agribusiness and Commercial business planner ToRs submitted to ADB	30 Sept 2015	CPMU	Done
		(iv) Baseline submission 1 approval	30 Aug 2015	ADB	Done
		(v) PAM Update	30 Oct 2015	CPMU/ADB	Done
		(vi) Procurement Plan Update	30 Sept 2015	CPMU	Done
		(vii) Uploading of revised procurement plan to website	30 Oct 2015	ADB	Done

7. The Mission and CPMU estimated the Project overall physical progress by 31 August 2016 to be at 16.40% (Appendix 2) based on weighted progress of project components in 57% of the loan period. Appendix 3 presents the current status and recorded achievement against each of the component's indicators as described in the DMF. Overall, the Project is making good progress in terms of meeting the original targets at the impact and outcome levels. 2 out of 2 impact indicators are being achieved and likely to be achieved by 2024 are (i) Livestock waste effluents in water resources is reduced by at least 69.4 % and (ii) Amount of CO₂ emission per 1m³ of LCASP biogas digester is 0.54 ton. 2 out of 3 outcome indicators are being achieved are (ii) At least 88.4% energy produced by BVCs is utilized and (iii) Daily workload of women and children is reduced by 2.85 hours.

8. **Changes to DMF.** The Mission recognized the need to revise the original DMF to (i) rationalize several activities under each output (mainly under Output 1 and 3); and (ii) to revise several output level indicators and targets in order to better align the indicators with activities. No changes are proposed for Impact and Outcome Indicators. The revised DMF with corresponding output indicators and activities are presented in Appendix 4.

9. **Update on relevant government policies:** In view of the significant potential for reducing greenhouse gas (GHG) emissions by capturing and effectively using biogas from livestock waste, MARD's Decision 3119/QD-BNN-KHCN, (dated 16 December 2011) on *Approving a program of greenhouse gas emissions reduction in the agriculture and rural development sector up to 2020* which specified a target of 500,000 biogas installations by 2020. This decision was further reiterated and enhanced through the Prime Minister's Decision No. 2068/QD-TTg (dated 25 November 2015) on a *Development Strategy of Renewable Energy by 2030 with a Vision to 2050* which includes a target for developing biogas from livestock waste (from 5% in 2015 to around 50% by 2030 and most livestock waste being treated by 2050). A complimentary but separate Prime Minister's Decision No. 50/2014/QD-TTg (dated September 4, 2014) titled *Policies on Subsidies for Improvements in Farmer Household Animal Husbandry in Period 2015 – 2020* permits a one-time subsidy of up to 50% of the expenses of constructing biogas works for treatment of waste matter, up to a maximum of VND5 million per household. In line with the above decisions, the government aims to construct 500,000 biogas plants by 2020. To date it has supported the around 230,000 biogas plants mainly through the support of ODA projects which include SNV, ADB and the World Bank. Most recently, Viet Nam's commitment to mitigate GHG emissions at COP21 which are stated in its Intended Nationally Determined Contribution (INDC) also mentions a target of further 500,000 biogas plants to be constructed by the period from 2021 to 2030.

10. **Update of support by other Development Partners:** Amongst development partners, SNV has played a key role in developing and supporting the National Biogas Program (NBP) over the past 13 years from 2003. SNV supports activities in 41 provinces that do not overlap with provinces

supported by the LCASP. The second phase of SNV support ended in June 2016 and the third and final phase amounting to around US\$8 million, is due to be approved in October 2016 and will be implemented through December 2020. Under Phase 3, SNV aims to continue to support the government with: (i) economic incentives to enforce the development of biogas management enterprises (i.e. mason teams and installers) and make them become professional services providers offering the high quality biogas products and reliable services at competitive prices to people in need of biogas; (ii) a subsidy to support households in poor areas to build biogas plants; (iii) quality control and data entering for carbon credit registration; (iv) capacity building for key stakeholders; and (v) support for R&D and application of technologies and innovations in biogas sector. As noted in (ii), SNV will provide a subsidy of VND5 million per household for installation of biogas plants; however the subsidy will be restricted to poor districts as determined by Resolution No. 30a/2008/NQ-CP (dated 27 December 2008) titled *The support program for fast and sustainable poverty reduction in 61 poor districts*. 10,000 SBPs are targeted under this subsidy scheme. In other districts where they operate, SNV aims to incentivize enterprises as noted in (i) above, to construct high quality digesters and provide end user training. Enterprises will receive a one off payment of upon demonstrating the successful installation of a SBP with a trained end user. SNV aims to target 90,000 SBPs through this results-based payment mechanism. The World Bank supports construction of SBP under the Livestock Competitiveness and Food Safety Project (LIFSAP) in 12 provinces. Under this project, households receive a subsidy of US\$200 (around VND4.4 million) for construction of a SBP. The Project supported nearly 10,000 SBPs in Phase I and has a target of supporting 10,000 more SBPs by 2018 under Phase II.

B. Progress of Project Implementation by Component

Output 1: Expanded Use of Livestock Waste Management Infrastructure

11. **Original Targets.** The key performance indicators for this component are: (i) 36,000 SBPs, 40 MBPs, and 10 LBPs and associated value chain infrastructure constructed and operating by 2018. At least 5% of total SBPs will be constructed for ethnic minorities in 3 selected provinces; (ii) 36,000 SBP operators, 500 masons, 160 technicians, 10 engineers and 10 contractors trained and registered in biogas associations by 2018. At least 50% of trainees on biogas use will be women; 20% of trainees on SBP construction, and 20% of those trained on biogas management and technical issues will be women; and (iii) Biogas plant database managed effectively by 2014, including registration in both husband's and wife's names.

12. **Midterm Progress: Small-scale biogas plants (SBP).** By 31 August 2016, the Project has exceeded the target by supporting 38,478 SBPs with a substantial amount of funds still remaining under this loan category. The Mission estimates that the original funds allocated to support biogas plants are sufficient to achieve a total target of 51,000 SBPs. The Mission visited households in several provinces that had installed SBPs and noted that they have had a positive impact on the household's bio-physical environment as well as its socio-economic conditions. In the absence of a SBP, households rearing pigs would discharge the effluent directly or indirectly (through a siltation pit) into open water sources. A SBP is an effective way of capturing the GHG emissions, reducing the odor of waste, and treating the effluent loads to levels that are acceptable for application to home gardens or for discharging into water bodies where the nutrients are consumed by aquatic life. Additionally, the SBP provides a clean source of fuel which is more than adequate to meet a household's cooking requirement. As a result, households have been able to save on their utility expenses (on average around VND250,000 per month). Many households have also commenced additional income generating activities (such as wine making) due to the availability of excess gas. The use of biogas has also reduced the dependence on fuel wood, which has reduced pressure on nearby natural forests and also contributed to lowering the levels on indoor air pollution which is a leading cause of respiratory illnesses.

13. **Medium-scale biogas plants (MBP) and large-scale biogas plants (LBP).** By 31 August 2016, the project had supported construction of 4 MBPs² in Phu Tho Province and 3 MBPs in Ha Tinh

² MBP have a capacity of 51 – 499 cubic meters.

Province. During the Mission, Ha Tinh Province reported having supported 2 more MBPs and Nam Dinh Province reported having supported 2 LBPs.³ Several other provinces reported having received requests for support to construct MBPs but had not responded due to lack of technical guidance or masons certified to construct MBPs. The main obstacle with meeting the target however is limited incentives for farmers to invest in a MBP or LBP. The Incentive for Carbon Market Development (ICMD) provided under the project (VND10 million for a MBP and VND20 million for a LBP) is a small percentage of the total investment cost which is estimated to be about VND50 - 100 million for a MBP and over VND100 million for a LBP. Most farmers who have invested in MBP or LBP have done so simply to comply with environmental regulations. The majority of investors in MBP or LBP only use the gas for cooking. A few have invested in generators to convert biogas into electricity but many of them have encountered mechanical failures caused by corrosion of generator engines due to the high sulfur content in biogas. In the absence of converting biogas into electricity, MBP and LBP generate amounts of biogas that far exceed the daily cooking related fuel requirements of a farm. Since MBP and LBP do not result in significant tangible returns to the investment, farmers have been reluctant to investment in them despite the offer of a ICMD under the Project.

14. Furthermore if excess biogas from MBP or LBP is released to the atmosphere, the net effect of the plant in terms of reducing GHG emissions is negligible. This can be addressed by flaring the excess gas, however farmers are reluctant to flare the excess biogas due to several incidents of accidental fires. The Mission visited two farms where MBP had been installed with no support from the Project. In both cases the plant was defunct and served simply as a settling pond for sediment. Some plants have also failed due to use of poor quality of HDPE material. Overall, it is clear that farmers lack the technical knowledge to operate and maintain the plants and had no incentive to fix a problem when one occurred.

Table 2: Status of Biogas Construction by Province (as of 31 August 2016)

No	Provinces	Biogas Plants constructed							
		Small	Medium	Large	Total	Percent	Ethnic Minority	Percent	ICMD funds transferred
1	Lao Cai	1,825	0		1,825	4.7%			1,281
2	Son La	1,571			1,571	4.1%	577	1.50%	1,128
3	Phu Tho	6,685	4		6,689	17.4%			4,452
4	Bac Giang	6,274			6,274	16.3%	327	0.85%	4,900
5	Nam Dinh	3,465			3,465	9.0%			3,017
6	Ha Tinh	3,893	3		3,896	10.1%			3,460
7	Binh Dinh	6,316			6,316	16.4%			5,003
8	Tien Giang	2,304	0		2,304	6.0%			1,966
9	Ben Tre	3,978			3,978	10.3%			2,441
10	Soc Trang	2,167	0		2,167	5.6%	805	2.09%	1,839
	Total	38,478	7	0	38,485	100%	1,709	4.44%	29,487

15. **Training on biogas plants:** The Project has trained 39,905 SBP operators, 321 masons, 330 technicians, 28 engineers and 10 contractors. It has also produced (i) a guidebook on constructing/installing a SBP; (ii) a guidebook on operating a SBP; (iii) a guidebook on constructing/installing HDPE MLBPs; and (iv) a guidebook on operating HDPE MLBPs. In total the Project has delivered around 1,500 training courses. The respective PPMUs refer households that avail of the ICMD to a mason who has been trained and certified to construct SBP. Households have to use a certified mason as a condition of receiving the ICMD. The Mission met with a certified mason

³ LBP have a capacity of 500 cubic meters or higher.

who reported that there was a high demand for his services SBP and can construct between 70 – 100 SBPs each year. However the masons trained to construct SBP are not referred by PPMUs to construct MBPs. Consequently as noted in para 13 above the lack of masons certified in constructing MBP is an obstacle in promoting them under the Project. The Mission concludes that there is a need to train more masons and technicians to meet the growing demand for biogas plants. Technicians should also receive training to advise farmers on the appropriate use and discharge of bio-slurry. In this regard, the Mission recommends that the CPMU collaborate with NBP which has developed such a training program. A smaller group of technicians and masons in each province should also be trained specifically on supporting MBP.

Table 3: Training to operators, masons, technicians, engineers and contractors (as of 31 August 2016)

No	Provinces	Training to operators, masons, technicians, engineers and contractors (Component 1)								
		Operators	Women Operator	Masons	Women Mason	Technician	Women in management & tech issues	Engineer	Women Engineer	Contractor
0	CPMU							28	4	10
1	Lao Cai	1,835	411	43	3	33	6			
2	Son La	1,212	308	27	0	13	2			
3	Phu Tho	7,228	2,828	51	6	46	13			
4	Bac Giang	5,720	1,247	17	1	15	3			
5	Nam Dinh	2,897	1,060	0	0	11	4			
6	Ha Tinh	5,187	2,300	93	2	56	14			
7	Binh Dinh	6,143	2,768	23	0	47	7			
8	Tien Giang	2,226	966	21	0	15	2			
9	Ben Tre	5,074	1,499	26	5	23	2			
10	Soc Trang	2,383	570	20	0	71	1			
	Total	39,905	13,957	321	17	330	54	28	4	10

16. **National Biogas Database:** The Mission noted that the biogas plants supported under the Project are recorded on a separate database despite recommendations by earlier missions to merge with the database maintained by the NBP. The Project has however initiated this effort by providing a software package to NBP which is under the Department of Livestock Production to facilitate the merger of data from multiple biogas plant databases into single national biogas database. In the remaining period the Project will support the NBP to ensure effective management of that database by supporting capacity building to create an interphase between the two databases. By 2017, all data from LCASP and other MARD supported biogas programs will reported under the National Biogas Plant Database. By the end of the Project it is envisaged that the provinces will have sufficient capacity to update the database in real time.

17. **Environmental monitoring:** The Project will provide every province with a package of equipment and technical assistance to carry out environmental monitoring of biogas plants. The equipment consists of mobile and stationary equipment for testing water and air quality. This will address the requirement for compliance with MONRE's Circular No. 4/2016 titled *Introduction of National Technical Regulation on Environment QCVN-62* which was issued in June 2016. The training will target relevant staff of the provincial sub-departments of animal husbandry and veterinary services and other relevant central and provincial departments and will focus on techniques of testing environmental quality. Once the equipment is procured and staff are trained (expected by IV quarter of 2017) the PPMUs will coordinate with the provincial sub-department of animal husbandry and veterinary services to incorporate environmental monitoring as a part of the random checks carried out routinely.

18. **Carbon credits:** The Project includes an activity to secure CER credits for biogas plants supported under the Project. Due to volatility in the carbon market and an unsuccessful attempt to trade the CER credits accumulated under the ADB funded Quality and Safety Enhancement in Agriculture Production (QSEAP) Project, no action has been taken under this activity to date.

19. **Proposed changes: SBP.** In view of the points raised in paras 9 to 12 above, the Mission concurs with the government's proposal to increase the target of SBPs supported by the Project by 14,000 (from 51,000 to 65,000) with a corresponding increase of the ICMD from VND3 million to VND5 million in line with Prime Minister's Decision No. 50/2014/QD-TTg. Consistent with the position adopted by NBP, the ICMD will be limited to households that meet at least one of the following criteria: (i) classified as a poor household or nearly-poor household as per Decision No. 59/2015/QD-TTg (dated 19 November 2015) promulgating the multidimensional poverty levels applicable during 2016-2020; (ii) the registered head of household is a female bread-winner; and (iii) belongs to an ethnic minority group. The Mission stressed that the funds reallocated to the category to support the ICMD of VND5 million could only be used for these target beneficiary groups (i.e. they cannot be applied to increase the ICMD for other beneficiaries beyond the target of 51,000).

20. **MBP.** In view of the points raised in paras 13 - 14 above, the Mission and government agreed to provide more comprehensive support to MBP operators under the Project. It was decided to increase the ICMD for MBP from VND10 million to VND50 million with effect from support provided after the Mission. However to avail of the ICMD a beneficiary must commit to using all the gas produced by the plant. This could be by: (i) minimizing the waste loads discharged into a biogas plant such as by separating solids or adopting on farm water saving measures (e.g. sprinklers to cool pigs) and/or (ii) by using biogas for purposes other than cooking (e.g. heating, lighting, etc.) or generating electricity to meet the farm's requirement (for cooling, etc.). The Project should also provide more technical support to MBPs (i.e. technicians and certified masons) during the design, construction and especially during the operational phase of the plant. MBPs supported by the Project should be closely linked with the demonstration activities and with the application of research pilots under Output 3.

21. **LBP.** In view of the complex nature of supporting LBP, the Mission and government agreed that the Project should not offer to support LBP taking effect after the Mission. In Nam Dinh where the PPMU has already committed to support two LBP, the PPMU will continue to provide regular technical support to ensure proper operation of the LBP.

22. **Training.** The Mission and government agreed that information and general awareness on the benefits of biogas should be disseminated as widely as possible and not be restricted to beneficiaries who wish to avail of the ICMD. Technical training on design, construction and operation of biogas plants would be limited to masons and technicians who support SBP and MBP. These technicians should also be trained in advising farmers on the appropriate use and discharge of bio-slurry (in cooperation with NBP). Training on LBP design, construction and operations will be discontinued.

23. **Carbon Market support.** The Mission and government agreed that efforts to trade CER credits accumulated through biogas development should be handled centrally by the government rather than by project driven initiatives. Since the NBP has made headway in this area, it was decided that LCASP would not support a separate initiative and instead support the NBP's efforts to possibly include the new biogas plants constructed under the LCASP in NBPs carbon registration. Therefore, the Mission and government agreed to drop *Activity 1.3 "Constructing and registering a program of activities for small biogas plants and for medium and large biogas plants, which in each case meets the relevant carbon market requirements"*.

24. **Activity merge in revised DMF.** In order to provide a more appropriate link between the output indicators and corresponding activity indicators, the Mission and government agreed to merge the following activities:

- (i) *Activity 1.4 "Strengthening the capacity of relevant agencies to handover the monitoring of all constructed Biogas Plants by 2018"* and *Activity 1.7 "Monitoring and ensuring the*

effective use of BPs with adequate environmental facilities by 2018” will be merged into *Activity 1.2* in the revised DMF “Strengthening the monitoring capacity of relevant agencies to handover and monitor the constructed biogas plants by June 2019”.

- (ii) *Activity 1.1* “Developing training modules for CSAWMP and providing training to supervisors, operators and other stakeholders for application and mainstreaming in the project provinces by 2018” and *Activity 1.8* “Training and certifying of technicians, contractors, masons through relevant agencies for the construction of biogas value chain infrastructure and permitting staff of FIs to attend such training sessions by 2018” will be merged into *Activity 1.4* in the revised DMF “Capacity building in designing, constructing, operating and monitoring biogas plants by June 2019”.
- (iii) *Activity 1.5* “Monitoring annual attributable CO2 reduction and issuance of certified emission reduction carbon revenues by 2018” and *Activity 1.6* “Providing capacity building to government staff and relevant agencies to continuously manage biogas development by 2018” will be merged into *Activity 1.5* in the revised DMF “Strengthening the capacity and providing equipment for relevant agencies to manage national biogas database by 2017”.

Output 2: Credit Lines for Biogas Value Chains

25. **Original Targets.** The key performance indicators for this component are: (i) 50% of credit lines will be under joint accounts and/or on behalf of women by 2018; (ii) BVC infrastructure financing products are mainstreamed in two financial intermediaries by 2018 and (iii) ICMD funds are fully channeled into 36,050 accounts of beneficiaries by 2017.

26. **Midterm Progress.** Both Financial Intermediaries (FIs), Vietnam Bank for Agriculture and Rural Development (VBARD) and Co-operative Bank of Vietnam (Co-opbank), have experienced difficulty in making loans to livestock farms. Of the US\$32.583 million provision, they have disbursed only US\$0.391 million (VND8,599 million) by 31 August 2016 as indicated in Table 4 below. Disbursement has been slow due a variety of reasons as explained in the following paras.

Table 4: Status of credit lines (as of 31 August 2016)

No	Provinces	Credit lines_number of subloans						
		No. of sub loans_VBARD	Loans to women	No. of sub loans_Coopbank	Loans to women	Total no. of sub loans	Total no. of loans to women	Percent
1	Lao Cai	159	122			159	122	76.73%
2	Son La					0	0	
3	Phu Tho					0	0	
4	Bac Giang	39	7	39	7	78	14	17.95%
5	Nam Dinh					0	0	
6	Ha Tinh					0	0	
7	Binh Dinh			40	12	40	12	30.00%
8	Tien Giang					0	0	
9	Ben Tre					0	0	
10	Soc Trang					0	0	
	Total	198	129	79	19	277	148	53.43%

27. **Limited demand for credit by MBP and LBP operators.** Industrial sized farms are strongly encouraged to construct biogas plants. However, owing to limited access to technology they are not able to utilize the biogas effectively. Most of the biogas is released to the atmosphere. At this stage, there is little incentive for farmers to invest in MBP or LBP plants beyond satisfying environmental regulations. It is hoped that Component 3 of the Project will demonstrate the utilities of biogas and simulate the demand for biogas plants and biogas credits.

28. **Limited access to credit by small farms.** The Mission observed a high demand for small biogas plants (SBPs) from small-scale farms. A credit needs assessment carried out by the CPMU showed that the demand for credit to construct biogas plants was in the range of 50% - 85% of households surveyed in each province. Although farmers appreciate the advantages of biogas, they are currently discouraged to take loans for the following reasons:

- (i) **Collateral requirement:** The common investment cost of a SBP is about VND13 million. While collateral is not officially required for loans of less than VND50 million, VBARD and Coopbank often impose this as an extra protection measure. Small farmers are reluctant to give up their land title (the red book) for small loans.
- (ii) **Pre-financing requirement:** Some VBARD branches (eg: Lao Cai, Phu Tho and Bac Giang) require farmers to first construct (i.e. find the necessary financing) for the biogas plants and then seek reimbursement after the plants are inspected and certified to be compliant to technical standards. This requirement in effect transforms the credit line to a re-financing program – and not a particularly attractive one considering the credit line charges a lending rate that is only 10 percentage points below the prevailing market rate.
- (iii) **Access to banking services:** Coopbank branches are at the district levels. The absence of transaction units at the commune levels increases farmers' transaction cost, especially for making regular repayments.
- (iv) **Limited scope of biogas loan:** Farmers prefer to multiple purposes that allow them to utilize parts of the proceeds for purposes other than biogas plant construction, such as buying and raising livestock.

29. **Passive behavior of the FIs.** Neither bank has been active in promoting the biogas credit line to potential clients. A survey conducted by the credit consultant indicates that very few respondents heard of the biogas credit line from the financial intermediaries. In some district offices, even the banks' staffs themselves were not informed of the credit line. The banks have limited interest in making loans under this credit line because of the small loan size and high transaction cost of disbursing loan. VBARD and Coopbank were unable to provide any solutions as to how they could improve the disbursement of the credit line.

30. **Proposal to include a new FI:** The Mission assessed CMPU's proposal to include Viet Nam Bank for Social Policies (VBSP) as an additional FI. Several criteria were considered:

- (i) Overall fit of VBSP to the Project's Objective;
- (ii) Financial performance of VBSP;
- (iii) Debt collection and client base of existing programs (as performance indicator); and
- (iv) Affordability and attractiveness of the proposed biogas lending program.

31. VBSP rated satisfactory in all the aforementioned criteria. VBSP is especially suited for small transaction lending since it commands an extensive outreach network. Its business model relies on local mass organizations such as women's union and farmers' groups to facilitate loan applications,

applicant screening and debt collection.⁴ In addition, VBSP sends mobile transaction units to 11,000 communes at fixed dates every month to provide banking services at the offices of Commune People's Committee.⁵ There, all VBSP lending programs and lending rates are posted to raise public awareness. In comparison, neither of the existing FIs has a comparable level of penetration as their lowest branch office is at the district level. VBSP is a good fit for Component 2 given its specialization in small loan transactions and network. Detailed assessment on the inclusion of VBSP as a FI is in Appendix 5.

32. In conclusion, VBSP is an appropriate agency for implementing Component 2: (i) VBSP has a broad client base among small farms and households, which should be the lending program's target beneficiaries in order to maximize GHG emissions reduction; (ii) its existing programs demonstrate experience and capacity to implement the biogas program, whose total lending is small relative to those of the existing programs; (iii) the proposed financing terms should be affordable and attractive to small farms. The fact that VBSP relies on government subsidy should not be an impasse for its becoming a financial intermediary.

33. The Mission met with representatives from MOF and SBV for the possible inclusion of VBSP. In principal, representatives from both MOF and SBV have no-objection to the addition of a FI to improve the implementation of the Component 2. However, an evaluation of VBSP's eligibility should be prepared by SBV and reviewed by MOF. Depending on the result of the evaluation, the inclusion of VPSB as an FI may be processed including the signing of Project Agreement between ADB and VBSP and On-lending Agreement between MOF and VPSB.

34. **Proposed changes.** The Mission and government agreed on the following actions

- (i) To revise *Output 2* "Credit Lines for Biogas Value Chains" as *Output 2* "Credit Lines for Biogas Value Chains and other climate smart agriculture waste management investments" in the revised DMF.
- (ii) To move *Output 2.3* "ICMD funds are fully channeled into 36,050 accounts of beneficiaries by 2017" to Component 1 in the revised DMF because this output indicator relates to the incentive for carbon market development, not credit lines. *Activity 2.2* "Monitor the disbursement of incentive for carbon market development through financial intermediaries by 2018" will be moved to Component 1 in the revised DMF and revised as *Activity 1.3* "Monitoring the disbursement of funds paid to Eligible Beneficiaries as a financial incentive to carry out Eligible Subprojects by June 2019".
- (iii) To apply disbursement in the Withdrawal Applications based on liquidation (not reimbursement) to the two current FIs (VBARD and Coopbank) in order to ensure that they utilize the current balance in their respective imprest accounts.
- (iv) To include the VBSP as a FI under the Project. The ADB funds must be used for biogas plant construction as well as for other appropriate CSAWMP⁶. VBSP must contribute 15% of each sub-loan as indicated in the Loan Agreement. In addition however VBSP could supplement the loan packages to provide households funds for other purposes such as building sanitation facilities or expanding livestock head. The purpose is to increase the appeal of the biogas program to the many households that prefer multi-purpose loan, and also to expedite ADB loan disbursement.
- (v) To prepare a realistic sub loan implementation schedule for the FIs (especially for II and III quarters of 2017) by March 2017. If the implementation of the FIs reviewed after

⁴ In return for their services, the mass organizations receive commission fees ranging between 0.36% and 0.60% per year of the outstanding loan balance. Commission expenses are about 20% of VBSP's interest income from lending activities.

⁵ Each of the 600 district office is equipped with 2 such mobile units, which translates to mobile 1,200 units.

⁶ These could include: manure separators, generators, water saving measures (such as sprinklers), mixers, dryers or composting tanks for producing organic fertilizer, etc.

Quarter III of 2017 is not up to expectation, partial cancellation to Component 2 may be considered at the 2017 Spring Cleaning mission held by ADB and MPI.

Output 3: Enhanced CSAWMP technology transfer

35. **Original Targets.** The key performance indicators for this component are: (i) Well-established CSAWMP packages are disseminated in 10 participating provinces by 2016; (ii) One long-term, community-based CSAWMP technology transfer and research strategy is elaborated by 2014, and includes communication, dissemination, and mainstreaming plans; and (iii) Critical CSAWMP knowledge gaps are identified and at least 21 research, dissemination, and mainstreaming packages carried out according to a priority list, by 2018. 30% of search projects will include gender issues by 2016.

36. **Midterm Progress. Farm-based Adaptive Research.** The Project aims to support adaptive research on climate smart agriculture waste management practices, with the objective of identifying practical solutions to address agriculture waste related problems faced by the participating provinces. Progress on this activity had been delayed due to the lack of clear guidance on the procurement procedures and implementing arrangements in the Project documents (RRP and PAM). The delay in recruiting LIC also delayed the commencement of this activity. In the absence of clear guidance, CPMU in consultation with the Department of Science, Technology and Environment (DSTE) developed a research strategy which included 77 research topics with the research activities to be carried out by MARD's research institutes. However ADB noted that the PPMUs had not been actively engaged in the identification of topics. Consequently the research areas did not closely match the agriculture waste management problems of the provinces. It was also noted that research institutes under the executing agency (i.e. MARD) would be ineligible to bid for contracts awarded under the Project. CPMU, with the support of LIC, then undertook a bottom-up approach to determine the research needs of the provinces and developed six research packages which could be awarded using a quality and cost based selection process (see Table 5 below). The first of these research packages was advertised just prior to the Mission. The Mission and CPMU revised the TOR of the remaining packages during the Mission. These will be advertised following a review of the TORs by ADB, immediately after the Mission. CPMU aims to award the research contracts by July 2017.

Table 5: List of research topics (as of 31 August 2016)

Package No.	Package name	Estimated amount (US\$)
25	Research on organic fertilizer production from livestock waste and bio slurry by value chain	1,200,000
26	Research on biogas technology improvement and effective biogas utilization by value chain	1,000,000
27	Research on the water-saving pig farming technology	600,000
28	Research on effective utilization of crop waste by value chain	1,000,000
29	Research on the treatment of sludge sediment in shrimp farming	800,000
30	Research on the cultivation techniques for GHG emission reduction	1,018,000

37. **CSAWMP Demonstrations.** Another activity under this output is CSAWMP demonstrations. The objective of the demonstrations is to show case good agriculture waste management practices that have potential to be replicated in the Project area. The CPMU in consultation with PPMUs have

identified seven packages of demonstrations as listed in Table 6 below. They also established a transparent and objective procedure to: (i) inform beneficiaries of the intended demonstration activities; (ii) select a beneficiary on whose farm the demonstration activity would be carried out; (iii) agree on the responsibilities of the Project and beneficiary during the implementation of the demonstration activity; and (iv) agree on the terms and conditions for the transferring ownership of the equipment at Project completion. Each demonstration package will be implemented in several provinces where the specific practice is considered relevant and scalable. The Mission noted that in many cases the proposed demonstration only provided a partial solution (i.e. mostly a manure separator), whereas the purpose of the demonstration sites should be to show case a complete solution to managing the agriculture waste generated by the farm. A complete solution may include measures to reduce the amount of waste generated (e.g. water saving measures, etc.) and to fully utilize the waste that is generated (e.g., manure separation, methods to fully utilize the biogas that is generated). The standard for a demonstration site should be that it serves as a model on CSAWMP that can be used to convince other farmers on the benefits of adopting similar practices. The Mission proposed that the CPMU and PPMUs should reconsider the interventions proposed under each package to ensure that they meet this expectation.

Table 6: List of demonstration packages (as of 31 August 2016)

Package No.	Package name	Provinces	Estimated amount (US\$)
32	Supply of manure separating systems to treat livestock waste to produce material for organic fertiliser demonstration	Bac Giang, Ben Tre, Binh Dinh, and Phu Tho	1,340,909
33	Supply of manure separating system to treat livestock waste to produce material for organic fertiliser demonstration	Ha Tinh, Nam Dinh, Soc Trang, Son La, and Tien Giang	1,109,092
34	Supply of biogas generator and manure separating system for comprehensive management of livestock waste demonstration	Binh Dinh, Ha Tinh, Nam Dinh and Soc Trang	322,727
35	Supply of mobile manure separating system to treat livestock waste to produce material for organic fertilizer demonstration at household scale	Bac Giang, Ben Tre, Binh Dinh and Lao Cai	477,272
36	Supply of biogas generator system for demonstration	Binh Dinh, Ha Tinh, Lao Cai, Soc Trang and Tien Giang	513,637
37	Supply of utilisation system for treatment of biogas digested effluent demonstration as the fertiliser of the crops	Soc Trang and Binh Dinh	204,545
38	Supply of utilization system for treatment of cattle dung as the feedstock for red worm raising demonstration	Soc Trang	77,273

38. Several provinces raised a concern that beneficiaries of the demonstration activities may be unwilling to purchase the equipment at the time of Project completion. The CPMU explained that a financial viability analysis and an affordability and payment plan would be prepared and agreed between both parties as part of the agreement between the Project and the beneficiary.

39. **CSAWMP Information System.** The Project aims to develop a system to disseminate information regarding CSAWMP. The CPMU submitted a proposal to establish an e-library where relevant research institutions would upload documents relating to CSAWMP. However the proposal

lacked clarity on how it would be accessible by the intended beneficiaries (i.e. farmers and enterprises seeking solutions for agriculture waste management problems. Furthermore the proposal involved a large investment (exceeding US\$ 0.6 million) for a network of computers and other hardware without a clear plan as to how it would be maintained and upgraded after completion of the Project. It was also noted that the system could be effectively used for a wider range of applications (e.g., as a distance learning tool, as a way to disseminate information on the outcomes of the research and demonstration activities, etc.). Accordingly it was decided that CPMU would first invite proposals from an IT service providers to design a comprehensive information system which is accessible to the end users. The service provider would also prepare the bidding documents to procure and install the system and would supervise the development of the system. CPMU has submitted the TOR (Submission 0) for this package for review by ADB in September 2016 and expect to award the contract by II quarter of 2017. The equipment package for the information system is expected to be awarded by I quarter of 2018.

40. **Agro-ecological region mapping.** The Project has supported the development of a GIS based mapping tool on agro-ecological zones and statistics (by district) on agricultural waste from crop and livestock. The tool uses data generated annually by the Government Statistics Department and is useful for agriculture waste management planning and investment decision making. The tool is accessible through the websites of the Project and the Department of Cooperatives and Rural Development (DCRD). The Project will update the information annually for the duration of the Project period and it is expected that the DCRD will continue to maintain it thereafter. The Mission noted that the tool could be improved by developing a software interface to update the information digitally rather than through manual entries.

41. **Capacity building on CSAWMP.** The Project has supported 5 farmer vocational training programs (i.e. prepared syllabuses for farmer vocational training conducted by Department of Cooperatives and Rural Development) on the following topics: (i) production of biological fertilizer from cattle manure and sugarcane waste; (ii) techniques for repairing and maintaining biogas equipment; (iii) raising red worms at small scale from cattle and chicken manure; (iv) producing biological organic fertilizer from crop residue; and (v) production of organic fertilizer from pig manure. The project has committed to support the Department of Cooperatives and Rural Development of MARD to produce 3 more vocational training programs on the subjects of: (i) producing biological bedding for livestock; (ii) producing animal feed from crop residue; and (iii) producing biochar from crop residue. The Mission noted that some of these topics are also the subjects of the research areas but at household level and not as comprehensively developed by value chain level as that in the research packages.

42. The Mission and government agreed to rationalize the numerous training activities under Output 3. CPMU, with assistance from LIC, will update the master training plan showing clear rationale for training activities with links between the research activities and demonstration activities, also identifying target beneficiaries and corresponding breakdown of the budget.

Table 7: Number of people trained on CSAWMP (as of 31 August 2016)

No	Provinces	Number of people trained on CSAWMP (Component 3)			
		Farmers	Women farmers	Extension staff	Women extension staff
0	CPMU			236	54
1	Lao Cai	555	211		
2	Son La	0	0		
3	Phu Tho	798	504		
4	Bac Giang	337	234		

5	Nam Dinh	829	363		
6	Ha Tinh	361	151		
7	Binh Dinh	1,021	167		
8	Tien Giang	172	58		
9	Ben Tre	322	60		
10	Soc Trang	1,002	338		
	Total	5,397	2,086	236	54
	Percentage		38.65%		22.88%

43. **Proposed changes:** The Mission and government agreed that:

- (i) *Output 3.3* “Critical CSAWMP knowledge gaps are identified and at least 21 research, dissemination, and mainstreaming packages carried out according to a priority list, by 2018. 30% of search projects will include gender issues by 2016” will be revised as *Output 3.1* “CSAWMP research strategy developed and adaptive research on at least 6 CSAWMP packages conducted by June 2019”.
- (ii) *Output 3.1* “Well-established CSAWMP packages are disseminated in 10 participating provinces by 2016” will be revised as *Output 3.2* “At least 7 CSAWMP models are successfully demonstrated and disseminated in 10 participating provinces by June 2019”.
- (iii) *Output 3.2* “One long-term, community-based CSAWMP technology transfer and research strategy is elaborated by 2014, and includes communication, dissemination, and mainstreaming plans” will be revised as *Output 3.3* “At least 7,000 farmers, 700 extension staff, and 200 researchers trained on CSAMWPs by June 2019. 30% of those trained in each group are women”.
- (iv) *Activity 3.3* “Support research and train staff in efficient CSAWMP including organizing study tours by 2018”, *Activity 3.4* “Developing training programs, textbooks, and syllabus for training farmers on appropriate techniques for CSAWMPs and providing vocational training for farmers by 2018” and *Activity 3.7* “Training extension staff and farmers in low carbon agricultural production technologies to promote application of the technologies in agricultural production by 2018” will be merged into *Activity 3.3* in the revised DMF “Capacity building of researchers, extension staff and farmers including vocational training program, training packages and study tours on CSAWMPs by June 2019.”
- (v) *Activity 3.2* “Establishing an information system (e-library, journals, and database) for sharing CSAWMP technologies and training by 2018” and *Activity 3.5* “Upgrading CSAWMP – based map sets for 7 agro-ecological regions to forecast the direct impact of climate change and provide support for agricultural planning by 2017” will be merged into *Activity 3.4* in the revised DMF “Establishing an information system (e-library, map sets on agro-ecological zones and distance learning system) to disseminate awareness and knowledge CSAWMP by June 2019”.
- (vi) The demonstration activities will be revised to include a comprehensive set of interventions that will enable the demonstration sites to be showcased as model sites on managing the agriculture waste generated by the farm. It was also agreed that the training activities would be rationalized to show clear rational for training activities (i.e. how it contributes towards the project’s impact and outcome targets), and linkages between the research and demonstration activities.

Output 4: Effective Project Management

44. **Original Targets.** The key performance indicators for this component are: (i) A CPMU and 10 PPMUs established and operational with adequately skilled staff and facilities in MARD by first quarter of 2013. At least 30% of staff are women and a gender focal point will be appointed by 2014; (ii) PPMS with sex-disaggregated and ethnicity data collected and reported operating effectively in 10 provinces by 2015 and (iii) Carbon market coordinator and 36,000 biogas owners are organized through associations by 2014.

45. **Midterm Progress. CPMU and PPMUs.** A CPMU and 10 PPMUs were established in second quarter of 2013 and are fully staffed. As of 31 August 2016, 55 out of 120 staffs (equivalent to 46%) of the CPMU and PPMUs are women. The gender focal point was appointed in July 2016. As a result the sex-disaggregated data in the MTR report was of limited quality. All PPMUs reported good coordination with CPMU. CPMU reported strong support from MARD including from the Vice Minister.

46. **Loan Implementation Consultant (LIC).** The LIC team (formally referred to as Project Management Consulting Services) was mobilized only in November 2015 (30 months after loan effectiveness). Since mobilization, the firm has replaced 9 out of 24 experts due to personal circumstances faced by the specialists. The Mission noted that frequent replacement of specialist caused disruptions to project implementation. However it was noted that the LIC is currently fully staffed and providing good support to CPMU and PPMUs.

47. The Project includes an activity to explore all potential carbon markets by 2014. However, as explained in para 23 above, this activity has not been implemented at the time of the Mission.

48. **Proposed changes.** For reasons explained in para 23 above, the Mission and government agreed to drop Output 4 (iii) "Carbon market coordinator and 36,000 biogas owners are organized through associations by 2014" and Activity 4.3 "Explore all potential carbon markets by 2014" in the revised DMF.

C. Procurement of Civil Works, Goods and Consulting Services

49. **Midterm progress.** The total contract value of procurements of civil works, goods and services carried out amount to US\$3.37 million, which is about 5% of the total project cost (US\$67.92 million). Main contracts awarded were Project Management Consulting Services, Project Auditing, Individual Consultants, Baseline Survey, Accountant Software, Database Management Software System, Map Sets on Agricultural Zones, Documentary Film and Documents on CSAWMP. Based on the latest approved Procurement Plan, key procurement packages within the next 18 months include Biogas Value Chain physical audit, 6 research packages, Livestock environmental monitoring and biogas database management equipment, E-library system (2 packages), Project Auditing (Phase 2), Project Monitoring and Evaluation software for CPMU and 10 PPMUs, and 7 demonstration packages, amounting to US\$11.35 million.

50. **Needed Actions.** The Mission noted concern to the recruitment process of Biogas Value Chain physical audit package as per the follow-up actions agreed upon during the last review mission, its Terms of Reference should be cleared by October 2015. However, the submission 0 including the TOR and Cost Estimate could not be cleared by ADB until 17 August 2016. The Mission reiterates the importance of this package to check that the technical standards are being met and that the subsidies have reached the intended beneficiaries and requests the Project to accelerate this package recruitment so that the consultant can be mobilized by June 2017.

51. The Mission suggests the Project add at least one (1) more package to provide the supply of biogas generator system and other equipment necessary for demonstration sites to meet the objectives as specified in para 36 to the households/farms participating in Package 32 and 33 (Supply of manure separating systems to treat livestock waste to produce material for organic fertilizer demonstration). The Mission requests the Project to carefully review the status of each household/farm in Package 32 and 33 whether they have flared the excess gas or released to the atmosphere and convince them to utilize the biogas generator system (either from their own investment or provided by

the Project). The Procurement Plan should be updated accordingly and submitted to ADB by November 2016.

D. Project Reporting

52. Quarterly Project Progress Reports, including the Comprehensive Report for MTR, focus on activities but lack clear explanations on how activities contribute towards outputs and outcome targets. Furthermore, inconsistencies of data in reports also reflect inconsistencies in recording of data at a given cut-off date. The Mission recognizes the challenge of consolidating information from a high volume of sources but stressed on the need for information to be managed and reported more consistently and on a timely basis. The Mission also reiterated the need for the quarterly progress reports to include assessments on each DMF output indicator with sex-disaggregated and ethnicity data collected and reported as well as assessments on each PPMU's performance contributing to the achievement of each output indicator. Following the rationalization of activities and alignment of output indicators, it is expected that reporting on outputs and outcomes will improve significantly.

E. Project Costs and Financing

53. **Contract Awards and Disbursement.** As per ADB's Loan Financial Information Services, by 31 August 2016, cumulative contract award was US\$9.180 million against US\$67.920 million net loan amount, equivalent to 13.52% versus elapsed time of 57%. By 31 August 2016, cumulative disbursement was US\$13.456 million against US\$67.920 million net loan amount, equivalent to 19.81% versus elapsed time of 57%. The disbursement amount includes the Advance to Imprest Account of US\$3.500 million to CPMU and US\$3.400 million to the 2 FIs but excludes 2 pending Withdrawal Applications amounted at US\$0.659 million. However, CPMU recorded the contract awards amount of US\$13.761 million and disbursement amount of \$10.464 million. The Mission urges the Project to send request for Project Contract Summary Sheet (PCSS) issuance and the Withdrawal Applications in a more regular basis to narrow the data difference between ADB and CPMU and to increase the turnover ratio.

54. Disbursement ceiling has become an issue in Ha Tinh and Phu Tho province when the needs for ODA fund far exceeded the allocated amount. As a result around 2,000 households in Phu Tho have not received the ICMD even after they constructed the SBPs. To temporarily resolve this problem CPMU agreed to advance funds from the CPMU's Imprest Account to Phu Tho PPMU and the PPMU agreed to finalize payments to all households by the end of 2016.

55. The Contract Awards and Disbursement Projections until project end is prepared based on the Project Detailed Implementation Plans of CPMU, 10 PPMUs, 2 FIs and a proposed FI (Appendix 6).

56. **Reallocation of Loan Proceeds.** Given the Project's implementation progress and anticipated benefits generated from SBP construction and CSAWMP technology transfer to be carried out under the Component 1 and Component 3 of the Project, savings from activities provisioned for other loan categories are proposed to be reallocated to increase the Project budget for SBP constructions, equipment, consulting services, CSAWMP technology transfer and project management expenditures. The agreed adjustments for loan allocations are presented in Appendix 7. However, the request for reallocation will be processed as soon as the disbursed amount exceeds the allocated amount.

57. **Audited Financial Statements.** The report on the Audited Project Account, Audited Project Financial Statements to the 2 FIs and the Auditor's Management Letters for fiscal year 2015 were submitted to ADB on 29 June 2016. ADB provided its comments on 12 September 2016 and requested CPMU and 2 FIs to submit the responses to the queries and time-bound action plan by 30 September 2016. The next Auditor's Report will be due on 30 June 2017.

58. **Counterpart Funds.** The Project reported that adequate funds have been provided for 2016. The cumulative counterpart funds released as of end-August 2016 is US\$1.129 million.

F. Project Baseline Survey and Monitoring and Evaluation

59. A baseline survey for the Project was completed in July 2016 and was used in preparing the MTR report. The data gathered for the survey is currently saved digitally and will be uploaded in the Project website by November 2016. The baseline data will be used for monitoring the project indicators during implementation as well as for post project evaluation.

60. The international Project Monitoring and Evaluation (M&E) Specialist under the LIC will be mobilized in October 2016. She and the national M&E specialist will assess ways of establishing an M&E system for the CPMU and 10 PPMUs based on the baseline survey data. The planned procurement of a Project Monitoring and Evaluation software package will be carried out if it is deemed necessary to support the M&E system.

G. Compliance with Loan Covenants

61. The Mission finds the loan covenants to be generally complied or being complied with. An updated schedule of covenants is given in Appendix 8.

H. Environmental Issues

62. **Original Targets.** The project objective is to reduce pollution from agricultural waste by using CSAWMP. The project aims to support processing agricultural and rural household wastes into clean energy and organic fertilizer from bio-slurry, and disseminate, strengthen, and diversify the knowledge base for the application of CSAWMP. Project activities under Outputs 1 to 4 as described above aim to achieve this objective. Para 17 above describes the specific activities relating to environmental monitoring. The Project aims to target environmental monitoring of at least 5% of SBPs.

63. **Midterm Progress.** Project contributes to positive impacts on the environment, improving environmental sanitation at household and community level by reduction of livestock effluents to the water sources, improving livestock waste management practices, reducing agricultural pollutants and GHG emissions. It contributed to awareness raising and capacity strengthening for managing agricultural wastes. The Mission noted that CPMU/PPMUs had monitored 3,006 SBPs or about 7.8% of the total, which exceeds the target of 5% to be monitored.

64. **Findings.** The project contributed to improve environmental sanitation and generate clean energy and reduce GHGs in 10 provinces with successfully implementation of the small size biogas plants construction at household level.

65. However, the following environmental issues were identified during the mission:

- (i) The inspections have focused on physically checking: (i) the environmental facilities attached with the biogas digester; (ii) if the BPs are being operated satisfactorily; and (iii) if the farmers have been trained in BP operating. Quantitative analysis of environmental indicators were not a part of this random checking activity since PPMUs have not got equipment and expertise in monitoring environment quality;
- (ii) Some households are using large volumes of water for pig cleaning which caused biogas plant not well functioning for effluent treatment.
- (iii) The environmental assessment procedure stated in the EARF and as stated in the Initial Environmental Examination (IEE) of Biogas Plants construction, have not been followed during the construction of MBPs started in Phu Tho and Ha Tinh Provinces. As a result, an environmental management plan (EMP) was not prepared to mitigate the potential negative environmental impacts (e.g. such as methods of release excess biogas) and this could lead to an increase methane emission, thus, preventing the project meeting its objective of reduction of GHGs.

66. Following management issues were also identified:

- (i) The Environmental Management Unit at CPMU based on Project Technical Support Unit, does not support overall project's environmental management, monitoring and reporting. The LIC environmental safeguard expert was mobilized only on April 2016 as a result PPMUs have not received enough support on preparation or implementation of an EMP.
- (ii) the environmental monitoring report submitted to the MTR mission needs to be improved in accordance with the requirements from EARF and IEE
- (iii) While at central level, MARD closely cooperated with MONRE to develop and issue the National Technical Regulation on the effluent of livestock QCVN 62-MT: 2-16/BTNMT; at provincial level, DARDs and DONREs are cooperating on environmental inspection of livestock farms, the CPMU and PPMUs need not directly cooperated with DONREs as proposed in EARF and IEE.

67. **Proposed changes.** As discussed in previous paras, in order to mitigate adverse environmental impacts, the project's support for MBP should be revised to adopt a Biogas Value Chain concept, where additional facilities such as electricity generation and slurry separation are included for effective use of biogas and bio-slurry produced by BPs.

68. Setting up clearer target on strengthening capacity of relevant agencies is needed to hand over monitoring of all constructed BPs.

69. **Needed Actions.** The following corrective actions proposed to be carried out to secure environmental safeguard compliance and the project objective in reduction of GHGs.

- (i) Establishment of an environmental management unit (EMU) at the CPMU and appointment of an environmental focal point at each PPMU to enhance the environmental assessment, management, monitoring and reporting the both, positive and adverse, impacts on environment;
- (ii) CPMU with support from LIC environmental safeguard consultant should provide guidance and training to PPMUs/farmers in EMP implementation to ensure SBPs constructed and operated in accordance with environmental indicators e.g saving water consumption for cleaning facilities and effective practices for post treatment of effluent.
- (iii) For all MBPs, environment impacts should be screened to avoid category A with significant environment impacts and IEE should be conducted for category B including EMP be prepared for adverse environmental impacts, especially the issues of releasing biogas into the atmosphere and/or burning surplus biogas, and using of bio-slurry and livestock waste. Mitigation measures should be proposed to ensure that the project meets its objectives of reducing GHG and improves environmental quality.

I. Social Safeguards Issues

70. **Original Targets.** As per DMF and in Indigenous People Development Plan (IPDP), at least 5% of 36,000 constructed small biogas plants is secured for the people from ethnic minority (EM) groups in three selected provinces including Son La, Bac Giang and Soc Trang.

71. **Midterm Progress.** By 31 August 2016, achievements on project implementation for EM people could be summarized as follows and details in the Appendix 9.

72. In the 3 provinces targeted for EM support (Son La, Bac Giang and Soc Trang) the Project has supported 1,709 SBPs for EMs equivalent to 4.4% of total constructed SBPs. In addition to these 3 provinces, Lao Cai PPMU has also supported the construction of 519 BP for EMs. As a result, in total the Project has supported 2,228 SBPs for EMs which is equivalent to 5.8% of total SBPs (38,478) constructed.

73. Project organized various dissemination activities to provide project information including the recommendation of sharing BP value chain benefits (energy and organic fertilizer) from BP owner to EM people in 04 provinces mentioned above. As of 31 August 2016, in total, serving information dissemination purpose, the Project has developed and organized: 162 dissemination workshops; 8 TV programs; 5 radio programs (in ethnic languages also); 11,150 information boards/ posters; 41,000 leaflets; and 1 video clip. In Lao Cai, the Project has developed and organized 58 dissemination workshops, 6 TV programs, 3 radio programs (in ethnic languages also), and 10,000 leaflets.

74. The Project provided training course on BP operation and CSAWMP for participants to manage their livestock and wastes. As of 31 August 2016, 866 EMs out of 5,397 households were trained on CSAWMP in 10 provinces (equivalent to 16.05% of total CSAWMP trainees) and 538 EMs in 3 selected provinces were trained on CSAWMP (equivalent to 9.97% of total CSAWMP trainees). 2,341 EMs in 10 provinces (5.85% of total) were trained on biogas operation instead of 1,462 EMs in 3 selected provinces (equivalent to 3.66%).

75. The Project conducted 6 ToT for 236 extension staffs on CSAWMP. Among them, 26 are EM trainees (equivalent to 11% of total trainees).

76. As of 31 August 2016, 2 FIs provide credit to 277 participants in Bac Giang, Lao Cai, and Binh Dinh, of which 119 are EMs, equivalent to 42.96% of total. Among 3 selected provinces, only 04 EMs in Bac Giang (equivalent to 1.44% of total) access to this source.

77. **Findings.** The following issues were identified during the MTR: (i) project information dissemination was implemented mainly via Bac Giang provincial television and Bac Giang e-journal, extension workers and masons. Therefore in the communes in Luc Nam district that the Mission visited (Dong Hung, Dong Phu and Tam Vi communes), not all local people, local authority and mass organizations interviewed know well about project; (ii) the current gender-EM specialist of LIC did not provided effective and timely support to CPMU and PPMUs relating to IPDP implementation; (iii) Inadequate understanding of the requirements in IPDP by the CPMU and PPMUs as well as a lack of support from LIC which results in a lack of internal monitoring report for the implementation of IPDP; and (iv) the provision of credit for EM households is slow due to their complicated borrowing procedure which requires the deposit of Red Book for a small amount of credit. Vietnam Bank for Social Policies was recommended by all PPMUs, local authorities, mass organizations and EM people.

78. **Propose changes.** Monitoring IPDP implementation and mobilization of external monitoring agency: Via field trips and interviewing the EM beneficiaries, local authorities and PPMUs, mission recognized that project has positive impacts on EMs people and community. PPMUs of all three selected provinces in IPDP were aware of the requirement of encouraging the EMs to construct SBPs and participate in related training courses from beginning of project. EM people were involved in all project activities. Information dissemination for EMs more or less has been done adequately in the provinces where the EM people live. At the time of the Mission, an independent monitoring agency was not mobilized yet as required in the IPDP. After discussion with CPMU, it was agreed that project will not mobilize this consultant service as the project only has positive impacts and was classified as category B on indigenous people. In addition, since half of the project period has elapsed and the selection of independent monitoring agency could take about 6 months more, the benefits of this exercise will be minimal.

79. Mission recommended the following monitoring indicators on ethnic minority shall be integrated in scope of work of LIC service: (i) whether selected EM communities have commenced the implementation of IPDP as planned; (ii) timely provision training and other activities that have been

agreed; (iii) provision of information and training materials in a form appropriate and the language that understood by participating EM and their literacy level; (iv) complaints and grievances mechanism including used of local practices mechanism; (v) vocational training for alternative livelihoods related to biogas and its value chains management; and (vi) participating EM sex disaggregate database. The mentioned consultant service shall monitor such indicators periodically on semi-annual basis and have the reports to CPMU and ADB.

80. Necessary of updating the IPDP: Mission recognized that all activities for EMs in approved IPDP have been integrated in project activities. From the beginning of project, such activities were and are being implemented for EMs not only in three selected provinces but also in other province such as Lao Cai where majority of EM groups do exist. In addition, the target of construction of SBPs for EMs with at least 5% of SBP constructed in DMF has been substantially achieved in 3 selected provinces and Lao Cai province. Taking into consideration that EM are one of target groups of the adjusted target for SBPs to be supported by the end of project, the Mission and government agreed that other project provinces which have sizable EM populations (Lao Cai, Binh Dinh, Phu Tho and Ha Tinh) shall also prioritize the EMs for support under the Project. Mission agreed with CPMU that the IPDP will not be updated to include these provinces. However the PPMUs of these provinces will follow the requirements specified in the IPDP to encourage the EMs in their respective provinces to participate in IPDP activities.

81. As biogas associations have not been set up at provinces, districts and communes, two activities in IPDP relating to this organization are also proposed to be dropped including: (i) encourage EM participation in empower biogas association and other organizations; (ii) empower biogas representatives in EM areas. (See Appendix 9)

82. **Needed Actions.** CPMU immediately mobilizes and requests the gender and EM specialist under LIC to provide timely support to CPMU and PPMU to implement the IPDP including monitoring and reporting activities in the 3 target provinces and the 4 additional provinces mentioned in para 80 above. If the current gender and EM specialist could not fulfill his/she works in-time, the replacement option shall be considered.

83. Without external monitoring agency, CPMU, LIC, and PPMUs are requested to conduct internal monitoring on IPDP implementation in project 07 provinces and update regularly in the current report system. Updated monitoring table of IPDP implementation with the activities subtracted from IPDP shall be used and prepared by CPMU, PPMUs and LIC for further missions. An internal monitoring report on IPDP implementation shall be prepared by CPMU on semi-annual basis and to be submitted to ADB to disclose on ADB website. The semi-annual internal monitoring report of IPDP implementation in 2016 shall be submitted to ADB to disclose no later than 31 December 2016.

84. PPMUs of the 07 provinces mentioned in para 80 where there is the presence of ethnic minority groups shall strengthen project information dissemination at village and commune levels to get more involvement of EMs in project activities especially increase of number of SBPs constructed for EMs, number of EMs attending in training courses on operating SBP and CSWAMP, number of EMs participating in models of CSWAMP.

J. Gender Issues

85. **Original Targets.** The key gender action plan's targets (in covenants of loan agreement) include (i) at least 20% of those who are trained in biogas management and technical issues are women; (ii) at least 20% of those who are trained and certified as masons for the construction of small Biogas Plants are women and at least 80% of these women shall find employment; (iii) at least 50% of those trained on utilization of biogas technology and operation and maintenance are women; (iv) at least 50% of those who are trained on farm management and waste management on farms are women; (v) at least 30% of employees trained in medium Biogas Plants and large Biogas Plants are women; (vi) at least 50% of recipients of Sub loans from FIs will be registered under husband-wife joint accounts or on behalf of women; (vii) at least 50% of official registration of all

purchased biogas units and plants under the Project will be under husband-wife joint accounts or on behalf of women; (viii) 30% of research topics related to gender issues associated with Biogas Plants; (ix) at least 40% of those selected as champions of smart-agriculture in research and dissemination of CSAWMP technology are women; (x) training materials of CSAWMP technology and methodology of dissemination will be women-friendly and at least 50% of dissemination events and consultations will involve women-only groups; (xi) a sex-disaggregated and ethnic minority data base is established as part of the Project's project performance and monitoring system established by the CPMU; (xii) 30% of staff in the CPMU and PPMUs are women and that the CPMU and each PPMU has a gender focal point; and (xiii) gender indicators are included in the overall monitoring and evaluation framework for the Project.

86. Midterm Progress. Gender Action Plan (GAP) implementation: More effort is needed to ensure GAP key targets are achieved by the end of the projects. The main results to date are: i) 28 training courses on biogas management and technical issues for technical workers in 10 provinces (54 female participants/330 participants (16.4%)) (below the target of 20%); (ii) 11 training courses on SBP construction (17/ 321 female participants (5.3%)) (below target of 20%)⁷; (iii) 1,450 training courses on utilization of biogas technology and operation and maintenance (13,957/39,905 female participants (35%) and 32,011 households were trained at-home (21,393/32,461 female participants (65.9%)(target is 50%); (iv) 162 training courses on farm management and waste management on farms for farmers (2,068/5,397 female participants (38.7%) (below the target of 50%); (v) 2 training courses in medium Biogas Plants and large Biogas Plants for engineers and representative from 10 contractors (4/46 female participants (8.7%) (below the target of 30%); (vi) and (vii) 277 recipients of Subloans from FIs, of which 148 credit recipients (53.4%) were registered under women (target is 50%); (ix) 6 training courses on smart-agriculture in research and dissemination of CSAWMP technology for 236 extension staffs, including 54 female participants (22.9%) (below the target of 40%); (x) training materials of CSAWMP technology and methodology of dissemination are women-friendly. (xi) a sex-disaggregated and ethnic minority data base is established as part of the Project's project performance and monitoring system established by the CPMU; (xii) 127 staff in the CPMU and PPMUs, including 58 female staff (45.7%) (target is 30%) and the CPMU and each PPMU has a gender focal point. The gender focal point was appointed in July 2016; and (xiii) 7 gender indicators and targets were introduced however, overall reporting is of limited quality. (xiii) 2 gender sensitivity workshops were carried out for gender focal points of PPMUs, technical staff and stakeholders with 96 participants, of which 74 female participants (77.1%) (see Appendix 10).

87. Field observation notes.

- (i) The mission noted the different confidence levels of female beneficiaries who were trained directly and not trained directly by project on how to use and maintain bio-digesters. Those who were directly trained are more advantaged. Given the fact that knowing how to properly clean pig/animal sties the correct way (allowing the appropriate ratio of water and waste manure in the tank to create gas) and that in animal husbandry, women play a crucial role in feeding and cleaning pig sties, it is critical that the project ensures to actively target women as participants in these training courses till end of the project. This can be done by project staff collaborate with commune's women union in organizing these training (at commune level) and the project registers and targets women as official beneficiaries of the bio-gas digester support (subsidies recipients).
- (ii) Gender reporting is not part of the regular reporting to ADB by PPMUs/CPMU. PPMUs data on project activities are not systematically sex-disaggregated and available to the mission⁸.
- (iii) The mission assessed that gender training were carried out for gender focal point of PPMUs and local Women Union, Ethnic Minority Affairs Board⁹ and which is not

⁷ Tien Giang, Soc Trang, Binh Dinh, Son La, Nam Dinh have not female trainees on SBP constructions. Provinces that have female masons trained are: Lao Cai: 3/45; Phu Tho: 6/55; Ha Tinh: 2/97, Bac Giang: 1/19; Ben Tre: 5/28

⁸ Report from Tien Giang, Ben Tre, Soc Trang,

sufficient per project requirements. The key project implementation key staff (who are in charge of organizing training of PPMUs, the project technicians (who provide training and outreach female beneficiaries) are not fully aware of the gender.

- (iv) Gender training materials: The gender training material has focused on project introduction, gender concepts and gender action plan of project. The trainees have practiced analysis of gender indicators in the GAP of the project and the measures to achieve these targets..
- (v) Gender focal point of PPMUs were just assigned from July 2016 as the instruction of CPMU and they participated the workshop on Gender in August 2016 but lack practical experience on gender mainstreaming, GAP implementation of project achieved limited results so far..

88. **Proposed changes. The mission proposed to drop two targets:** (i) at least 20% of members of participating associations (farmers, biogas, etc.) are women; (ii) at least 20% of their steering committee members are women. The reason is that the project has no related intervention to support set up of the biogas association and there is not clear benefit/interest at this stage among potential members (biogas digester users). Other associations (farmers association, women association) are already existing and beyond the project influence on structure set up. **In addition the mission propose to revise following targets :** (i) reduce the target of 20% of trainees SBP construction training being women to 7%. The reason caused this reduction is that biogas tank construction requires high mason skills and technical standard, but the job is not a full time job. Besides, construction is a hard work. It is not realistic to require women to get intensive training/ investing her time while could only part time job (4-7 days /month); (ii) reduce the target of “At least 30% of trained employees (technical staff and farm workers) in MBPs and LBPs are women” to 15%: In fact, there are only fewer female technicians working in this field than men are, so technical training faces difficulty in meeting the rate of woman participation; (iii) to reduce the target “ At least 50% of dissemination events and consultation will involve women-only groups to 30%” because dissemination events and consultations on project introduction and CSAWMP technology transfer were conducted from the beginning of project, but gender consultant and PPMU gender focal point have just been assigned until midyear 2016, so no guidance on this issue was given to PPMU and it is difficult to get 50% for this indicator; (iv) to reduce the target “Select and train at least 40% women as champions of smart-agriculture in research and dissemination of CSAWMP technology” to 30% due to the fact that there is only few female technicians working in in this field and almost farm owners are headed by men, rate of men is normally higher than that of women participated in the technical trainings.

89. **The mission recommends that :**

- (i) CPMU and PPMUs conduct Gender awareness raising training and GAP briefing for key project staff (at least coordinator, gender focal, implementation, and technicians as part of the new training).
- (ii) CPMU/PPMUs reintroduce the reporting requirements (template, tools for collecting sex and gender related data for reporting GAP and the DMF gender targets) and GAP reporting will be done quarterly as part of the project progress report to ADB.
- (iii) PPMUs will actively outreach female participation in training courses (and as register of the project subsidies) and dissemination events, consultation, including to have separate consultation with women’s only group through local women union’ meeting to achieve the GAP targets (including those revised one after MTR).

⁹ Tien Giang PPMU reported that 15 participants from Tien Giang attended the training of them 1 (gender focal point) and 14 other members from district Women Union; 15 participants from Binh Dinh attended the training of them 1 (gender focal point), 4 member from Ethnic minority affairs board and 14 other members from district Women Union; 15 participants from Soc Trang: 2 members from PPMU, 5 member from Ethnic minority affairs board and 8 other members from district Women Union.

- (iv) LIC gender consultant will closely support PPMUs to implement, monitor and report GAP related targets.

III. FOLLOW UP ACTIVITIES

90. The Mission reiterates its concern for the progress of the project. The follow table presents the agreed upon actions that will be carried out before the next review mission.

Table 8: Agreed Follow-up Actions

No	Issue	Agreed Action	Time frame	Responsibility
1	Output 1: Expanded Use of Livestock Waste Management Infrastructure	(i) CPMU to obtain realistic estimates of beneficiaries for the revised ICMD from each PPMU and establish procedures for verification of eligibility. (Para 12)	December 2016	CPMU
		(ii) Revise the eligibility criteria for ICMD for MBP (Para 13) and inform PPMUs of the decision to discontinue ICMD for LBP (Para 14).	March 2017	CPMU
		(iii) Develop links between beneficiaries supported under Output 1 and Output 3 (para 13)	March 2017	CPMU
		(iv) Support NBPs efforts to obtain CER credits for biogas plants supported under the Project (para 23)	Continuously implementing up to end of project	CPMU
		(v) Procedures and templates for random checks of biogas plant to be revised to include environmental monitoring parameters and reports (Para 19)	March 2017	CPMU
2	Output 2: Credit Lines for Biogas Value Chains	(i) Request SBV to undertake evaluation of VBSP's eligibility	October 2017	CPMU
		(ii) Follow up with MOF's assessment of SBV's evaluation	November 2016	CPMU
		(iii) Project Agreement between ADB and VBSP	December 2016	ADB, VPSB
		(iv) On-lending Agreement between MOF and VBSP	December 2016	MOF, VPSB
		(v) Prepare a realistic sub loan implementation schedule for II and III quarters of 2017	March 2017	FIs
3	Output 3: Enhanced Climate Smart Agricultural Waste Management Practices Technology Transfer	(i) No objection to Submission 0 of all research packages	September 2016	ADB
		(ii) Award contracts for research packages	July 2017	CPMU and ADB
		(iii) Explain the benefits of participating in the demonstration activities	October 2016	CPMU, PPMU and LIC
		(iv) Update procurement plan to include revised demonstration packages in order to provide each demonstration site with a comprehensive set of interventions	November 2016	CPMU

No	Issue	Agreed Action	Time frame	Responsibility
		to ensure that they are good practice models of CSAWMP		
		(v) Update the training plan (and corresponding budget) to show clear rationale and links between research, demonstration and training activities.	October 2016	CPMU, LIC
		(vi) Update the master training plan showing the rationale for training activities, links to the research and demonstration activities, identifying the target beneficiaries and the corresponding budget.	December 2016	CPMU
4	Output 4: Effective Project Management	(i) Provide feedback on ADB's comments to the audit report and time-bound action plan	30 September 2016	CPMU, 2 FIs
		(ii) Mobilize Biogas Value Chain physical audit consultant	June 2017	CPMU and ADB
		(iii) Upload Project baseline data in Project website	November 2016	CPMU
		(iv) Assess the need to procure a project M&E software	November 2016	LIC
		(v) Establish an M&E system using the baseline data	January 2017	LIC
5	Environmental Safeguard Recommendations	(i) Improve quality of the environmental safeguards part in the next periodic project reports	January 2017	CPMU/LIC
		(ii) Internal monitoring report on environmental safeguards to be submitted to ADB on semi-annual basis	December 2016	CPMU/LIC
		(iii) Revise draft EMP with specific mitigation measures	November 2016	LIC
		(iv) Appoint an environmental focal point at PPMU	November 2016	CPMU
		(v) Establish an environmental management unit at CPMU	November 2016	CPMU
		(vi) Conduct Rapid Environmental Assessment and environmental screening for MBPs and LBPs to avoid significant adverse environmental impact	December 2016	PPMU/LIC
		(vii) Conduct IEE for B category MBP/LBP with specific EMP to mitigate the impacts	December 2016	PPMU/LIC
		(viii) Organize training for PPMUs on environmental safeguards	March 2017	CPMU/LIC
6	EM Recommendations	(i) Mobilize gender and EM specialist under LIC to provide timely support to CPMU and PPMUs to implement the IPDP including monitoring and reporting activities;	October 2016	CPMU/LIC
		(ii) Semi-annual internal monitoring report of IPDP implementation in	December 2016	CPMU/LIC

No	Issue	Agreed Action	Time frame	Responsibility
		2016 shall be submitted to ADB to disclose on ADB website;		
		(iii) Strengthen project information dissemination at village and commune levels to get more involvement of EMs in project activities in 07 provinces (Son La, Bac Giang, Soc Trang, Lao Cai, Phu Tho and Ha Tinh)	Continuously implementing up to end of project	PPMUs
		(iv) CPMU and LIC reintroduce the requirements in IPDP to 07 provinces mentioned above (PPMU staffs, local authority and mass organization) to implement IPDP in their area.	December 2016	CPMU/LIC
7	GAP recommendations	(i) CPMU and PPMUs conduct Gender awareness raising training and GAP briefing for key project staff (at least coordinator, gender focal, implementation, and technicians as part of the new training).	December 2016	CPMU, PPMUs
		(ii) CPMU/PPMUs reintroduce the reporting requirements (template, tools for collecting sex and gender related data for reporting GAP and the DMF gender targets) and GAP reporting will be done quarterly as part of the project progress report to ADB.	December 2016	CPMU, PPMUs
		(iii) PPMUs will actively outreach female participation in training courses (and as register of the project subsidies) and dissemination events, consultation, including to have separate consultation with women's only group through local women union' meeting to achieve the GAP targets (including those revised one after MTR).	Continuously implementing up to end of project	PPMUs
		(iv) LIC gender consultant will support closely PPMUs to implement and monitor and report GAP related targets.	October 2016	LIC, PPMUs
8	Review mission	Review mission	March 2017	ADB

IV. ACKNOWLEDGMENT

91. The Mission wishes to express its sincere appreciation for the cooperation and assistance extended by MOF, SBV, MARD, APMB and 12 IAs during the Mission. In particular, the Mission noted its appreciation to Vice Minister Mr. Le Quoc Doanh for prioritizing this Project for close supervision.

Signed in Ha Noi, 5 October 2016 by:

(Signed)

(Signed)

Mr. Tran Kim Long
Director General
International Cooperation Department
Ministry of Agriculture and Rural Development

Mr. Sanath D.B. Ranawanna
Senior Natural Resources Economist
Environment, Natural Resources and
Agriculture Division
Asian Development Bank

List of Appendixes

No	Title of Appendixes
1	List of Participants
2	Project overall physical progress
3	Progress on Project Design and Monitoring Framework
4	Revised Project Design and Monitoring Framework
5	Assessment of Viet Nam Bank for Social Policies
6	Contract Awards and Disbursement Projections
7	Proposed Reallocation
8	Compliance with Loan Covenants
9	Updated Ethnic Minority Development Plan
10	Updated Gender Action Plan Monitoring Table

APPENDIX 1. LIST OF KEY PERSONS MET

Name	Position	Email Account	Tel. No
MARD			
Dinh Vu Thanh	DDG, Department of Science Technology and Environment	thanhdv.khcn@mard.gov.vn	
Nguyen Xuan Khoi	Official, Department of Science Technology and Environment		
Tran Kim Long	DG, International Cooperation Department		
Le Minh Tuan	Official, International Cooperation Department	tuanlm.htqt@mard.gov.vn	0981626888
Nguyen Van Hung	Official, Department of Finance		
Nguyen Quynh Hoa	Department of Livestock Production		0915222899
Tong Xuan Chinh	Department of Livestock Production		0912491494
Nguyen Thi Lien Huong	Staff, National Extension Center		
Ta Huu Nghia	Staff, Economic Cooperation Department		
Nguyen Thanh Trung	Staff, National Institute of Animal Sciences		
Pham Viet Anh	Deputy Manager, APMB		
Duong Thi Phuong Thuy	Staff, APMB		
Nhu Van Thu	Institute of Technology		
Other line ministries			
Hoang Hai	DDG, Debt Management and External Finance Department, Ministry of Finance	hoanghai@mof.gov.vn	04 – 22208126
Pham Van Anh	Official, Debt Management and External Finance Department, Ministry of Finance	phamvanhanh@mof.gov.vn	0906263770
Do Hong Hai	Deputy Head of ADB Division, International Cooperation Department, State Bank of Viet Nam	dohonghai1975@yahoo.com	0988335577
Nguyen Hoang Phuong	Ministry of Planning and Investment		
Central Project Management Unit			

Nguyen The Hinh	Project Director	nguyenthe.hinh@gmail.com	
Hoang Thai Ninh	Deputy Project Director	hoangthaininh@gmail.com	
Vu Tien Dung	Deputy Project Director		
Pham Thi Thuy Linh	Officer		
Pham Viet Anh	Officer	phamvietanh.bnn@gmail.com	
Nguyen Minh Huong	Officer		
Phan Thuy Linh	Officer		
Nguyen Van Chung	Officer	chungnguyenvanhd@yahoo.com	
Trinh Thi Thuy Hoi	Officer		
Nguyen Thai Son	Officer		
Bui Thuy Linh	Officer		
Nguyen Thi Thanh Nga	Officer		
Dương Thị Diễm Hằng	Officer		
Nguyễn Thị Ngọc Lan	Officer		
Nguyễn Thị Minh Hằng	Officer		
Phạm Thị Trà Vinh	Officer		
Đỗ Ngọc Diệp	Officer		
Lương Huy Hoàng	Officer		
Nguyễn Thị Thành	Officer		
Nguyễn Thị Thu Hằng	Officer		
Đỗ Thanh Hương	Officer		
Vũ Hồng Hải	Officer		
Loan Implementation Consultants			
Manohar Sreshtha	Team Leader	manoharshrestha28@gmail.com	
Ho Thi Lan Huong	Deputy Team Leader		

Nguyen Van Bo	Consultant		
Bui Van Chinh	Consultant (biogas technology)		
Pham Thi Vuong	Consultant		
Nguyen Thi Bich Hanh	Independent Economic Consultant		
Nguyen Ngoc Long	Procurement Consultant		0983024607
Tran Thi Luong	Interpreter	tranluong79@gmail.com	0904158419
Bui The Hung	LIC Coordinator in Bac Giang province	hungtbu@gmail.com	0904159576
Dang Thi Phuong Lan	LIC Coordinator in Lao Cai province	orchidiac@gmail.com	0903238258
Bui Thi Lan Huong	LIC Coordinator in Tien Giang province	builanhuongvdt@yahoo.com.vn	01687626068
Tong Khiem	LIC Coordinator in Nam Dinh	tongkiemvtc@gmail.com	0976284559
Bui Thi Phuong Loan	LIC Coordinator in Ben Tre	Buiphuongloan.iae@gmail.com	0978494172
Le Ngoc Hung	LIC Coordinator in Binh Dinh	Ngochung05@gmail.com	0907414278
Nguyen Dinh Vinh	LIC Coordinator in Phu Tho	ndvinh@vnua.edu.vn	0913270655
Dao Van Thong	LIC Coordinator in Soc Trang	thongvasi@gmail.com	0988084366
Financial Intermediates			
Le Thu Ha	Officer, Coop Bank	lethuha262@gmail.com	0904983367
Nguyen Thanh Hanh	Division Head, Coop Bank		0912399699
Ngo Thanh Loan	Staff, Coopbank		
Do Hong Hai	Officer, Agribank		
Le Dieu Linh	Officer, Agribank		
Ho Thi Kim Thanh	Officer, Agribank	thanhhothikim@agribank.com.vn	0913207917
Phan Cu Nhan	Director of International Cooperation Division, Viet Nam Bank for Social Policies	nhanphancu@gmail.com	0975347021
Hoang Thi Chuong	Deputy Director of International Cooperation Division, Viet Nam Bank for Social Policies		
Tang Thi Hoa	Officer, International Cooperation Division, Viet Nam Bank		0936935789

	for Social Policies		
To Van Vinh	Deputy Director, Coopbank Binh Dinh		0979846251
Nguyen Thi Thuy	Head of Credit Divison, Coopbank Binh Dinh		0935289727
Nguyen Van Vu	Head of Credit Divison, Coopbank Nam Dinh		0948135764
Pham Thi Thu Hien	Coopbank Phu Tho		0989138979
Biogas Programs			
Nguyen Xuan Anh Tuan	Deputy Project Director, Lifsap (WB funded)		0983922877
Steven Von Eije	Program Manager, SNV		01696540648
Tien Giang province			
Nguyen Thanh Can	Project Director, PPMU		0913962338
Tran Thanh Phong	Deputy Project Director, PPMU		0918287639
Nguyen Thi Hoang Ngan	Accountant, PPMU		0983238890
Nguyen Thi Huynh	Officer (Gender, Ethnic Minority), PPMU		0975171825
Huynh Thanh Nong	Technical Officer, PPMU		0983801049
Le Khanh Duc	Technical Officer, PPMU		
Nguyen Thi Hoa	Accountant, PPMU		
Vo Thi My	Farmer (Dao Thanh ward, My Tho city)		
Nguyen Thi Ngoc Tuyen	Vice chairwoman of CPC (Dao Thanh commune, My Tho city)		
Nguyen Thi Diem	Vice chairwoman of WU (Dao Thanh commune, My Tho city)		
Tran Cong Len	Chairman of Garden Association (Dao Thanh commune, My Tho city)		
Trieu Thi Thuan	Local people - SBP(Dao Thanh commune, My Tho city)		
Nguyen Van Lich	Local people – SBP (Dao Thanh commune, My Tho city)		
Le Thi My Le	Local people – SBP (Dao Thanh commune, My Tho city)		0124415298
Le Thi Lieng	Local people – SBP (My Phong commune, My Tho city)		

Le Thi Tuoi	Local people – SBP (My Phong commune, My Tho city)		
Vo Thien Nghe	Certified mason, (Dao Thanh commune, My Tho city)		
Nguyen Ngoc Ngan	Potential beneficiary (Long Hoa B village, Dao Thanh commune, My Tho city)		
Tran Thi Thuy	Technician (Go Cong Dong District)		0939942936
Ben Tre province			
Phan Thu Suong	Project Director, PPMU		0918330169
Nguyen The Nghia	Project Coordinator, PPMU		01699073793
Nguyen Chanh Binh	Technical Officer, PPMU	Ncbinh.knkn@yahoo.com.vn	0919240240
Phan Thi Mai	Accountant, PPMU	Pthimai81@gmail.com	0988458482
Soc Trang province			
Quach Van Tay	Project Director, PPMU	taycctyst@gmail.com	0913708736
Le Van Quang	Project Coordinator cum Technical Officer, PPMU	Levanquang68@gmail.com	0918573883
Tran Thuy Trang	Accountant, PPMU	Trangthuy6801@yahoo.com	0978599238
Binh Dinh province (PPMU address: 110 Tran Hung Dao, Quy Nhon city, Binh Dinh province)			
Dao Van Hung	Project Director, PPMU	lcaspbinhdinh@gmail.com	056. 3946771
Huynh Ngoc Diep	Deputy Project Director, PPMU		
Le Ngoc Hung	Project Coordinator, PPMU		
Tran Thi Thu	Chief Accountant, PPMU		
Ho Thi Giac Ngan	Accountant, PPMU		
Le Thanh Vien	Technical Officer, PPMU		
Vo Hoang Hiep	Technical Officer, PPMU		
Phanh Thanh Gian	Technical Officer (M & E) , PPMU		
Huynh Thi Thao	Administrative Assistant, PPMU		
Nguyen Tien Lam	Driver, PPMU		
Duong Dinh Chien	Farmer (Nhon Loc commune, An Nhon town)		

Le Van Thinh	Farmer (Nhon Loc commune, An Nhon town)		
Luu Tran Dinh Chau	Farmer (Nhon Loc commune, An Nhon town)		
Dao Thanh Lap	Farmer (Nhon Loc commune, An Nhon town)		
Pham Anh Tuan	Technical Officer, An Nhon town's DARD		
Huynh Van Thanh	Technical Officer, An Nhon town's DARD		
Nguyen Huu Do	Vet Officer, An Nhon town's DARD		
Pham Thuy Mai	Vice Head of Nhat Vinh farm (Cat Hiep commune, Phu cat district)		
Tran Thi Chau	Local people – SBP (Hoai My commune - Hoai Nhon district)		
Ho Thi Tham	Local people – LBP (Hoai My commune - Hoai Nhon district)		
Dang Quoc Bao	Vice chairman of CPC (Hoai My commune - Hoai Nhon district)		
Phan Thi My Trang	Chairwoman of WU (Hoai My commune - Hoai Nhon district)		
Tran Thi Anh	Beneficiary (Hoai My commune - Hoai Nhon district)		
Tran Van Hong	Potential MDP beneficiary (Hoai My commune - Hoai Nhon district)		
Nam Dinh Province			
Hoang Thi To Nga	Project Director, PPMU	Ngasam67@gmail.com	0918951967
Ninh Van Hieu	Deputy Project Director, PPMU	Hieuty15@yahoo.com	0912850210
Vu Duc Luu	Chief Accountant, PPMU		0976724647
Dang Ngoc Quang	Accountant, PPMU	dangngocquangsnn@gmail.com	0915300469
Nguyen Trong Tan	Project Coordinator, PPMU	Trongtan78@gmail.com	0913472700
Le Thi Thao	Administrative Officer, PPMU	lethaosnnd@gmail.com	0912333031
Luong Thanh Tung	Technical Officer, PPMU	Luongthanhtungty44a@gmail.com	0977751856
Dinh Van Ngo	Technical Officer, PPMU	ngoknnd@gmail.com	0982686225
Cao Xuan Thang	Technical Officer, PPMU	thangttgnd@gmail.com	0912138067

Nguyen Thi Nhan	Technical Officer, PPMU	nhannguyensnnd@gmail.com	0986586496
Nguyen T. Minh Giang	Technical Officer, PPMU (Gender)	Minhgiang170@gmail.com	0988910407
Nguyen Duc Lam Nghiep	Technical Officer, PPMU	micronghiep@yahoo.com	0915055627
Tran Thi Hieu	Administrative Assistant, PPMU	tranhieunguyenthang@gmail.com	0948027663
Ha Danh Thao	Farm owner (My Tien commune, My Loi district)		
Le Thi Oanh	Farmer (My Thinh commune, My Loi district)		
Luong Thanh Chien	Vice -chairman of CPC (Nghia Tan commune, Nghia Hung district)		
Tran Thi Bich	Chairwoman of Farmer Union (Nghia Tan commune, Nghia Hung district)		
Nguyen Thi Vui	Extension staff (Nghia Hung district)		
Ms. Dan	Chairwoman of Women Union (Nghia Tan commune, Nghia Hung district)		
Nguyen Van Tho	Local people – LBP (Nong Truong Rang Dong town, Nghia Hung district)		
Lai Thi Thim	Local people – SBP (Nghia Tan commune, Nghia Hung district)		
Vu Thi Lien	Local people – SBP (Nghia Tan commune, Nghia Hung district)		
Vu Thi Tha	Local people (Nghia Tan commune, Nghia Hung district)		
Lao Cai province			
Pham Thi Hoa	Deputy Project Director, PPMU	phamhoalc@gmail.com	0919706042
Cao Hoa Binh	Project Officer, PPMU	choabinh@gmail.com	0984667817
Hoang Manh Thang	Project Officer, PPMU	mthangbio@gmail.com	0969134154
Nguyen Thi Ngoc Anh	Project Accountant, PPMU	anhnn137@gmail.com	0904705590
Son La Province			
Le Van Thanh	Project Director, PPMU		0904109456

Lo Thanh Bang	Project Coordinator, PPMU	Banglothan75@gmail.com	0988432886
Nguyen Huu Thuong	Project Officer, PPMU	timbanthatkho@gmail.com	0975113688
Phu Tho province			
Tu Anh Son	Deputy Director of DARD - Project Director, PPMU	tusonpt@gmail.com	0989149457
Tran Thi Thanh Thuy	Head of Crop Production, DARD – Deputy Project Director, PPMU	Thuy.trongtrot@gmail.com	0982765215
Le Toan	Agricultural Promotion Center - Project Officer, PPMU	toanknpt@gmail.com	0982542151
Le Thi Ha	Livestock Division, DARD - Project Officer, PPMU	lethihachannuoi@gmail.com	0985830883
Hoang Manh Thong	Livestock Division, DARD - Project Officer, PPMU (gender)	Hoangmanhthong1985@gmail.com	01685627899
Nguyen Thi Kim Thoa	Accountant	Nguyenthikimthoa243@gmail.com	01675700098
Ha Trong Tai	Mason (Xuan Loc commune, Thanh Thuy district)		
Nguyen Thu Hoai	Technician (Xuan Loc commune, Thanh Thuy district)		
Nguyen Thi Minh	Farmer (Xuan Loc commune, Thanh Thuy district)		
Pham Thi Kim Xung	Farmer (Xuan Loc commune, Thanh Thuy district)		
Ha Tien Dung	Farmer (Xuan Loc commune, Thanh Thuy district)		
Nguyen Quoc Loi	Farmer (Xuan Loc commune, Thanh Thuy district)		
Nguyen Duc Thu	Farm owner (Hoang Kim Company Ltd)		
Nguyen Tien Phuc	Chairman of Y Son Commune People's Committee (Ha Hoa district)		
Ha Thi Kim Thanh	Local people – SBP (Y Son commune, Ha Hoa district)		
Chu Thi Hanh	Local people – SBP (Y Son commune, Ha Hoa district)		
Nguyen Duc Xuong	Mason (Y Son commune, Ha Hoa district)		
Tran Trong Nghia	Local people – SBP (Y Son commune, Ha Hoa district)		
Ha Tinh province			
Nguyen Xuan Hoan	Project Director, PPMU	xuanhoansnn@gmail.com	0944667999

Nguyen Xuan Liem	Chief Accountant, PPMU	liemhoi@gmail.com	0913350842
Dinh Ngoc Duc	Technical Officer, PPMU	Dinhngocduc50dhv@gmail.com	0911095586
Dang Oanh Khanh	Technical Officer, PPMU	Danhkhanh.xda@gmail.com	0918477011
Bac Giang province			
Dao Xuan Vinh	Project Coordinator, PPMU	daoxuanvinhbg@gmail.com	0983015971
Duong The Khoa	Technical Officer, PPMU		
Le Trung Kien	Deputy Project Director, PPMU		
Luu Thi Phuong Dung	Gender staff, PPMU		
Luong Van Sau	Mason (Dong Hung commune, Luc Nam district)		
Ha Thi Mai	Local ethnic minority – SBP (Dong Hung commune, Luc Nam district)		
Luong Khanh Thanh	Local ethnic minority – SBP (Dong Hung commune, Luc Nam district)		
Nguyen Van Che	Local people (Dong Hung commune, Luc Nam district)		
Dang Thi Dong	Local people (Dong Hung commune, Luc Nam district)		
Duong Van Linh	Local ethnic minority – SBP (Tam Di commune, Luc Nam district)		
Ly Thi Ha	Local ethnic minority – SBP (Tam Di commune, Luc Nam district)		
Hoang Van Dung	Vice Chairman, CPC (Dong Phu commune, Luc Nam district)		
Nguyen Thi Nhi	Chairwoman, WU (Dong Phu commune, Luc Nam district)		
Nguyen Duc Bay	Chairman of FU (Dong Phu commune, Luc Nam district)		

APPENDIX 2. OVERALL PROJECT PHYSICAL PROGRESS

No.	Components/Activities	Weight	Rated Progress (0 - 100)	Weighted Progress
	Component 1: Expanded Use of Livestock Waste Management Infrastructure			
	Standardizing and disseminating a design package for Biogas Value Chain Infrastructure	5.24%	27	1.43%
	Strengthening the capacity of relevant agencies to handover the monitoring of all constructed Biogas Plants; and Monitoring and ensuring the effective use of BPs with adequate environmental facilities	3.32%	39	1.30%
	Monitoring the disbursement of funds paid to Eligible Beneficiaries as a financial incentive to carry out Eligible Subprojects	11.48%	58	6.61%
	Developing training modules for CSAWMP and providing training to supervisors, operators and other stakeholders for application and mainstreaming in the project provinces	1.35%	42	0.56%
	Monitoring annual attributable CO2 reduction and issuance of certified emission reduction carbon revenues; and Providing capacity building to government staff and relevant agencies to continuously manage biogas development	0.28%	61	0.17%
	Component 2: Credit Lines for Biogas Value Chains			
	FIs to provide credit lines to Eligible Beneficiaries to finance Biogas Value Chain Infrastructure and other climate smart agriculture waste management investments which satisfy the Subproject Eligibility Criteria	51.74%	1	0.62%
	Component 3: Enhanced CSAWMP technology transfer			
	Utilizing farmer-based research including using biochar and other agricultural wastes as organic fertilizers; applying other efficient low greenhouse gas emission agricultural practices which generate bioenergy, managing waste treatments in aquaculture and other CSAWMP	9.06%	0	0.03%
	Developing livestock waste management models for agricultural production and greenhouse gas emission reduction	5.03%	8	0.41%
	Support research and train staff in efficient CSAWMP including organizing study tours; Developing training programs, textbooks, and syllabus for training farmers on appropriate techniques for CSAWMPs and providing vocational training for farmers; and Training extension staff and farmers in low carbon agricultural production technologies to promote application of the technologies in agricultural production	2.27%	23	0.52%
	Establishing an information system (e-library, journals, and database) for sharing CSAWMP technologies and training; Upgrading CSAWMP – based map sets for 7 agro-ecological regions to forecast the direct impact of climate change and provide support for agricultural planning	1.54%	9	0.14%
	Component 4: Effective project management			
	Establish CPMU and PPMUs to be operational; Conduct a gender awareness raising workshop for PMUs	3.68%	99	3.65%
	Engage consultants for start-up and auditing, and to develop the PPMS, with sex- and ethnicity-disaggregated data and including gender action plan monitoring; Undertake baseline surveys in all project provinces with collection and analysis of sex- and ethnicity-disaggregated data; Prepare progress reports and submit to ADB on a regular basis	5.02%	19	0.96%
	Total	100.00%		16.40%

**APPENDIX 3. PROGRESS ON PROJECT DESIGN
AND MONITORING FRAMEWORK**

Design Summary	Performance Targets/Indicators	Issues, Progress and Other Remarks
1. Impact		
Less agriculture related pollution	<p>By 2024 (from baselines in 2013) in selected participating communities:</p> <p>(i) Livestock waste effluents in water resources is reduced by at least 50%.</p> <p>(ii) GHG emissions are reduced by about 0.2 tons of CO2 equivalent annually per cubic meter capacity of biogas plants.</p>	<p>Initial assessment as of 31 August 2016</p> <p>(i) Livestock waste effluents in water resources is reduced by at least 69.4 % (COD reduced from 1848.3 to 564.6 at households of LCASP biogas plants).</p> <p>(ii) Amount of CO2 emission per 1m³ of LCASP biogas digester is 0.54 ton.</p>
2. Outcome		
Greater uptake of CSAWMP	<p>By 2018 (from baselines in 2013) in the project areas:</p> <p>(i) At least 70% bio-slurry is converted to organic fertilizers.</p> <p>(ii) At least 80% energy produced by BVCs is utilized.</p> <p>(iii) Daily workload of women and children is reduced by 1.8–2 hours, on average.</p>	<p>Initial assessment as of 31 August 2016</p> <p>(i) Only 10% bio-slurry is converted to organic fertilizers.</p> <p>(ii) At least 88.4% energy produced by BVCs is utilized.</p> <p>(iii) Daily workload of women and children is reduced by 2.85 hours.</p>
3. Components/ outputs		
Output 1: Expanded Use of Livestock Waste Management Infrastructure	(i) 36,000 SBPs, 40 MBPs, and 10 LBPs and associated value chain infrastructure constructed and operating by 2018. At least 5% of total SBPs will be constructed for ethnic minorities in 3 selected provinces.	As of 31 August 2016, a total of 38,478 SBVCs and 07 MBPs have been constructed by livestock farming HH of which 1,709 SBPs (4.44%) are constructed for ethnic minorities in 3 selected provinces. 2 MBPs and 2 LBPs have been constructed after 31 August 2016.
	(ii) 36,000 SBP operators, 500 masons, 160 technicians, 10 engineers and 10 contractors trained and registered in biogas associations by 2018. At least 50% of trainees on biogas use will be women; 20% of trainees on SBP construction, and 20% of those trained on biogas management and technical issues will be women.	As of 31 August 2016, 39,905 SBP operators, 321 masons, 330 technicians, 28 engineers and 10 contractors trained; 13,957 (34.98%) trainees on biogas use are women; 17 (5.30%) trainees on SBP construction are women; 54 (16.36%) trainees on biogas management and technical issues are women.
	(iii) Biogas plant database managed effectively by 2014, including registration in both husband's and wife's names.	National biogas database established, software to merge data on biogas plants procured
Output 2: Credit Lines for Biogas	(i) 50% of credit lines will be under joint accounts and/or on behalf of	As of 31 Aug 2016, 277 sub-loans have been disbursed with total

Design Summary	Performance Targets/Indicators	Issues, Progress and Other Remarks
Value Chains	women by 2018.	VND16,191 million (ADB financing amount of VND8,599 million, equivalent to US\$0.391 million) of which 148 (53.43%) of credit lines are under account on behalf of women.
	(ii) BVC infrastructure financing products are mainstreamed in two financial intermediaries by 2018.	The 2 financial intermediaries participated in Project are VBARD and Co-op Bank.
	(iii) ICMD funds are fully channeled into 36,050 accounts of beneficiaries by 2017.	As of 31 August 2016, ICMD funds are fully channeled into 29,487 accounts of beneficiaries.
Output 3: Enhanced CSAWMP technology transfer	(i) Well-established CSAWMP packages are disseminated in 10 participating provinces by 2016.	As of 31 August 2016, packages of 7 CSAWMP models for 10 participating provinces have been updated in procurement plan.
	(ii) One long-term, community-based CSAWMP technology transfer and research strategy is elaborated by 2014, and includes communication, dissemination, and mainstreaming plans.	As of 31 Aug 2016, 5,397 farmers (2,086 women, 38.65%) and 236 extension staff (54 women, 22.88%) trained on CSAMWPs.
	(iii) Critical CSAWMP knowledge gaps are identified and at least 21 research, dissemination, and mainstreaming packages carried out according to a priority list, by 2018. 30% of search projects will include gender issues by 2016.	As of 31 August 2016, CSAWMP research strategy developed and adaptive research on 6 CSAWMP topics are being procured (Submission 0 submitted to ADB).
Output 4: Effective project management	(i) A CPMU and 10 PPMUs established and operational with adequately skilled staff and facilities in MARD by first quarter of 2013. At least 30% of staff are women and a gender focal point will be appointed by 2014.	A CPMU and 10 PPMUs established in second quarter of 2013. As of 31 August 2016, 55 out of 120 staff are women, equivalent to 45.83%. The gender focal point was appointed in 2016.
	(ii) PPMS with sex-disaggregated and ethnicity data collected and reported operating effectively in 10 provinces by 2015.	As of 31 August 2016, PPMS with sex-disaggregated and ethnicity data collected and reported operating in 10 provinces.
	(iii) Carbon market coordinator and 36,000 biogas owners are organized through associations by 2014.	Not yet done

ADB = Asian Development Bank, BVC = biogas value chain, CO₂ = carbon dioxide, CPMU = central project management unit, CSAWMP = climate-smart agricultural waste management practices, GHG = greenhouse gas, ICMD = incentive for carbon market development, LBP = large biogas plant, MARD = Ministry of Agriculture and Rural Development, MBP = medium-sized biogas plant, MONRE = Ministry of Natural Resources and Environment, PPMS = project performance management system, PPMU = provincial project management unit, SBP = small biogas plant.

APPENDIX 4. REVISED PROJECT DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Linked activities
1. Impact		
Less agriculture related pollution	<p>By 2024 (from baselines in 2013) in selected participating communities:</p> <p>(i) Livestock waste effluents in water resources is reduced by at least 50%.</p> <p>(ii) GHG emissions are reduced by about 0.2 tons of CO2 equivalent annually per cubic meter capacity of biogas plants.</p>	
2. Outcome		
Greater uptake of CSAWMP	<p>By 2018 (from baselines in 2013) in the project areas:</p> <p>(i) At least 70% bio-slurry is converted to organic fertilizers.</p> <p>(ii) At least 80% energy produced by BVCs is utilized.</p> <p>(iii) Daily workload of women and children is reduced by 1.8–2 hours, on average.</p>	
3. Components/ outputs		
Output 1: Expanded Use of Livestock Waste Management Infrastructure	(i) 65,000 SBPs, 40 MBPs and 2 LBPs and associated value chain infrastructure constructed and operating by June 2019. At least 5% of total SBPs will be constructed for ethnic minorities in project provinces.	1.1, 1.2
	(ii) ICMD funds are fully channeled into at least 65,042 accounts of beneficiaries by June 2019	1.3
	(iii) 65,000 SBP operators, 500 masons, 500 technicians, 28 engineers and 10 contractors trained by June 2019. At least 50% of trainees on biogas use will be women; 7% of trainees on SBP construction, and 20% of those trained on biogas management and technical issues will be women.	1.4
	(iv) Single national biogas plant database managed effectively by 2017, including registration in both husband's and wife's names.	1.5
Output 2: Credit Lines for Biogas Value Chains and other climate smart agriculture waste management investments	(i) 50% of credit lines will be under joint accounts and/or on behalf of women by June 2019.	2.1
	(ii) At least 15,000 households raising livestock have accessed credits for BVC and other climate smart agriculture waste management investments from the participating Financial Intermediaries by June 2019.	

Design Summary	Performance Targets/Indicators	Linked activities
Output 3: Enhanced CSAWMP technology transfer	(i) CSAWMP research strategy developed and adaptive research on at least 6 CSAWMP topics conducted by June 2019. At least 2 research topics will include gender issues.	3.1
	(ii) At least 7 CSAWMP models are successfully demonstrated and disseminated in 10 participating provinces by June 2019.	3.2
	(iii) At least 7,000 farmers, 700 extension staff, and 200 researchers trained on CSAMWPs by June 2019. At least 50% of farmers and 30% of extension staff trained are women.	3.3, 3.4
Output 4: Effective project management	(i) A CPMU and 10 PPMUs established and operational with adequately skilled staff and facilities in MARD by first quarter of 2013. At least 30% of staff are women and a gender focal point will be appointed by 2014.	4.1, 4.2
	(ii) PPMS with sex-disaggregated and ethnicity data collected and reported operating effectively in 10 provinces by 2015.	4.3, 4.4, 4.5

No.	Activities with Milestones	Proposed ADB financing amount
1	Expanded Use of Livestock Waste Management Infrastructure	
1.1	Standardizing and disseminating a design package for Biogas Value Chain Infrastructure by 2017	2,500,000
1.2	Strengthening the monitoring capacity of relevant agencies to handover and monitor the constructed biogas plants by June 2019	2,459,300
1.3	Monitoring the disbursement of funds paid to Eligible Beneficiaries as a financial incentive to carry out Eligible Subprojects by June 2019	10,485,455
1.4	Capacity building in designing, constructing, operating and monitoring biogas plants by June 2019	1,209,726
1.5	Strengthening the capacity and providing equipment for relevant agencies to manage national biogas database by 2017	343,682
2	Credit Lines for Biogas Value Chains and other climate smart agriculture waste management investments	
2.1	FIs to provide credit lines to Eligible Beneficiaries to finance Biogas Value Chain Infrastructure and other climate smart agriculture waste management investments which satisfy the Subproject Eligibility Criteria by June 2019	29,817,452
3	Enhanced CSAWMP technology transfer	
3.1	Utilizing farmer-based research including using biochar and other	5,637,583

	agricultural wastes as organic fertilizers; applying other efficient low greenhouse gas emission agricultural practices which generate bioenergy, managing waste treatments in aquaculture and other CSAWMP by June 2019	
3.2	Developing livestock waste management models for agricultural production and greenhouse gas emission reduction by 2018	4,306,732
3.3	Capacity building of researchers, extension staff and farmers including vocational training program, training packages and study tours on CSAWMPs by June 2019.	1,206,182
3.4	Establishing an information system (e-library, map sets on agro-ecological zones and distance learning system) to disseminate awareness and knowledge CSAWMP by June 2019	790,000
4	Effective project management	
4.1	Establish CPMU and PPMUs to be operational by 2013	3,973,767
4.2	Conduct a gender awareness raising workshop for PMUs by 2016.	
4.3	Engage consultants for start-up and auditing, and to develop the PPMS, with sex- and ethnicity-disaggregated data and including gender action plan monitoring by 2015.	2,986,820
4.4	Undertake baseline surveys in all project provinces with collection and analysis of sex- and ethnicity-disaggregated data by 2016.	
4.5	Prepare progress reports and submit to ADB on a regular basis by 2018.	
	IDC	2,203,242
	Total	67,919,941

ADB = Asian Development Bank, BVC = biogas value chain, CO₂ = carbon dioxide, CPMU = central project management unit, CSAWMP = climate-smart agricultural waste management practices, GHG = greenhouse gas, ICMD = incentive for carbon market development, LBP = large biogas plant, MARD = Ministry of Agriculture and Rural Development, MBP = medium-sized biogas plant, MONRE = Ministry of Natural Resources and Environment, PPMS = project performance management system, PPMU = provincial project management unit, SBP = small biogas plant.

APPENDIX 5. ASSESSMENTS ON THE INCLUSION OF VIET NAM BANK FOR SOCIAL POLICIES (VBSP) AS A FINANCIAL INTERMEDIARY

A. Overall Fit of VBSP

1. Medium and large farms construct biogas plants out of compliance with environmental regulations. These farms have limited access to technologies or financial incentive to utilize the biogas effectively. Consequently, a significant fraction of the biogas is released to the atmosphere, negating the environmental benefits of biogas production.
2. By contrast, small farms are able to utilize the biogas effectively for meal preparation, yielding substantial fuel-cost and time savings. Visited small farms reported fuel cost savings of around 2.4 million VND per year, against an initial SBP investment cost of 13 million. Female responsible for meal preparation save between 30 and 40 minutes of time per meal. However, the nutrient-rich slurry is not used as fertilizer but rather released to the environment through gradual permeation from the collection ponds. In view of this, Component 2 should target small farms to maximize GHG emissions reduction. Genuine demand for MBP and LBP credit should grow spontaneously once waste management technologies (e.g., power generation, manure separation, fertilizer production) are shown under Component 3 of this Project to be practical and economical.
3. VBSP is especially suited for small transaction lending since it commands an extensive outreach network. Its business model relies on local mass organizations such as women's union and farmers' groups to facilitate loan applications, applicant screening and debt collection. In return for their services, the mass organizations receive commission fees ranging between 0.36% and 0.60% per year of the outstanding loan balance. Commission expenses are about 20% of VBSP's interest income from lending activities. In addition, VBSP sends mobile transaction units to 11,000 communes at fixed dates every month to provide banking services at the offices of Commune People's Committee. Each of the 613 district office is equipped with 2 such mobile units, which translates to 1,226 mobile units. There, all VBSP lending programs and lending rates are posted to raise public awareness. In comparison, neither of the existing FIs has a comparable level of penetration as their lowest branch office is at the district level. VBSP is a good fit for Component 2 given its specialization in small loan transactions and network.

B. Financial Due Diligence on VBSP

4. Historically, VBSP has acted as a government agency to implement social policies. For some programs, VBSP mobilizes funds from capital market but lends at below cost-recovery rates. The government provides subsidies to cover operating costs. During the initial screening of financial intermediaries, VBSP was considered but ultimately not selected because of substantial government subsidy.¹⁰
5. However, since the time of initial screening, VBSP has shifted towards market-based lending. Market based lending programs consisted of 19% (20.1 trillion VND) of the total portfolio in 2011, and increased to 47% (66.9 trillion VND) in 2015. Interest subsidies decreased significantly from 3,034 billion VND in 2011 to 750 billion in 2015, as is reflected in VBSP's income statement (Table 2).

¹⁰ "Assessments of Credit Lines and Financial Intermediaries", Low Carbon Agricultural Support Project document.

Table 1: Summary of VBSP's Market and Non-Market Based Lending Programs

	<u>2011</u>			<u>2015</u>		
	Loan (trillion VBN)	Portfolio (%)	Weighted Average lending rate (% p.a.)	Loan (trillion VBN)	Portfolio (%)	Weighted Average lending rate (% p.a.)
Market based lending	20.1	19.3%	10.8%	66.9	47.0%	8.5%
Non-market based lending	83.7	80.7%	7.5%	75.5	53.0%	6.4%
Total lending	103.7	100.0%	8.1%	142.4	100.0%	7.4%

6. A couple observations on the income statement are worth mentioning. First, VBSP experienced strong growth between 2011 and 2015. In 2015, the average lending interest rate is 7.9% and the average fund mobilization interest rate is 4.3%.¹¹ The average interest rate spread is about 3.6%, still slightly less than the cost recovery spread of 3.9%.
7. Secondly, VBSP has experienced steady growth. The cost structure is in general stable. The only expense item that increased significantly is commissions paid to mass organizations, which are consistently around 20% of interest income. Whereas interest income from lending activities increased by 85% between 2011 and 2015, the total variable operating costs (the sum of commissions expenses, staff expenses, and managerial and operation expenses) increased only by 52%. Partly attributable to a growing share of market-based lending, these trends suggest that business is growing – either customers take out higher loans, or VBSP has reached out to more customers.
8. VBSP aims to wean from subsidies entirely by 2020 by cross-subsidizing between its market and non-market based programs. Given its role as a government agency, VBSP may not be able to achieve complete financial independence as planned but it is striving towards that direction. The factors that weighed against VBSP have overtime become less decisive.
9. Since the biogas program will be at near-market rate,¹² VBSP's market based portfolio will also be strengthened. VBSP's operations are increasingly geared towards market based lending, and interest income is increasing faster than operating costs. If VBSP has demonstrated success in terms of drawing borrowers and ensuring on-time repayment, VBSP should be included as a financial intermediary for Component 2.
10. Owing to VBSP's narrow definition of non-performing loan (NPL), the reported NPL ratio is 1% of the total lending.¹³ In addition, loss provision is set at 0.05% of total lending to minimize equity injection by the government, VBSP's sole shareholder. Consequently, the balance sheet and the income statement may not provide reliable information on loan collection. For this purpose, two of VBSP's lending programs were examined more closely. These individual programs, one market based and the other non-market based, were chosen on account of their large share in the overall portfolio.

¹¹ The average lending rate is computed by dividing the interest income by average total lending; and the mobilization interest rate by dividing the funds mobilization expenses by average total borrowing.

¹² For the two existing FIs, their lending rate is 10 percentage points less than the prevailing market interest rate.

¹³ Only when borrowers are deceased or missing, or when loan proceeds are not used for the intended purposes, will loans be considered non-performing. Otherwise, overdue loans are classified either as extended (subject to interest charges) or frozen (interest-free).

Table 2: VBSP Income Statement Between 2011 and 2015 (billion VND)

	Dec. 2011	Dec. 2012	Dec. 2013	Dec. 2014	Dec. 2015
Total Lending	103,097	113,167	120,417	127,708	140,652
Total Borrowing	82,237	92,889	93,900	141,202	126,121
A. Income	9,900	11,262	12,226	12,145	11,854
- Interest income from lending activities	5,709	7,364	8,755	9,778	10,591
- Other income from credit activities	673	132.8	38	58	60
- Interest income from deposits	319	214.9	127	89	150
- Income from payment activities	0	0	0	0	0
- Income from treasury activities	0	0	0	0	0
- Income from other activities	147	191.4	217	258.8	296
- Subsidy from state budget for minus interest spread and operating costs	3,034	3,341	3,079	1,937	750
- Other incomes	16	17	10	26	7
B. Expenses	9,498	10,592	12,050	11,781	11,462
- Funds mobilization expenses	5,146	6,338	6,653	6,167	5,723
- Expense associated with payment and treasury activities	23	21	30	37	42
- Fees paid for entrusted lending services	1,243	1,412	1,862	2,065	2,131
- Asset expenses	315	361	351	357	383
- Staff expenses	1,699	2,093	2,135	2,346	2,379
- Managerial and operation expenses	284	307	359	360	395
- Provisions	784	54	651	439	401
- Other expenses	5	5	10	9	8
C. Profit	401	670	176	365	392

C. VBSP's Existing Lending Programs

11. **Safe Water and Rural Sanitation Program:** This is a market based lending program and closely resembles in its lending purposes to the proposed biogas lending program. The program was established in 2004 to finance households to build latrines and related facilities, including small biogas plants. As of December 2015, it accounts for 14.1% (20,096 billion VND) of VBSP's total portfolio, or 30.0% of its market based portfolio.
12. The performance of this program is presented in Table 3. Annual debt collection is consistently at around 20% of the previous year's outstanding balance. During meetings, specific questions were raised concerning the possibility of taking new loans to cover due loans. VBSP representatives responded that debt repayments are by installment and not lump-sum (bullet repayment). Furthermore, if loan proceeds are discovered to be used for purposes other than what were declared in loan applications, immediately the loans are considered non-performing and are callable. The observed repayment pattern should be reliable.
13. Currently, the program charges an annual interest rate of 9%, with an average loan life of 5 years. In 2015, the program lent to 716,000 new households, and the average size was 11.2 million VND. The financing terms are comparable to VBSP's proposed biogas credit program (see Section E). Between 2011 and 2015, the number of borrowers grew steadily but averaged about half a million each year.

14. **Poor Household Lending Program:** This is a non-market based lending program that charges an annual interest rate of 6.6% and accounted for 25.5% (36,384 billion VND) of the total portfolio as of 2015. Similar debt repayment pattern is observed.

15. In summary, the stable repayment rate and broad customer base that these program enjoy are welcoming indications of VBSP's capacity to implement the biogas program.

Table 3: Loan Collection and Loan Classification of VBSP's Safe Water and Rural Sanitation Program Between 2011 and 2015 (billion VND)

Year	Loan turnover	Loan collection	Write-off	Outstanding loan	Loan classification			New borrowers
					due loan	overdue loan	frozen loan	
2011	2,961	1,377	0	8,540	8,499	41	0	420,502
2012	3,821	1,729	0	10,631	10,584	47	0	530,994
2013	3,523	2,035	3	12,116	12,069	44	3	482,491
2014	6,071	2,800	2	15,386	15,341	33	13	622,130
2015	8,026	3,313	3	20,096	20,053	28	15	716,307

Table 4: Loan Collection and Loan Classification of VBSP's Poor Household Lending Program Between 2011 and 2015 (billion VND)

Year	Loan turnover	Loan collection	Write-off	Outstanding loan	Loan classification			New borrowers
					due loan	overdue loan	frozen loan	
2011	11,218	8,900	0	38,482	37,804	572	106	841,539
2012	13,482	10,383	22	41,560	40,835	580	146	864,831
2013	11,471	11,295	93	41,650	40,965	452	234	621,669
2014	9,805	12,097	106	39,252	38,661	226	364	444,995
2015	10,038	12,872	34	36,384	35,815	193	376	392,554

D. Due Diligence on the Proposed VBSP Biogas Program

16. For the proposed biogas program, VBSP envisions a total lending of 878 billion VND (40 million USD), of which 746 billion VND (85%, or 34 million USD) will be sourced by ADB under Component 2 of the Project, and the balance of 132 billion VND (15%, or 6 million USD) by own resources.¹⁴ The financing terms are similar to VBSP's Safe Water and Rural Sanitation Program, as follows:

- a. Average loan size of 20 million VND up to a maximum of 50 million VND;
- b. A tentative lending interest rate of 9% per year;
- c. A loan life up to 5 years with a 6-month grace period.

17. Since biogas plant investment is non-income generating, it is necessary to investigate whether the terms are affordable to small farms. During field visits, households reported an average fuel cost savings of 2.4-3 million VND per year against an initial investment of 13 million VND. The investment cost can thus be recouped within 5 to 6 years, and the fuel cost savings itself can cover much of the debt repayment. A 5-year loan life is also adequate since, typically, a 50 million VND loan carries a loan life of 18 to 24 months.

18. The financing terms should be able to attract small farms. Simplified borrowing procedures, accessibility to banking services and most importantly the waiving of collateral will also enhance the appeal of the loan. For many these are more influential considerations than the financing terms in their borrowing decisions.

¹⁴ It should be noted that the 877.7 billion VND is a small fraction in VBSP's 142,400 billion VND lending.

19. Table 6 presents VBSP's proposed disbursement schedule for the biogas program. The target is realistic considering the performance of the Safe Water and Rural Sanitation Program.

Table 6: Proposed Disbursement Schedule for the Biogas Program

Implementation period	Borrowers	Total lending (billion VND)
Year 1 (2017)		
Quarter 1	2,194	43.9
Quarter 2	4,389	87.8
Quarter 3	6,583	131.7
Quarter 4	6,583	131.7
Year 1 Subtotal	19,749	395.0
Year 2 (2018)		
Quarter 1	6,583	131.7
Quarter 2	6,583	131.7
Quarter 3	6,583	131.7
Quarter 4	4,389	87.8
Year 2 Subtotal	24,138	483.8
Total	43,887	877.7

APPENDIX 6. OVERALL PROJECTED DISBURSEMENT SCHEDULE FOR ADB LOAN

No.	CPMU/ Province	Disbursement Projections (VND mil.)													
		2016		2017				2018				2019			
		Q III	Q IV	Q I	Q II	Q III	Q IV	Q I	Q II	Q III	Q IV	Q I	Q II	Q III	Q IV
*	CPMU	1,303	7,998	5,747	10,675	16,173	12,895	27,376	37,611	20,880	21,389	24,396	21,870	20,554	15,241
1	Binh Dinh	163	2,631	4,708	3,390	3,390	7,747	3,488	334	4,084	1,834	192	163	0	0
2	Bac Giang	392	2,261	3,031	1,239	2,506	9,501	1,931	331	1,331	731	331	333	237	
3	Ben Tre	259	3,292	2,936	4,925	2,796	3,046	4,590	1,485	1,407	659	259	259	259	0
4	Ha Tinh	297	3,227	2,836	5,196	3,240	2,173	6,049	2,772	971	2,571	1,288	297	297	0
5	Lao Cai	1,411	2,950	981	2,661	1,120	773	3,331	1,073	273	1,773	873	270	204	26,691
6	Nam Dinh	1,679	2,140	5,043	874	3,634	4,771	1,925	405	1,605	812	279	279	283	36,583
7	Phu Tho	1,160	3,330	7,806	4,552	4,709	4,208	10,127	3,010	611	660	160	160	160	0
8	Soc Trang	264	3,697	1,924	2,804	2,391	1,789	4,439	982	343	2,843	1,299	299	264	0
9	Son La	570	3,081	2,325	733	870	5,950	1,247	247	412	1,525	430	247	247	23,525
10	Tien Giang	791	2,065	1,321	3,059	1,233	1,090	4,028	2,488	817	295	295	295	295	0
Total in VND mil.		8,289	36,672	38,658	40,106	42,061	53,944	68,530	50,739	32,735	35,093	29,803	24,472	22,800	102,040
Total in USD mil.		0.372	1.645	1.734	1.799	1.887	2.420	3.074	2.276	1.468	1.574	1.337	1.098	1.023	2.191
Credit lines		0	0	0.5	0.5	0.5	0.5	1	1	1	5	2	5	5	7.947
Total		0.372	1.645	2.234	2.299	2.387	2.920	4.074	3.276	2.468	6.574	3.337	6.098	6.023	10.138

APPENDIX 7. REALLOCATION TABLE (As of 31 August 2016)

No.	Category	Current Allocation	Disbursed Amount	Adjustment	Revised Allocation
		(USD)	(USD)	(USD)	(USD)
1	BVC MANAGEMENT AND CSAWMP CIVIL WORKS	4,839,298	27,316	(631,382)	4,207,916
2	CREDIT LINES FOR BVC MANAGEMENT CONSTRUCTION THROUGH FIS	32,583,010	110,094	(2,765,558)	29,817,452
3	INCENTIVES FOR CARBON MARKET DEVELOPMENT	7,642,266	3,307,644	2,843,189	10,485,455
4	EQUIPMENT	929,690	218,841	429,504	1,359,194
5	VEHICLES	395,890	395,789	(101)	395,789
6	TRAINING AND WORKSHOPS	2,815,959	867,716	313,631	3,129,590
7	CONSULTING SERVICES	2,697,191	509,557	539,629	3,236,820
8	RESEARCH AND DEVELOPMENT	5,704,982	0	(67,399)	5,637,583
9	ORGANIZING CSAWMP TECHNOLOGY TRANSFER	3,165,851	0	1,140,881	4,306,732
10	INCREMENTAL OPERATING COST	2,181,390	1,000,047	952,978	3,134,368
11	INTEREST CHARGE	2,203,242	181,959	0	2,203,242
12	UNALLOCATED	2,748,039	0	(2,748,039)	0
99	IMPREST ACCOUNT_CPMU	-1,612	3,436,959	1,612	0
99A	IMPREST ACCOUNT_VBARD	8,301	1,700,000	(8,301)	0
99B	IMPREST ACCOUNT_COOPBANK	644	1,700,000	(644)	0
	Total	67,914,141	13,455,922	0	67,914,141

APPENDIX 8. PROJECT SPECIFIC COVENANTS - AS DISPLAYED IN LEGAL AGREEMENTS

Product	Schedule	Para No.	Description	Remarks/Issues	Type
Loan 2968	Article 4	1	(b) In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all the obligations set forth in Schedule 5 to this Loan Agreement and the Project Agreement.	Being complied with.	Others
Loan 2968	Article 4	1	(a) The Borrower shall cause the FIs to carry out the Project with due diligence and efficiency and in conformity with sound applicable technical, financial, business and development practices.	Being complied with	Financials
Loan 2968	Schedule 5	1	The Borrower shall ensure that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by the Borrower and ADB. In the event of any discrepancy between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.	Being complied with.	Others
Loan 2968	Article 3	1	The Borrower shall cause the proceeds of the Loan to be applied to the financing of expenditures on the Project in accordance with the provisions of this Loan Agreement and the Project Agreement.	Being complied with.	Financials
Loan 2968	Article 3	2	The Borrower shall enter into a Subsidiary Loan Agreement with each FI, providing inter alia for the relending of part of the proceeds of the Loan not exceeding twenty-three million two hundred and thirty-nine thousand Special Drawing Rights (SDR23,239,000) in aggregate to all FIs, the carrying out by the FIs of the Project activities described in Part 2 of paragraph 2 of Schedule 1 to the Loan Agreement, and the rights of the Borrower and ADB with respect thereto. Such Subsidiary Loan Agreements shall contain terms and conditions acceptable to ADS, and shall be without prejudice to, and without limitation on, the obligations of the Borrower under the Loan Agreement.	Complied with.	Financials
Loan 2968	Article 4	2	(a) The Borrower shall (i) maintain separate accounts and records for the Project; (ii) prepare annual financial statements for the Project in accordance with accounting principles acceptable to ADB; (iii) have such financial statements audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with international standards for auditing or the national equivalent acceptable to ADB; (iv) as part of each such audit, have the auditors prepare a report (which includes the auditors' opinion on the use of the Loan proceeds and compliance with the financial	Being complied with	Financials

			<p>covenants of this Loan Agreement as well as on the use of the procedures for the imprest fund and statement of expenditures) and a management letter (which sets out the deficiencies in the internal control of the Project that were identified in the course of the audit. if any); and (v) furnish to ADB, no later than 6 months after the end of each related fiscal year, copies of such audited financial statements, audit report and management letter, all in the English language, and such other information concerning these documents and the audit thereof as ADS shall from time to time reasonably request.</p>		
			(b) ADB shall disclose the annual audited financial statements for the Project within 30 days of the date of their receipt by posting them on ADB's website.	On going.	
			(c) The Borrower shall enable ADB, upon ADB's request, to discuss the financial statements for the Project and the Borrower's financial affairs where they relate to the Project with the auditors appointed pursuant to subsection (a)(iii) hereinabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB. This is provided that such discussions shall be conducted only in the presence of an authorized officer of the Borrower, unless the Borrower shall otherwise agree.	Being complied with.	
Loan 2968	Schedule 5	2	(a) Within 12 months of the date of effectiveness of the Loan Agreement, the Borrower shall submit written evidence satisfactory to ADB showing that a TSU has been established under the CPMU to undertake Project-advisory activities as described in the PAM.	Complied with	Others
			(b) The evidence to be delivered under paragraph (a) above shall: (i) provide the names of counterpart staff from the government agencies specified in the PAM who together will comprise the TSU; and (ii) provide the name of the head of the TSU, who shall be determined during Project implementation.	Complied with	
			(c) The Borrower shall ensure or cause CPMU to ensure that no amount is deposited into the TSU's sub-account unless and until the Borrower has complied with paragraphs (a) and (b) above and the terms of reference for each member of the TSU have been agreed with ADB. Such terms of reference shall reflect the purely technical and advisory role of the TSU and shall not include any activities related to Project management or implementation, which shall be undertaken by the Project Executing Agency and IAs only.	Complied with.	
Loan 2968	Schedule 5	3	The Borrower shall ensure that each Subsidiary Loan, unless otherwise agreed by ADB: (i) is denominated in Dong; (ii) has a maturity, grace period and interest rate to be determined by the Borrower in accordance	Complied with.	Financials

			with the Borrower's lending practices applicable to the onlending of funds externally borrowed by the Borrower; and (iii) is made under such other terms and conditions acceptable to ADB.		
Loan 2968	Article 3	4	The Borrower shall cause the FIs to onlend the proceeds of the Subsidiary Loans to Eligible Beneficiaries under Subloan Agreements, under Part 2 of paragraph 2 of Schedule 1 to the Loan Agreement and in accordance with the provisions of the Loan Agreement.	Being complied with	Financials
Loan 2968	Article 4	3	In addition to the reports and information set forth in Section 6.05 of the Loan Regulations, the Borrower shall furnish, or cause to be furnished, to ADB all such reports and information as ADB shall reasonably request concerning (a) the Eligible Beneficiaries, the Eligible Subprojects and the Subloans; and (b) the administration, operations and financial condition of each FI.	Being complied with	Financials
Loan 2968	Article 4	4	The Borrower shall enable ADB's representatives to inspect the Project, the Goods and Works, any Eligible Beneficiary, any Eligible Subproject, and any relevant records and documents.	Being complied with.	Others
Loan 2968	Article 3	5	The proceeds of the Loan shall be allocated and withdrawn in accordance with the provisions of Schedule 3 to the Loan Agreement, as such Schedule may be amended from time to time by agreement between the Borrower and ADB.	Being complied with.	Financials
Loan 2968	Schedule 5	4	For each Biogas Value Chain Infrastructure construction project to be financed by a Subloan under Part 2 of paragraph 2 of Schedule 1 to the Loan Agreement, the Borrower shall cause the relevant FI to ensure that: (i) such Subloan is made only to Eligible Beneficiaries for Eligible Subprojects; (ii) the Biogas Plant is constructed by certified masons or contractors who will certify compliance with the relevant technical and environmental standards specified in the Subproject Eligibility Criteria; and (iii) the Subproject Eligibility Criteria is incorporated into each FI's standard loan eligibility criteria to ensure the targeted clients under the Project is reached and the Project objectives are achieved.	Being complied with	Financials
Loan 2968	Article 3	3	Except as ADB may otherwise agree, the proceeds of the Subsidiary Loans shall be used only for making Subloans to Eligible Beneficiaries for Eligible Subprojects and shall be applied exclusively to the cost of Goods and Works and other items of expenditure required to carry out such Eligible Subprojects.	Being complied with.	Financials
Loan 2968	Article 4	5	The Borrower shall promptly take all action, including the provision of funds, facilities, services and other resources, which shall be necessary on its part to enable the FIs to perform their respective obligations under the Project Agreement, and shall not take or permit any action which would interfere with the performance of such obligations.	Being complied with.	Financials

Loan 2968	Schedule 5	5	For each medium and each large Biogas Value Chain Infrastructure construction project to be financed by a Subloan under Part 2 of paragraph 2 of Schedule 1 to the Loan Agreement, the Borrower shall prioritize construction of such plant in a CLZ (if any).	Complied with	Others
Loan 2968	Schedule 5	6	The Borrower shall ensure that: (i) the FIs together provide counterpart financing in an amount not less than \$6,300,000 in aggregate to finance the Project activities described in Part 2 of paragraph 2 of Schedule 1 to the Loan Agreement; (ii) for each Subloan, a maximum of 85% of the original principal amount of that Subloan is financed from a Subsidiary Loan, a minimum of 15% is financed from the relevant FI's own funds and the recipient borrower of the Subloan shall be contributed in-kind including by providing available local materials and/or labor of equivalent value; (iii) each Subloan has an interest rate as agreed by MOF and the FI concerned as set out in the relevant Subsidiary Loan Agreement; (iv) the interest rate for each Subloan is determined based on market interest rates; and (v) each Subloan has such other terms and conditions as required in the Guidelines for Biogas Value Chains and any other terms and conditions as the relevant FI may have in extending loans to customers from time to time in the ordinary course of its business. In determining the applicable interest rate and other terms and conditions for a Subloan, the Borrower and the FIs shall take into consideration, and hence ensure, that Eligible Beneficiaries have access to affordable financial sources for construction of Biogas Plants and the Borrower shall ensure or cause the FIs to ensure that no amendments, waivers, supplements or other modifications are made to the terms and conditions of any Subloan which would jeopardize this principle.	Being complied with.	Financials
Loan 2968	Article 3	6	Except as ADB may otherwise agree, the Borrower shall procure, or cause to be procured, the items of expenditure to be financed out of the proceeds of the Loan in accordance with the provisions of Schedule 4 to the Loan Agreement.	Being complied with.	Others
Loan 2968	Article 4	6	(a) The Borrower shall exercise its rights under the Subsidiary Loan Agreements in such a manner as to protect the interests of the Borrower and ADB and to accomplish the purposes of the Loan.	Being complied with.	Financials
			(b) No rights or obligations under the Subsidiary Loan Agreements shall be assigned, amended, abrogated or waived without the prior concurrence of ADB.	Being complied with.	
Loan 2968	Article 3	7	Withdrawals from the Loan Account in respect of Goods, Works and Consulting Services shall be made only on account of expenditures relating to:		Others

			(a) Goods which are produced in and supplied from, and Works and Consulting Services which are supplied from such member countries of ADB as shall have been specified by ADS from time to time as eligible sources for procurement; and	Being complied with.	
			(b) Goods, Works and Consulting Services which meet such other eligibility requirements as shall have been specified by ADB from time to time.	Being complied with.	
Loan 2968	Schedule 5	7	The Borrower shall allocate a fund to Eligible Beneficiaries as a financial incentive to carry out Eligible Subprojects and supporting carbon market development. Such allocation shall be done in accordance with the PAM.	Being complied with.	Others
Loan 2968	Schedule 5	8	In respect of an Eligible Subproject, the Borrower shall ensure or cause the CPMU, PPMUs and FIs to ensure that allocated funds are not credited to the accounts of the relevant Eligible Beneficiaries until the PPMU associated with that Eligible Subproject has confirmed to the relevant FI and ADB following due investigation and physical inspection and such certifications as required under paragraph 4(ii) above, that such Eligible Subproject and certification has complied with all technical, engineering, construction, environmental and other requirements and safeguards set out in the Subproject Eligibility Criteria.	Being complied with.	Others
Loan 2968	Schedule 5	9	The Borrower shall ensure or cause the CPMU, PPMUs and FIs to ensure that the Subproject Eligibility Criteria is not amended, supplemented, waived, deferred or otherwise modified in any way without the prior consent of ADB.	Being complied with.	Others
Loan 2968	Schedule 5	10	The Borrower shall ensure that the portfolio of Subloans shall be accounted for and reported separately by the FIs in such form and at such frequency as may be required by ADB.	Being complied with.	Financials
Loan 2968	Schedule 5	11	The Borrower shall immediately notify ADB if at any time it receives information from an FI that: (i) the percentage of non-performing Subloans financed by that FI is likely to exceed 5% of the aggregate outstanding amount of all Subloans financed by that FI at that time; and (ii) the percentage of non-performing Subloans financed by that FI is likely to exceed 10% of the aggregate outstanding amount of all Subloans financed by that FI at that time (the "NPL Limit"). If, at any time, it receives information from an FI that the NPL Limit has been exceeded, until further notice given by ADB, the Borrower shall immediately cease processing any current or pending withdrawal applications for Subsidiary Loans to that FI and shall temporarily suspend all further disbursements under Subsidiary Loans to that FI	Being complied with.	Financials

Loan 2968	Schedule 5	12	The Borrower shall ensure or cause the FIs to ensure that none of the Subprojects involve any environmental, involuntary resettlement impacts or impacts on indigenous peoples or ethnic minority groups which can be categorized as Category A, all within the meaning of the Safeguard Policy Statement.	Being complied with.	Safeguards
Loan 2968	Schedule 5	13	The Borrower shall ensure that: (i) the Project does not have any involuntary resettlement impacts within the meaning of the Safeguard Policy Statement; and (ii) the site selected for any Subproject shall be situated on land already owned by the Eligible Beneficiary thereby ensuring that the Subproject will not entail any land acquisition. In the event that the Project does have any such involuntary resettlement impacts, the Borrower shall take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower and with the Safeguard Policy Statement.	Being complied with.	Safeguards
Loan 2968	Schedule 5	14	The Borrower shall ensure or cause the FIs to ensure that the preparation, design, construction, implementation, operation and decommissioning of each Eligible Subproject and all Project facilities comply with: (i) all applicable laws and regulations of the Borrower relating to environment, health, and safety; (ii) the Environmental Safeguards; (iii) the EARF; and (iv) all measures and requirements set forth in the respective IEE and EMP and any corrective or preventative actions set forth in a Environmental Monitoring Report.	Being complied with.	Safeguards
Loan 2968	Schedule 5	15	The Borrower shall ensure or cause the FIs to ensure that the preparation, design, construction, implementation and operation of each Eligible Subproject complies with (i) all applicable laws and regulations of the Borrower relating to ethnic minorities; (ii) the Indigenous Peoples Safeguards; and (iii) all measures and requirements set forth in the EMDP, and any corrective or preventative actions set forth in an Environmental Monitoring Report.	Being complied with.	Safeguards
Loan 2968	Schedule 5	16	The Borrower shall ensure that the EMDP prepared for the Project and agreed with ADB is updated and fully implemented in a timely manner, and that adequate resources are allocated for this purpose.	Being complied with.	Safeguards
Loan 2968	Schedule 5	17	The Borrower shall do the following or cause the FIs to do the following:		Safeguards
			(a) submit semi-annual Environmental Monitoring Reports to ADB;	Being complied with.	
			(b) if any unanticipated environmental and/or social risks and impacts arise during Eligible Subproject implementation promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and	Being complied with.	
			(c) report any actual or potential breach of compliance with the	Being complied	

			measures and requirements set forth in the EARF and any EMP or EMDP promptly after becoming aware of the breach.	with.	
Loan 2968	Schedule 5	18	The Borrower shall cause the Project Executing Agency to ensure that: (i) the contracts for relevant Works contain provisions prohibiting use of child: labor and differentiation in wages between male and female workers for work of equal value, in accordance with the relevant laws and regulations of the Borrower; (ii) such contracts also include mandatory provisions on health, sanitation and appropriate working conditions; and (iii) contractors and their workers observe local protocols concerning acceptable behavior towards the local population.	Being complied with.	Social
Loan 2968	Schedule 5	19	The Borrower shall ensure that the gender action plan prepared for the Project and agreed with ADB is fully implemented in a timely manner and that adequate resources are allocated for this purpose. The gender action plan for the Project ensures that (i) at least 20% of those who are trained in biogas management and technical issues are women; (ii) at least 20% of those who are trained and certified as masons for the construction of small Biogas Plants are women and at least 80% of these women shall find employment; (iii) at least 50% of those trained on utilization of biogas technology and operation and maintenance are women; (iv) at least 50% of those who are trained on farm management and waste management on farms are women; (v) at least 30% of employees trained in medium Biogas Plants and large Biogas Plants are women; (vi) at least 50% of recipients of Subloans from FIs will be registered under husband-wife joint accounts or on behalf of women; (vii) at least 50% of official registration of all purchased biogas units and plants under the Project will be under husband-wife joint accounts or on behalf of women; (viii) 30% of research topics undertaken under Part 3 of paragraph 2 of Schedule 1 to the Loan Agreement relate to gender issues associated with Biogas Plants; (ix) at least 40% of those selected as champions of smart-agriculture in research and dissemination of CSAWMP technology are women; (x) training materials of CSAWMP technology and methodology of dissemination will be women-friendly and at least 50% of dissemination events and consultations will involve women-only groups; (xi) a sex-disaggregated and ethnic minority data base is established as part of the Project's project performance and monitoring system established by the CPMU; (xii) 30% of staff in the CPMU and PPMUs are women and that the CPMU and each PPMU has a gender focal point; and (xiii) gender indicators are included in the overall monitoring and evaluation framework for the Project.	Being complied with.	Social
Loan	Schedule	20	The Borrower shall ensure that in all Project Provinces, information	On going.	Social

2968	5		dissemination, education and mass -communication activities are carried out in a timely manner to promote the replication of biogas technology application and utilization.		
Loan 2968	Schedule 5	21	The Borrower shall ensure or cause the FIs to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the Safeguard Policy Statement.	Being complied with.	Others
Loan 2968	Schedule 5	22	The Borrower shall comply with, and shall cause the Project Executing Agency, the TSU and each IA to comply with ADB's Anticorruption Policy (1998, as amended to date). The Borrower: (i) acknowledges that ADB reserves the right to investigate directly, or through its agents, any alleged corrupt, fraudulent, collusive or coercive practice relating to the Project; and (ii) agrees to cooperate with, and to cause the Project Executing Agency, the TSU and each IA to cooperate fully with any such investigation and extend all necessary assistance, including providing access to all relevant books and records, as may be necessary for satisfactory completion of such investigation and shall allow, and cause the Project Executing Agency, the TSU and each IA to allow, ADB to investigate any violation or potential violation of these undertakings.	Being complied with.	Others
Loan 2968	Schedule 5	23	Without limiting the generality of the preceding paragraphs, the Borrower shall: (i) ensure that the Project Executing Agency and each IA conduct periodic inspections on the contractors' activities related to fund withdrawals and settlements; and (ii) ensure and cause the Project Executing Agency and each IA to ensure that all bidding documents and contracts financed by ADB in connection with the Project include anticorruption provisions acceptable to ADB including provisions specifying the right of ADB to audit and examine the records and accounts of the contractors, suppliers, consultants, and other service providers as they relate to the Project.	Being complied with.	Others
Loan 2968	Schedule 5	24	If the Borrower or ADB is or becomes aware or has a reasonable suspicion that any member of the Project Executing Agency, TSU or any IA has engaged in corrupt or fraudulent practices (as defined in ADB's Anticorruption Policy (1998 as amended to date)) under or in connection with the Project or the Loan, the Borrower shall take such timely and appropriate action satisfactory to ADB to investigate and/or remedy the situation, including in the case of corrupt or fraudulent practices of an FI, demanding immediate repayment or otherwise recovering any portion of the relevant Subsidiary Loan, with such repayment or recovery to be promptly paid to ADB in prepayment of the	Being complied with.	Others

			Loan. If the Borrower does not undertake investigative and/or remedial action to the satisfaction of ADB, without prejudice to any other rights contained in this Loan Agreement, ADB may declare the relevant FI ineligible, either indefinitely or for a stated period, to be considered as a provider of financial intermediary loans or any other financial instruments for future ADB projects.		
Loan 2968	Schedule 5	25	In addition to these requirements, to deter corruption and increase transparency, the Borrower shall create a Project website within 5 months of the Effective Date, accessible by the general public, to disclose various information concerning the Project including general information about the Project, public procurements related to the Project, Project progress and contact details in English and Vietnamese languages. The website shall also provide a link to ADB's Integrity Unit (http://www.adb.org/Integrity/complaint.asp) for reporting to ADB any grievances or allegations of corrupt practices arising out of the Project and Project activities. For each contract, the website shall include information on, among others, the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods/services, including consulting services, procured. The Borrower shall cause the Project Executing Agency to permit any bidder to request an explanation as to why a bid was unsuccessful and either the Project Executing Agency shall respond within 20 working days. The website will be updated promptly and regularly after each award of contract, (ii) each submission of the semi-annual Environmental Monitoring Report to ADB. In addition to the web-based disclosure, stakeholders, which include civil society and non-governmental organizations, shall be provided by the Borrower with detailed information on procurement on public notice boards in their respective areas.	Being complied with.	Others
Loan 2968	Schedule 5	26	The Borrower shall and shall ensure that the Project Executing Agency and each IA complies with: (i) ADB's policy relating to Enhancing the Asian Development Bank's Role in Combating Money Laundering and the Financing of Terrorism (2003); and (ii) applicable laws and regulations of the Borrower on combating money laundering and financing of terrorism and that Loan proceeds are not used, directly or indirectly, in money laundering or financing of terrorism.	Being complied with.	Others
Loan 2968	Schedule 5	27	The Borrower shall ensure that each FI formulates and implements internal control procedures, including customer due diligence procedures, to prevent violation of paragraph 26 above.	Being complied with.	Others
Loan	Schedule	28	The Borrower shall and shall ensure that each FI promptly informs the	Being complied	Others

2968	5	Borrower and ADB if there is any violation or potential violation of paragraph 26 above. In the event that ADB informs an FI of its concern that there has been such an alleged violation, that FI shall: (i) cooperate in good faith with ADB and its representatives so that ADB can determine whether such a violation has occurred; (ii) respond promptly and in reasonable detail to any query from ADB; and (iii) furnish documentary support for such response upon ADB's request.	with.	
------	---	---	--------------	--

APPENDIX 9. UPDATED ETHNIC MINORITY DEVELOPMENT PLAN

Project Mission leader: Sanath Ranawana

Date of update: 31/08/2016

NO	ACTIVITIES	STATUS	ACHIEVEMENT	RECOMMENDATION
I	Livestock Waste Management			
I.1	<i>BP value chain management</i>			
1	Map EM statistic in sample provinces, their livelihoods and potential links to BP value chains.	On-going	The database management software system for biogas plants under the package no. 13, including EM statistic in EM provinces, has been developed and updated 27,847 BPs. The data of up-coming constructed BP will continuously be updated up to the end of the Project.	
2	Assess resources and constraints for EMs to construct BPs	Partially implemented	The part of assessment has been done during design phase and documented into Indigenous People Plan. However, the further assessment during implementation phase has not been carried out yet. The Gender and Ethnic minority Consultant is expected to fulfill this duty.	
3	Construction of SBPs for EMs	On-going	As of 31/08/2016, the Project has constructed and accepted a total of 2,288 SBPs for EMs in 10 provinces (equivalent to 5.95% of total constructed SBPs) and 1,709 SBPs for EMs in 3 selected provinces (equivalent to 4.44% of total constructed SBPs). The detailed data of 3 selected provinces as follows: <ul style="list-style-type: none"> - Son La: 577/1571 - BacGiang: 327/5440 - SocTrang: 805/2066 Out of 3 selected provinces, Lao Cai is	

NO	ACTIVITIES	STATUS	ACHIEVEMENT	RECOMMENDATION
			also implementing the BP construction for EMs. As of the 31/08/2016, Lao Cai has constructed and accepted 519 BPs for EMs out of 1,825 BPs.	
4	Organize to potentially share BP value chain benefits from BP owners to EMs	On-going	<p>The Project organizes various dissemination activities to provide project information including the recommendation of sharing BP value chain benefits (energy and organic fertilizer) from BP owner.</p> <p>As of 31/08/2016, in total, serving information dissemination purpose, in EMs area, the Project has developed and organized:</p> <ul style="list-style-type: none"> - 162 dissemination workshops - 8 TV programs - 5 radio programs - 11.150 information boards/ posters - 41.000 leaflets - And 1 video clip. <p>Out of 3 selected provinces, Lao Cai has developed and organized 58 dissemination workshops, 6 TV programs, 3 radio programs, and 10.000 leaflets</p>	
5	Monitor BP value chain management within EMs	On-going	All 2,288 accepted SBPs of EM owners, were monitored and provided technical support for their BP value chain management by the Project.	
1.2	Carbon market access			
1	Assess EM driven investments that may link carbon emission	On-going	All the database of EM BPs shall be provided to National Biogas Program to support for carbon credit program.	
2	Train EMs on CSAWMP linked to carbon markets	On-going	As of 31/08/2016, 866 EMs were trained on CSAWMP in 10 provinces (equivalent to 16.05% of total CSAWMP trainees) and	

NO	ACTIVITIES	STATUS	ACHIEVEMENT	RECOMMENDATION
			538 EMS in 3 selected provinces were trained on CSAWMP (equivalent to 9.97% of total CSAWMP trainees).	
3	Assess FIs which are suitable for EM to access the credit	On-going	The progress of disbursement of two current FIs including Agribank and Co-operative Bank is very slow and inefficient.	Recommend to use VBSP as the appropriate FI for the credit to EMs.
I.3	<i>Biogas value chains sustainability</i>			
1	Train EMs to manage their livestock and wastes	On-going	The Project provide training course on BP operation and CSAWMP for participants to manage their livestock and wastes. As of 31/09/2016, 2,341 EMs in 10 provinces (5.85% of total) were trained on biogas operation while 1,462 EMs in 3 selected provinces (equivalent to 3.66%). 866 EMs were trained on CSAWMP in 10 provinces (equivalent to 16.05% of total CSAWMP trainees) and 538 EMS in 3 selected provinces were trained on CSAWMP (equivalent to 9.97% of total CSAWMP trainees).	
2	Encourage EM participation in empower biogas association and other organizations	Cancel	The biogas association has not been established yet in provinces, therefore no participation of EM in this association	Recommend to remove this activity.
3	Facilitate EM access to FIs	On-going	As of 31/08/2016, 2 FIs provide credit to 277 participants in Bac Giang, Lao Cai, and Binh Dinh, of which 119 are EMs, equivalent to 42,96% of total. Among 3 selected provinces, only Bac Giang access to this source with 4 EMs (equivalent to 1.44% of total)	Recommend to use VBSP as the appropriate FI for the credit to EMs which can increase the percentage of EMs to access the credit line.
II	CSAWMP Technology Transfer			
II.1	CSAWMP Promotion:			
1	Ensure EM areas	On-going	The inclusion of EM areas into the Project	

NO	ACTIVITIES	STATUS	ACHIEVEMENT	RECOMMENDATION
	included in agro-climatic mapping system		agro-ecological map is on the progress. The map is now developed by the supplier of package no. 19 of which the contract was signed on 11/04/2016	
2	Disseminate knowledge CSAWMP explored from E-libraries to improve EM skill and knowledge.	On-going	The package of E-library is on the progress of TOR development for design consulting provider	CPMU needs to accelerate the progress of this package.
3	Ensure organic fertilizers are used in EM areas	On-going	All participating EMs are equipped a know-how of organic fertilizer production from bio-slurry and organic fertilizer use. The use of organic fertilizers in the EM area will be integrated in the package that related to organic fertilizer production	Recommend to implement this package soonest.
4	Ensure EMs are included in livestock waste management	On-going	The EMs also participate in training courses on livestock waste management organized by CPMU and PPMU. The development of TOR for research packages is on the progress. Under these research packages, EM is recommended to be included.	
5	Encourage at least 60% of CSAWMP promotion participants among EMs are women.	On-going	The Project conducted 6 ToT for 236 extension staffs on CSAWMP. Among 26 EM trainees, 6 are women (equivalent to 2.54 of total trainees). 866 EMs were trained on CSAWMP in 10 provinces (equivalent to 16.05% of total CSAWMP trainees) and 538 EMS in 3 selected provinces were trained on CSAWMP (equivalent to 9.97% of total CSAWMP trainees). The data of female EMs trained on CSAWMP will be updated for the next Review Mission.	Recommend to reduce the target to 30%.

NO	ACTIVITIES	STATUS	ACHIEVEMENT	RECOMMENDATION
II.2 CSAWMP Models/ Technology Development Transfer				
1	Ensure that researchers and extension workers trained to properly monitor and document CSAWMP progress in EMs.	Not yet due		This will be reflected in the documents of research packages.
2	Disseminate CSAWMP skills and knowledge to EM, BP owners and other farmers in EM areas.	On-going	As of 31/08/2016, 866 EMs were trained on CSAWMP in 10 provinces (equivalent to 17.64% of total CSAWMP trainees) and 538 EMS in 3 selected provinces were trained on CSAWMP. This activity will be incorporated during the implementation of research package.	
			As of 31/08/2016, 1,339 people in EM areas (Bac Giang, Son La, and SocTrang) were trained on CSAWMP with the detailed data as follows: <ul style="list-style-type: none"> - Son La: not yet implemented - BacGiang: 337 trainees - Soc Trang: 1002 trainees Out of 3 selected provinces, Lao Cai is also conducting the training course on CSAWMP for EMs. As of 31/08/2016, Lao Cai has trained 328 EMs on CSAWMP out of 555.	
II.3 BP Value Chains Models				
1	Assess surplus of gas, electricity, bio-slurry for EMs	Not yet due	This activity will be provided in the research packages. Besides, CPMU/PPMU and LIC will report this in their semi-annual reports.	The assessment of gas, electricity, and bio-slurry surplus shall be qualitative, descriptive and incorporated into reports of relevant consultant under LIC or CPMU/PPMU.
2	Manage gas, electricity and organic fertilizers for EMs	On-going	100% participant EMs are trained and guided for making full use of gas, electricity, and organic fertilizers from BP.	

NO	ACTIVITIES	STATUS	ACHIEVEMENT	RECOMMENDATION
			Based on the result of baseline survey in 2016 and field visits of Environment Consultant of LIC, the project participants use bio-slurry as organic fertilizer for their garden and farm; compost the bio-slurry with other waste and residue; or share with other households. In regards of gas management, gas is used for cooking, heating water, heating stables, or shared with neighbors. In case of gas surplus, the BP owners burn it instead of release directly into environment...	
3	Empower biogas representatives in EM areas	Cancel		Recommend to remove this activity
III.	Project Management			
1	Establish indicators to target EMs in the province	Not yet due	The Gender and Ethnic Minority is expected to fulfill the duty	The EMs target shall focus on the training activity
2	Ensure social safeguard staff include support for EMs in their work plan	Not yet due	The Gender and Ethnic Minority is expected to assist provincial social safeguard staffs to fulfill the duty.	
3	Ensure FFIs to support EMs	On-going	As of 31/08/2016, 2 FIs provide credit to 277 participants in Bac Giang, Lao Cai, and Binh Dinh, of which 119 are EMs, equivalent to 42,96% of total. Among 3 selected provinces, only BacGiang access to this source with 4 EMs (equivalent to 1.44% of total)	Propose to move CME out

APPENDIX 10. UPDATED GENDER ACTION PLAN (GAP) MONITORING TABLE

Project: Loan 2968-VIE : Low Carbon Agricultural Support Project

Project Mission leader: Sanath Ranawana

Date of update: 26 Sep. 2016

Project Outputs	Proposed targets /actions	Progress [accumulated to date]	Issues/Challenge during implementation/ Recommendations
<p>1.Expanded livestock waste management infrastructure</p>	<ul style="list-style-type: none"> At least 20% of those who are trained in biogas management and technical issues are women. 	<ul style="list-style-type: none"> On-going: 28 training courses were conducted for technical staff in biogas management and technical issues. Among 330 participants, of which 54 female participants (16.4%) <ul style="list-style-type: none"> The percentage of female participants/total of participants of each provinces as follows: Son La (SL): 2/13 (15.4%) ; Lao Cai (LC): 6/33 (18.2%); Tien Giang (TG): 2/15 (13.3%); Soc Trang (ST): 1/71 (1.4%); Binh Dinh (BD): 7/47 (14.9%); Nam Dinh (ND): 4/11 (36.4%); Bac Giang (BG): 3/15 (20%); Phu Tho (PT): 13/46 (28.2%); Ha Tinh (HT): 14/56 (25%) 	<ul style="list-style-type: none"> - PPMUs seem not fully aware of this target - PPMUs are conscious and makes effort to train more female in technical workers more in the future (SL,LC,TG, ST, BD)
	<ul style="list-style-type: none"> At least 50% of trainees on biogas use will be women. 	<ul style="list-style-type: none"> On-going: 1,450 training courses on utilization of biogas technology and operation and maintenance were conducted with 13,957 female participants/ 39,905 participants (35%). <p>The percentage of female participants/total of participants of each provinces as follows: SL: 308/1212 (25.4%); LC: 411/1835 (38.3%); BT: 1499/5074 (29.5%); ND: 1060/2897 (36.6%); ST: 570/2383 (23.9%) ; TG: 966/2226 (43.4%); BG: 1247/5720 (21.8%); PT: 2828/7228 (39.1%) ; BD: 2768/6143 (45.1%); HT: 2300/5187 (44.3%)</p> <p>And the technical workers trained at-home for 32,461 participating households, of which 21,393 female participants (65.9%).</p>	<ul style="list-style-type: none"> . Targeted Trainees are the one in household members that registered to receive project subsidies support.=> PPMU actively target women members in household to register receiving the project subsidies and get direct training . - The target 50% is achievable.

<ul style="list-style-type: none"> At least 20% of trainees on SBP construction issues will be women. 	<ul style="list-style-type: none"> On-going: 11 training courses on construction of small Biogas Plants, among 321 participants, of which 17 were women (5.3%). TG, ST, BD, SL, ND, SL: no female trainees on SBP constructions. Provinces that have female masons trained are: LC: 3/43; PT: 6/51; HT: 2/97, BG: 1/17; BT: 5/26 	<ul style="list-style-type: none"> Mason of BDs are usually professional and skillful masons and get further training on BDs, it is a high skilled jobs but not a full time job so it is difficult for women to get trained and become masons. ⇒ PPMUs in province that managed to train female mason to recruit more actively and and train more female masons. ⇒ Target adjusted to 10%¹⁵
<ul style="list-style-type: none"> At least 20% of members of participating associations (farmers, biogas, etc.) are women. 	<p>Not yet done</p>	<ul style="list-style-type: none"> -There is already extension clubs existing in project areas and club meeting apparently cover biogas issue. No intention to set up new association and old ones (farmers, women union exit, beyond project influence on staffing/membership. ->Suggest to drop this target
<ul style="list-style-type: none"> At least 20% of their steering committee members are women. 	<p>Not yet done</p>	<ul style="list-style-type: none"> ->Suggest to drop this target
<ul style="list-style-type: none"> Women account for at least 50% of those who are trained on farm management and waste management on farms. 	<ul style="list-style-type: none"> On-going: 162 training courses on farm management and waste management for famers were conducted by PPMUs for 2,086/5,397 female participants (38.7%); The percentage of female participants/total of participants of each provinces as follows: LC:211/555(38%) ; BT: 60/322 (18.6%); ND: 363/829 (43.8%) ; ST: 338/1002 (33.7%); TG:58/172 (33.7%); BG: 234/337 (69.4%); PT: 504/789 (63.2%); BD:167/1021 (16.4%); HT: 151/361 (41.8%) 	<ul style="list-style-type: none"> PPMUs are not fully aware of this target. =>PPMUs are conscious and makes effort to train more female on farm management and waste management on farms more in the future (50% is achievable – TG, ST, BT,BD, HT, ND., LC) -
<ul style="list-style-type: none"> At least 30% of trained employees in MBPs and LBPs are women. 	<ul style="list-style-type: none"> On-going: 2 training courses in MBPs and LBPs were conducted for 46 participants with 4 women included (8.7%) (28 engineers and 18 representatives from 10 contractors) 	<ul style="list-style-type: none"> Few female technical staff ,so technical training faces difficulty ensuring female participation ->Target adjusted to 15%¹⁶

¹⁵ PPMU of Phu Tho, Lao Cai, Son La, Nam Dinh, Bac Giang, Ha Tinh provinces proposed to reduce the target of female manson rate to 5% or drop this target

¹⁶ PPMU of Ha Tinh, Bac Giang, Nam Dinh, Lao Cai

<p>2.Credit lines for biogas value chains</p>	<p>•At least 50% of credit recipients will be registered under husband-wife joint accounts or on behalf of women.</p>	<p>• On-going: 148 credit recipients were registered under on behalf of women (53.43%) among 277 credit recipients.</p>	<p>. • 2 FIs do not implement dissemination events for the Project. conduct dissemination but the collateral requirement for access to credit is a challenge (TG, BT, ST, PT, SL, ND).==> Suggest to include Bank for social policy which can provide this service without collateral to overcome this challenge ¹⁷ -The target can be achievable if the project also target women as official register of receiving subsidies and credit at the same time.</p>
	<p>• Official registration of all the purchased biogas units and plants under the project will be assisted. At least 50% of such will be under husband-wife joint accounts or on behalf of women</p>	<p>• On-going: 148 credit recipients were registered under husband-wife joint accounts or on behalf of women (53.43%) among 277 credit recipients.</p>	<p>.</p>
<p>3.Enhanced CSAWMP technology transfer</p>	<p>• Gender sensitive research strategy prepared. Training materials of CSAWMP technology and methodology of dissemination are women friendly (avoiding gender stereo types and using appropriate illustrations).</p>	<p>• Not yet done • Achieved: The Training materials of CSAWMP technology using pictures and appropriate illustrations, so women can easily understand and apply into practice¹⁸.</p>	<p>The research strategy is elaborated by 2017</p>
	<p>• At least 50% of dissemination events and consultation will involve women-only groups (e.g. event will be carried out through commune women union's</p>	<p>Not yet done</p>	<p>Consultation with women only group to be conducted=> PPMU conduct dissemination events and consultation meeting with women's only group through local women union' meeting to inform about the project and CSAWMP technology.</p>

¹⁷ Ms. Ha Thi Kim Thanh – Y Son commune (Ha Hoa district, Phu Tho province), she would like to participate the project with SBP , but she is not enough money for the SBP construction and she can't borrow money from the Agriculture Bank because her Red Book is mortgaged at the Bank for the first borrowing PPMU of Lao Cai, Son La, Nam Dinh, Ha Tinh provinces and Mr. Nguyen Tien Phuc – Chairman of Y Son commune (Phu Tho); Mr. Luong Thanh Chien – Vice chairman and Ms. Tran Thi Bich- chairwoman of Farmer Union – Nghia Tan commune (Nam Dinh province) proposed ADB to increase the subsidy of project for the SBP households from 3 million VND to 5 million VND as Decision No. 50/2014/QD-TTg on supporting policies to enhance thr efficiency of farmer household-based livestock breeding in 2015 – 2020

¹⁸ Ms. Le Thi Chung – Y Son commune (Ha Hoa district, Phu Tho province) attended 2 training courses (biogas use and farm management and waste management on farm) and Ms. Vu Thi Lien – Nghia Tan commune (Nghia Hung district, Nam Dinh province) attended training courses on biogas use , they said that training material was very well presentation and easy to follow.

	meetings). <ul style="list-style-type: none"> 30% of research project topics (21 project research topics) relate to gender issues/dimensions of biogas plants such as improved cooking stove, improved or household water heating system, women friendly post harvest processing tools/equipment that use biogas fuel. 	<ul style="list-style-type: none"> .Not yet done 	→ Target adjusted to 30% CSAWMP research strategy developed and adaptive research on 6 CSAWMP topics are being procured, the list of 6 project research topics are: -Research on organic fertilizer production from livestock waste and bio slurry by value chain -Research on biogas technology improvement and effective biogas utilization by value chain -Research on the water-saving pig farming technology -Research on effective utilization of crop waste by value chains - Research on the treatment of sludge sediment in shrimp - Research on the cultivation techniques for GHG emission reduction
	<ul style="list-style-type: none"> Select and train at least 40% women as champions of smart-agriculture in research and dissemination of CSAWMP technology. 	<ul style="list-style-type: none"> On-going: 6 training courses (TOT) were conducted by CPMU for extension staffs . Of a total 236 participants, 54 were females (22.9%) 	<ul style="list-style-type: none"> - CPMU need to organize training courses for farmers as champions (encourage female farmers) of smart-agriculture in research and dissemination of CSAWMP technology. -→ Target adjusted to 30%
	<ul style="list-style-type: none"> Ensure legal (e.g., employment contract) and remuneration support for champions. 	<ul style="list-style-type: none"> On-going: All extension staffs participated in ToT training courses have been supported per diem and delivered the certificate. 	.
	30% of personnel in participating institutions trained in O&M of research equipment are women.	<ul style="list-style-type: none"> Not yet done 	<ul style="list-style-type: none"> CPMU is expected to submit bidding document of package No.14 in September 2016 for ADB approval
4.Effective project management	<ul style="list-style-type: none"> Project management support: CPMU and each PPMU will have a focal point/person for gender and ethnic minority issues. 	<ul style="list-style-type: none"> Achieved: CPMU and each PPMU assigned a focal point for gender and ethnic minority issues. The gender focal point was appointed in 2016 	Gender focal point of PPMUs just assigned from July 2016 as the instruction of CPMU and they participated the workshop on Gender in Aug. 2016 so that they have little time to know about GAP and not to mention implementation---> Gender consultant need to guide them on GAP targets and how to implement GAP

<p>•Gender sensitivity workshops: at provincial, district, and commune levels will be carried out for all project staff, contractors, agricultural extension and veterinary staff and participating association steering committee as part of the project orientation.</p>	<p>• On-going: 2 training courses on raising gender awareness and ethnic minority were conducted in Can Tho, Binh Dinh in Aug. 2016 for project staff and stakeholders . Of a total 96 participants, 74 were females (77.1%)</p>	<p>Majority of participants are from Women Union which has little role in this project. => Briefing on Gender and GAP targets for focal points and PPMU key staff (coordinators, training officer, M&E officer, project director/vice director ,) to support implementation.</p>
<p>• Develop and update sex-disaggregated and ethnic minority data as part of project M&E and reporting system.</p>	<p>• On-going: (i) M&E Consultant has developed the M&E system and templates for sex-disaggregated and ethnicity data collection. (ii) A database of biogas plants was transferred into a database monitoring software and will be updated as biogas construction progress with sex-disaggregated data.</p>	<p>(i) Gender consultant should discuss with M&E consultant to complete the template for M&E relating gender and ethnic minority activities and provide reports template accordingly. (ii) Gender consultant is mobilized and was not available during the mission. (iii) The gender consultant's support to GAP implementation is insignificant.</p>
<p>• 30% of CPMU and PPMU staff are women.</p>	<p>• Achieved: A CPMU and 10 PPMUs established in second quarter of 2013. As of 31 August 2016, 58 out of 127 staff are women, equivalent to 45.7%. The number of female staff/total of staff as follows: CPMU: 17/24 ; LC: 4/11; SL:2/6; PT:5/8; BG:3/11; ND:5/14; HT:6/15; BD: 3/10; BT: 3/7; TG: 5/8; ST: 5/13</p>	