

**GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIETNAM
ASIAN DEVELOPMENT BANK**

MEMORANDUM OF UNDERSTANDING OF LOAN REVIEW MISSION

LOAN 2968-VIE: LOW CARBON AGRICULTURE SUPPORT PROJECT

4 – 16 March 2018

I. INTRODUCTION -ADB

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 original 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 2 financial intermediaries (Vietnam Bank for Agriculture and Rural Development - VBARD and Co-operative of Vietnam - Co-opBank).
3. The Asian Development Bank (ADB) conducted a Review Mission¹ from 4 to 16 March 2018 to work with the Government to (i) review overall project implementation progress; (ii) address problems that are outstanding, (iii) 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 in CPMU and (iv) carry out field visit to building site of the selected subprojects. In view of the slow progress on contract awards and disbursement, the Mission will also assess the need for cancellation of some funds of slow moving activities.
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 Cooperative; Husbandry Department), (iv) Government Agencies (Ministry of Finance; State Bank of Viet Nam); and (v) Vietnam Bank for Social Policies. A list of persons met and those present at the wrap-up meeting is given in Appendix 1.

¹ The Mission comprised Sanath Ranawana, Senior Natural Resources Economist (Mission Leader), Pham Quang Phuc, Senior Environment Officer, Truong Thi Minh Hue, Associate Project Analyst and Tran Thuy Hai, Consultant (Gender). Ngo Thuy Quynh, Consultant (Social Safeguards) provided the inputs on Social Safeguards Issues and attended the wrap-up meeting.

5. This Memorandum of Understanding of the Mission as discussed at the wrap-up meeting on 16 March 2018 summarizes the findings and agreed actions. The meeting was chaired by Mr. Le Van Hien, Director General, Agricultural Project Management Board, MARD.

II. REVIEW OF PROJECT IMPLEMENTATION

A. Overall Progress

6. The Project's overall physical progress as of 28 February 2018 is estimated to be 25% (Appendix 2) based on weighted progress of project components, with the elapsed loan period of 80%. Cumulative contract awards and disbursements (as per ADB's Loan Financial Information Services) as of 28 February 2018, were US\$20.17 million and US\$19.99 million respectively. This amounts to 28.9% in contract awards and 28.7% in disbursements of the net loan amount (US\$69.57) within the elapsed project period of 80%. As a result, the project is listed as a 'potential problem project' in ADBs project monitoring system.

7. **Follow-up actions agreed upon during the previous mission:** The agreed actions and status are presented in Table 1. Among 34 agreed follow-up actions, 19 actions are complete, 9 actions are on-going, 6 actions are in preparation or not yet done. However, among the actions that were completed the Mission noted the need for further refinement or clarification, as indicated in the last column of the table.

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

No	Issue	Agreed Action	Time frame	Responsibility	Status/Remark
1	Output 1: Expanded Use of Livestock Waste Management Infrastructure	(i) Support NBPs efforts to obtain CER credits for biogas plants supported under the Project	Continuously implementing up to end of project	CPMU	On-going
		(ii) Procedures and templates for random checks of biogas plant to be revised to include environmental monitoring parameters and reports	May 2017	CPMU	Done; A revised form of checking SBPs (include environmental monitoring parameters) had been prepared and circulated to PPMUs.
		(iii) Assess the likelihood of meeting the target for SBP construction with ICMD funds of VND3 million (51,000) and VND5 million (14,000). MBP guidelines and technical guidance for operator to be able to meet the requirements.	June 2017	CPMU	On-going; PPMUs to provide realistic targets for 2018 in their respective PDIPs; A revised form of checking MBPs (include

No	Issue	Agreed Action	Time frame	Responsibility	Status/Remark
					environmental monitoring parameters) had been prepared and circulated to PPMUs
		(iv) The database software provider to be contacted to fix the error as soon as possible	June 2017	CPMU	Done, all mentioned errors have been fixed with the update version of the database software.
		(v) Approval to the Bidding Document of Package 14	May 2017	APMB	Done, in July 2017
		(vi) Contract awarded for Package 14	July 2017	CPMU	Done, in Oct 2017
2	Output 2: Credit Lines for Biogas Value Chains and other climate smart agriculture waste management investments	(i) Finalization of the Project Agreement between ADB and VBSP	May 2017	ADB	Pending final clearance of including VBSP as a FI
		(ii) Follow up with MOF on SBV's evaluation to VBSP	May 2017	CPMU	Done
		(iii) Project Agreement signing	May 2017	ADB, VBSP	Not yet
		(iv) On-lending Agreement signing	June 2017	ADB, VBSP	Not yet
		(v) Preparation of realistic sub loan implementation schedule for quarters III and IV of 2017	June 2017	ADB, VBSP	Not yet
3	Output 3: Enhanced Climate Smart Agricultural Waste Management Practices Technology Transfer	(i) Contracts for research packages 25-29 awarded	Q III 2017	CPMU	On-going, contracts awarded for packages 25, 26
		(ii) Contract awarded for demonstration prior-reviewed package (32)	May 2017	CPMU	Done
		(iii) Contracts awarded for demonstration post-reviewed packages (33-38)	July 2017	CPMU	On-going, contract awarded for packages 33, 36, 37

No	Issue	Agreed Action	Time frame	Responsibility	Status/Remark
4	Output 4: Effective Project Management	(i) Finalization of report format	Q III 2017	CPMU	Done
		(ii) Issuance of the ODA allocation decision in Soc Trang and Nam Dinh PPMUs	May 2017	CPMU	Done
		(iii) Supplement the ODA allocation to CPMU	July 2017	MOF	Done
5	Environmental Safeguard Recommendations	(i) Organize a training course for PPMUs on environmental safeguard	May-June 2017	CPMU/LIC	Done. 02 environment trainings have been organized with participants from 10 provinces.
		(ii) Procure environmental monitoring equipment and start environmental effect monitoring	May-June 2017	CPMU/PPMU	Partly done. Contract was signed but equipment has not yet been delivered
		(iii) Mobilize environmental safeguard and biogas technical consultants under LIC to support PPMUs in managing bio-slurry treatment before release to the environment or use as fertilizer	May-June 2017	CPMU/LIC/PPMUs	Partly done. Bio-slurry is used as fertilizer, but inadequately treated bio-slurry is also being released to environment in many cases. (the design of sedimentation tanks and lagoons need to be improved.
		(iv) Mobilize environmental safeguard and biogas technical consultants under LIC to support PPMU in solving the overloading issue of SBPs	May 2017	CPMU/LIC/PPMUs	Overloading issue of SBTs has not yet been fully resolved. (design of biogas tanks and water saving need to be improved)
		(v) Mobilize environmental safeguard and biogas technical consultants under LIC to help PPMU	May 2017	CPMU/LIC/PPMUs	Done. Consultants have

No	Issue	Agreed Action	Time frame	Responsibility	Status/Remark
		in preparation of an EMP with specific mitigation measures to avoid release of biogas into the atmosphere or/and burning surplus biogas, as well as using bio-slurry and livestock waste for agriculture.			recommended integrated solutions to avoid generation of excess biogas.
6	EM Recommendations	i) Disseminate the IPDP to project districts, communes;	May 2017	CPMU, PPMU	Done
		(ii) Prepare detail plan for implementation the requirements specified in the IPDP	May 2017	CPMU/LIC/PPMU	Done
		(iii) Strengthen communication activities directed at ethnic minorities, including project information dissemination at village and commune levels;	Continuously implementing up to end of project	CPMU/LIC/PPMU	Ongoing
		(iv) Coordinate with VBSB for supporting EM households to access the project credit;	Before trainings	PPMU	Not yet done. Project is working to include VBSP in project.
		(v) Ha Tinh and Binh Dinh are requested to review and prepare the report on Ethnic minority in project area and submit to LIC/CPMU for review then submit to ADB	Continuously implementing and July 2017 for submitting	CPMU/LIC/PPMU Hà Tĩnh, PPMU Binh Định	Done. Binh Dinh already submitted report on EM households with SBP constructed; Gender & EM consultant confirmed that there is no present of EM community in Ha Tinh.
		(vi) Conduct consultation meeting with EMs before training to ensure the provision of information and training materials in a form of appropriate language	Continuously implementing up to end of project	PPMUs/local authorities	Done.
		(vii) Monitoring the implementation of IPDP as planned and submit to ADB the second internal monitoring on IPDP in July 2017	Continuously implementing up to end of project	CPMU, PPMUs	Done
7	GAP recommendations	(i) CPMU and PPMUs monitor and encourage female participation in training courses to achieve the GAP targets	Continuously implementing up to end of project	CPMU, PPMUs	On-going; however the rate of female participation in training courses is lower than

No	Issue	Agreed Action	Time frame	Responsibility	Status/ Remark
					project targets in: (i) SBP, MBPs, LBPs construction (ii) biogas use for SBP operators; (iii) CSAWMP technology for farmers
		(ii) PPMUs need to conduct dissemination events, consultation to inform about the project and CSAWMP technology and to ensure 30% of dissemination events and consultation to be involved with women-only groups	December 2017	PPMUs	On-going, however only 13 dissemination events and consultation involved women-only groups were conducted in Ben Tre and Lao Cai (2.2%)
		(iii) PPMUs need to guide the credit recipients that the names of both husband and wife, or only the woman (in cases of female headed household) must be recorded as credit recipients to ensure achieving the project target of 50%.	December 2017	PPMUs	Done
		(iv) For the research project topics, gender specialist needs to coordinate CPMU and contractors in the implementation of these researches to ensure that 30% of research project topics related to gender issues	Q IV 2017	CPMU, Gender specialist and contractors	Done, Gender specialist worked with the contractors of 2 packages (No. 25 and No. 26) to integrate gender issues in these packages. The same procedure will be followed for the other packages.
		(v) CPMU and PPMUs to conduct gender awareness training and briefings on GAP for key project staff (at least coordinator, gender focal,		CPMU, PPMUs and Gender	Done, in 2017 CPMU conducted 3 training courses on

No	Issue	Agreed Action	Time frame	Responsibility	Status/ Remark
		implementers and technicians as part of the new training)		specialist	gender for 113 CPMU, PPMU staff and stakeholders including 43 women
8	Review mission	Next Review Mission		ADB	Not yet done in Q4/2017

B. Progress of Project Implementation by Component

Output 1: Expanded Use of Livestock Waste Management Infrastructure

8. **Revised Targets after MTR.** The key performance indicators for this component are: (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; (ii) ICMD funds are fully channeled into at least 65,042 accounts of beneficiaries by June 2019; (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; and (iv) Single national biogas plant database managed effectively by 2017, including registration of both husband's and wife's names.

9. **Progress.** As of 28 February 2018, 51,633 SBPs, 23 MBPs² and 2 LBPs³ were constructed of which 4,291 (8.31%) biogas plants were constructed for ethnic minorities households. ICMD funds were channeled to 48,166 accounts of beneficiaries. The incentive for carbon market development (ICMD) for SBP was increased from 3 million VND to 5 million VND during the mid-term review for a targeted group of beneficiaries.⁴ Similarly, the ICMD for MBP was increased from 10 million VND to 50 million VND. The progress on construction of biogas plants by the project is described in Table 2 below.

Table 2: Status of Biogas Construction by Province (as of 28 February 2018)

No	Provinces	Biogas Plants constructed									
		Small		Medium		Large	Total	Percent	Ethnic Minority	Percent	ICMD funds transferred
		3 mil	5 mil	10 mil	50 mil						
1	Lao Cai	2,401	302		4		2,707	5.2%	1,165	2.26%	2,669
2	Son La	2,009	321				2,330	4.5%	1,237	2.39%	2,330
3	Phu Tho	9,896	163	4			10,063	19.5%	247	0.48%	7,512

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

³ MBP have a capacity of 51 – 499 cubic meters.

⁴ The eligibility criteria are: (i) classified as poor or nearly poor household; (ii) registered head of household is a female bread winner; and (iii) belongs to an ethnic minority group.

4	Bac Giang	7,245	620		3		7,868	15.2%	639	1.24%	7,620
5	Nam Dinh	4,817	30		1	2	4,850	9.4%		0.00%	4,575
6	Ha Tinh	4,991		4			4,995	9.7%		0.00%	4,861
7	Binh Dinh	7,403	290				7,693	14.9%	2	0.00%	7,689
8	Tien Giang	2,782	179		2		2,963	5.7%		0.00%	2,961
9	Ben Tre	5,106	76		3		5,185	10.0%	1	0.00%	5,106
10	Soc Trang	2,816	186		2		3,004	5.8%	1,000	1.94%	2,843
	Total	49,466	2,167	8	15	2	51,658	100%	4,291	8.31%	48,166

10. **Findings.** The Mission visited households in Lao Cai, Ben Tre and Bac Giang provinces and noted that the biogas plants constructed have had a positive impact on the household's bio-physical environment as well as its socio-economic conditions. The mission observed a trend of some households expanding their farm size (beyond 5-10 pigs). The profile of some such farms are attached as Appendix 3. The Mission noted that the Project presents such farms with an integrated waste management solution by combining demonstration activities supported under Output 3 (manure separators and electricity generators) with biogas plants under Output 1. However, the Mission observed that: (i) Some provinces have nearly achieved their targets of SBP construction with ICMD funds of VND 3 million and have limited target beneficiaries for inclusion under the revised criteria; (ii) rural communities in remote areas, especially in the northern mountain provinces have limited access to information about the benefits of SBP and MBP.

11. **Training on biogas plants:** The Project has trained 55,132 SBP operators (of which 20,522 or 37.2% are women), 462 masons (of which 26 or 5.63% are women), 1,229 technicians (of which 293 or 23.84% are women), 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 2,052 training courses.

Table 3: Training to operators, masons, technicians, engineers and contractors (as of 28 February 2018)

	Provinces	Training to operators, masons, technicians, engineers and contractors (Component 1)								
		Operat ors	Women Operat or	Mas ons	Women Mason	Techn ician	Women in manageme nt & tech issues	Engine er	Wo men Engi neer	Contra ctor
0	CPMU					710	182	28	4	10
1	Lao Cai	2,897	740	49	4	27	7			
2	Son La	1,991	659	29	0	53	11			
3	Phu Tho	9,696	4,153	70	12	127	45			
4	Bac Giang	7,620	1,922	19	1	43	11			
5	Nam Dinh	4,759	1,972	0	0	40	8			
6	Ha Tinh	7,361	3,386	126	3	56	14			
7	Binh Dinh	7,814	3,565	50	0	53	8			
8	Tien Giang	2,958	1,334	34	0	25	4			
9	Ben Tre	6,657	1,931	28	5	22	1			
10	Soc Trang	3,379	860	57	1	73	2			
	Total	55,132	20,522	462	26	1,229	293	28	4	10
	Percentage		37.22%		5.63%		23.84%			

12. **National Biogas Database:** The Mission noted that as of 28 February 2018, the national biogas database was established; the software to merge data on biogas plants was procured. 40,764 biogas plants under the Project have been recorded in the database with 29,039 biogas plants recorded under both husband's and wife's names.

13. **Needed actions:**

- (i) CPMU and each PPMU should review the targets for providing ICMD funds of VND3 million and of VND5 million and determine whether the targets of 51,000 and 14,000 respectively can be achieved.
- (ii) PPMUs in provinces with remote areas should expand the outreach by conducting more awareness programs.

Output 2: Credit Lines for Biogas Value Chains and other climate smart agriculture waste management investments

14. **Revised Targets after MTR.** 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 June 2019; and (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.

15. **Progress.** Both Financial Intermediaries (FIs), Vietnam Bank for Agriculture and Rural Development (VBARD) and Co-operative Bank of Vietnam (Co-opbank), continue to experience difficulties in making loans to livestock farms. The main challenges are the lack of demand for this credit line due to its restrictive nature (i.e. only for the construction of biogas plants) and the

requirement for collateral by the FIs. The sharp decline in the price of pork since late 2016 has also contributed to the low demand for credit. Of the 760.7 billion VND (equivalent to about US\$33.6) provision for this component, the two FIs have only disbursed a total of VND14.91 billion (equivalent to US\$0.733 million) by 28 February 2018. The breakdown of loans is provided in in Table 4 below. In 2017, VBARD disbursed VND 472 million and Coop Bank disbursed VND 2.2 billion. Based on past performance, VBARD and Coop Bank are likely to disburse an additional 750 million and VND and 3.5 billion VND respectively by the end of the project period.

Table 4: Status of credit lines (as of 28 February 2018)

No	Provinces	Credit lines number of sub-loans						
		No. of sub loans_ VBARD	Account on behalf of women	No. of sub loans_ Coopbank	Account on behalf of women	Total no. of sub loans	Account on behalf of women	Percent
0	CPMU							
1	Lao Cai	127	59			127	59	46.46%
2	Son La							
3	Phu Tho	5				5	0	0.00%
4	Bac Giang	60	12	82	11	142	23	16.20%
5	Nam Dinh							
6	Ha Tinh							
7	Binh Dinh	16	4	55	12	71	16	22.54%
8	Tien Giang	18	5			18	5	27.78%
9	Ben Tre							
10	Soc Trang							
	Total	226	80	137	23	363	103	28.37%

16. **Viet Nam Bank for Social Policy (VBSP) inclusion as additional FI.** Following the recommendation of the mid-term review mission, ADB issued a letter of no-objection to include VBSP as an FI on 27 February 2017. The government approval process was completed on 15 November 2017 with an issuance of approval by the Office of the Government of Vietnam. However, at the stage of finalizing the on-lending agreement with Ministry of Finance (MOF), the management of VBSP requested a change in the terms of lending, specifically a waiver of the counterpart contribution of 15% by VBSP. MOF is unable to accept this arrangement since the inclusion of VBSP was agreed on the same terms and conditions as the other two FIs. Therefore, VBSP and MOF agreed not to proceed with the proposal of including VBSP as an FI.

17. Based on this development and the continued poor performance by VBARD and Coop Bank, the Mission estimates that around US\$30 million allocated for Output 2 of the project can be cancelled.

18. **Needed actions:**

- (i) VBARD and Coop Bank will submit liquidation applications for the amounts already disbursed. They will do so by 30 April 2018.
- (ii) VBARD will retain 750 million VND for disbursement in 2018-2019 and refund the balance of the initial advance to ADB by 30 April 2018.
- (iii) Coop Bank will retain 3.5 billion VND for disbursement in 2018-2019 and refund the balance from the initial advance to ADB by 30 April 2018.

- (iv) MARD will inform SBV/MOF of the partial cancellation of funds related to this component by 15 May 2018
- (v) SBV/MOF will send ADB the request for the partial cancellation by 31 May 2018
- (vi) ADB will inform SBV/MOF of the cancellation amount by 15 June 2018

Output 3: Enhanced climate-smart agricultural waste management practices (CSAWMP) technology transfer

19. **Revised Targets after MTR.** The key performance indicators for this component are: (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; (ii) At least 7 CSAWMP models are successfully demonstrated and disseminated in 10 participating provinces by June 2019; and (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.

20. **Progress. Farm-based Adaptive Research.** Having reviewed the 6 research proposals for CSAWMP submitted by CPMU, ADB found that package 30 did not meet with the project objective. Therefore, this package was replaced by packages 42 and 43 as agreed by ADB and CPMU in April 2017.

21. The Mission noted the slow progress in awarding the 7 research packages and expressed concern that there may be insufficient time to complete all activities under some packages, especially the dissemination of findings to the 10 participating provinces by 31 June 2019. Contracts have been awarded and consultants mobilized for packages 25 and 26 in December 2017. These packages are expected to be completed by June 2018. The bidding process of the other 05 research packages has been delayed due to the long time taken to review and approve at each step of bidding process by APMB. The status of each package is described in Table 5.

22. Based on discussions with the Mission, CPMU prepared an updated plan to expedite the bidding process to have all contract awards by 30 May 2018. This would allow 12 months for implementation of the 05 consulting packages by project closure in June 2019.

Table 5: Status of research topics (as of 9 March 2018)

Package No.	Package name	Estimated amount (US\$)	Status
25	Research on organic fertilizer production from livestock waste and bio slurry by value chain	1,200,000	Consultants were mobilized. Inception report and detail studying outlines are being prepared.
26	Research on biogas technology improvement and effective biogas utilization by value chain	1,000,000	Consultants were mobilized. Inception report and detail studying outlines are being prepared.
27	Research on the water-saving pig farming technology	600,000	The contract negotiation with the second ranking

Package No.	Package name	Estimated amount (US\$)	Status
			firm is planned within March.
28	Research on effective utilization of crop waste by value chain	1,000,000	The contract negotiation with the first ranking firm is planned within March
29	Research on the treatment of sludge sediment in shrimp farming	800,000	Prepare to open the financial proposal
42	Piloting technology for special designed organo-mineral fertilizers production from livestock waste and Bio-slurry for key crops in Vietnam	198,000	ADB approved submission 0 on 09 March 2018
43	Establishing comprehensive system of production and supply of microbial product for organic fertilizer production from agricultural waste and bio-slurry	198,000	ADB approved submission 0 on 09 March 2018

23. **CSAWMP Demonstrations.** The Mission found that the demonstration activities were making good progress and providing useful CSAWM solutions. The packages are described in Table 6 below. During site visits to some medium pig farms in Ben Tre and Bac Giang, the Mission found that the pig manure separating systems are being operated well and reducing the inflow of concentrated waste into biogas plants. This helps to mitigate the problem that many farmers face from overloading of their biogas plants. The dried pig waste that is generated by the separating process has high value as an organic fertilizer. Similarly, the demonstration activity of generating electricity from biogas using a small agro-engine and using the electricity to meet the heating and cooking requirements of the farm in Ben Tre is an example of how the project has been a catalyst in finding innovative solutions to livestock waste management. The success of such demonstrations must be widely disseminated. The Mission requested CPMU to expedite the processing of 2 demonstration packages (35 and 38) that have been delayed. The Mission also requested CPMU to speed up implementation of 07 research packages so that the results of these studies and demonstration activities can be presented as integrated best practices for livestock waste management.

Table 6: List of demonstration packages (as of 09 March 2018)

Package No.	Package name	Provinces	Estimated amount (US\$)	Status
32	Supply of manure separating systems to treat livestock waste to produce material for organic fertilizer demonstration	Bac Giang, Ben Tre, Binh Dinh, and Phu Tho	1,340,909	Contract signed, 8/8 separator systems were installed in Bac Giang; 4/5 systems in Ben Tre; 2/4 systems in Binh Dinh and 4/13 in Phu Tho.
33	Supply of manure separating system to treat livestock waste to produce material for organic fertilizer demonstration	Ha Tinh, Nam Dinh, Soc Trang, Son La, and Tien Giang	1,109,092	Contract signed, the system design is being reviewed by LIC

Package No.	Package name	Provinces	Estimated amount (US\$)	Status
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	The bids are being evaluated
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	Bidding Document not issued yet
36	Supply of biogas generator system for demonstration	Binh Dinh, Ha Tinh, Lao Cai, Soc Trang and Tien Giang	513,637	Contract signed, the system design is being reviewed by LIC
37	Supply of utilization system for treatment of biogas digested effluent demonstration as the fertilizer of the crops	Soc Trang and Binh Dinh	204,545	Contract signed, reports of Farm survey and design are being prepared by contractor.
38	Supply of utilization system for treatment of cattle dung as the feedstock for red worm raising demonstration	Soc Trang	77,273	Bidding Document not issued yet

24. **CSAWMP Information System.** On 10 August 2017, contract to Package 23: Design, monitoring, installation and technological transferring to e-library system was awarded. The consultant is finalizing the second out of five outputs on design and equipment's specification of the e-library system. The equipment package for the information system is expected to be awarded by Quarter I of 2018.

25. **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. MARD issued Decision No. 3493/QD-BNN-KTHT dated on 25 August 2017 on approval syllabuses for farmer vocational training under LCASP project. 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 project has coordinated with Department of Cooperatives and Rural Development of MARD to organize the meeting to evaluate the detailed outline of these 03 programs. The project has also coordinated with the Department of Livestock Production to develop the livestock environment sections in the Animal Husbandry Law. The project's policy advisory is well accepted on the changing the large farm's livestock environment technologies from mainly basing on large biogas plants at present towards mainly basing on technologies of using solid waste for organic fertilizer and bioslurry for crop watering.

26. The Mission learned that MARD is drafting a new decree on organic fertilizer and food production with targets of producing at least 3 million tons of organic fertilizer per year by 2023. The research and demonstration activities under the Project, combined with biogas plants (under Output 1) present MARD with some innovative and integrated solutions to addressing CSAWM from livestock sector. The findings of these activities could be the basis for preparing an investment strategy for promoting the production and use of organic fertilizer as a new industry. Therefore, MARD proposed that a part of the savings under Output 3 be utilized to develop an investment program on organic fertilizer and food production. The Mission and MARD agreed that the scope of this study is closely aligned with Research Package No. 25: Research on organic fertilizer production from livestock waste and bio slurry by value chain. Accordingly, it was agreed to expand the scope of that package to undertake the development of an investment program.

Table 7: Number of people trained on CSAWMP (as of 28 February 2018)

	Provinces	Number of people trained on CSAWMP (Component 3)			
		Farmers	Women farmers	Extension staff	Women extension staff
0	CPMU			274	82
1	Lao Cai	780	302	26	9
2	Son La	596	453	364	150
3	Phu Tho	845	528		
4	Bac Giang	3,180	1,796	67	31
5	Nam Dinh	2,599	1,295		
6	Ha Tinh	33	15	1,069	644
7	Binh Dinh	1,342	413	387	82
8	Tien Giang	2,571	1,099		
9	Ben Tre	350	70	322	60
10	Soc Trang	1,581	575		
	Total	13,877	6,546	2,509	1,058
	Percentage		47.17%		42.17%

27.

Needed actions:

- (i) CPMU and APMB to speed up the recruitment process to research packages 27-9 and 42-43. The Mission informed CPMU that any contract that are not awarded by 30 May 2018 will be canceled due to the lack of time for successful implementation;
- (ii) CPMU works with the research consultants of the awarded contracts to prepare the research implementation outlines to ensure that, the results of these packages could be generated and integrated in the demonstrations by February 2019, in order to improve as the show cases of best practices for livestock waste management;
- (iii) MARD will propose a variation to Package 25 to include preparation of an investment program on promoting organic waste and food production. The revised TOR will be cleared by ADB during the approval of a contract variation of the package.

Output 4: Effective Project Management

28. **Revised Targets after MTR.** 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; and (ii) PPMS with sex-disaggregated and ethnicity data collected and reported operating effectively in 10 provinces by 2015.

29. **Progress. CPMU and PPMUs.** A CPMU and 10 PPMUs were established in second quarter of 2013 and are fully staffed. As of 28 February 2018, 57 out of 124 staffs (equivalent to 45.97%) of the CPMU and PPMUs are women. The gender focal point was appointed in July 2016.

30. **Loan Implementation Consultant (LIC).** The LIC is currently fully staffed and providing good support to CPMU and PPMUs. A request of addition of National Specialist on Financial Analysis and Business Planning under the LIC by CPMU is noted. CPMU will submit the official request to ADB for consideration and approval.

31. The mission notes the MARD's proposal to use part of the project funds to prepare an investment project to support organic fertilizer. The Mission basically supports this proposal and will work with MARD's relevant agencies to finalize it.

C. Procurement of Civil Works, Goods and Consulting Services

32. **Progress.** The total contract value of procurements of civil works, goods and services carried out amount to US\$13.37 million, which is about 19% of the total project cost (US\$69.67 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, Biogas Value Chain physical audit, Research package 25 and 26, Livestock environmental monitoring and biogas database management equipment, E-library system (consulting service), demonstration package 32, 33, 36, and 37. Based on the latest approved Procurement Plan, key pending packages within the next 18 months include research packages 27, 28, 29, 42 and 43, E-library system (equipment package), Project Auditing (Phase 2), Project Monitoring and Evaluation software for CPMU and 10 PPMUs, and demonstration packages 34, 35, 38 amounting to US\$4.16 million. Some additional procurement packages should be considered to make the project's demonstrations as the comprehensive CSAWMP. The Mission requested CPMU to send ADB the Updated Procurement Plan for review in April 2018.

33. **Findings.** The Mission noted concern to the procurement process of the pending packages mentioned in paragraph 30 above. These packages experienced long delays due to the limited capacity from EA when preparing the document for procurement and cumbersome approval process from APMB.

34. Needed actions.

- (i) CPMU to prepare the procurement schedule for these 11 pending packages so that they can be awarded by 31 May 2018. The schedule needs to be sent to ADB for monitoring by 31 March 2018;
- (ii) CPMU to closely monitor the procurement plan to ensure the contract award of these packages by 31 May 2018. If not, they will be cancelled.

D. Project Monitoring and Evaluation and Reporting

35. **Findings.** The format of the Quarterly Project Progress Reports and Report for Review Mission was cleared by ADB in August 2017. However, it was not sent to the PPMUs after clearing. Most reports prepared by PPMUs for the mission used the old format. Furthermore, inconsistencies of data in reports prepared by CPMU and PPMUs reflect a failure in the system for recording data in the information system.

36. **Needed actions.** CPMU and PPMUs should prepare the quarterly reports and reports for subsequent review missions following the updated format.

E. Project Costs and Financing

37. **Contract Awards and Disbursement.** As per ADB's Loan Financial Information Services, as of 28 February 2018, cumulative contract award and disbursement was US\$20.17 million and US\$19.99 million against US\$69.57 million net loan amount, equivalent to 29% versus elapsed time of 80%. The disbursement amount includes the Advance Account amounted at US\$3.500 million to CPMU and US\$3.400 million to the 2 FIs. However, CPMU recorded the contract awards amount of US\$19.318 million and disbursement amount of \$15.519 million excluding the Advance Account amounted at US\$6.900 million. The Contract Awards and Disbursement Projections until project end is prepared based on the Project Detailed Implementation Plans of CPMU, 10 PPMUs, and 3 FIs in Appendix 4. The CPMU has obtained and utilized the funds up to the Advance Account ceiling (USD 3.5 million) but has not submitted claims for liquidation/reimbursement of these funds for 3 months. Since there are no funds in the Advance Account, CPMU submitted a request for an additional advance. However, ADB is unable to increase the ceiling of the Advance Account due to the low turnover ratio of the Advance Account. The Mission expressed concern about the delay in disbursement of the project and agreed with CPMU's proposal in Table 8 below to speed up the disbursement

Table 8: Disbursement timeline

No	Action	Timeframe
1	PPMUs to make payment and collect invoices to submit to CPMU for reimbursement	30 days
2	CPMU to reimburse to the PPMUs' account.	5 days
3	CPMU to prepare the WA and submit to Finance Division of APMB for review	10 days
4	Finance Division of APMB to approve the WA and CPMU to submit the WA to MOF	5 days
5	MOF to approve the WA and CPMU to submit the WA to ADB.	7 days

38. **2018 ODA allocation.** As of 28 February 2018, all PPMUs have received the allocation decision from respective PPCs except for Phu Tho PPMU. Ben Tre, Nam Dinh and Bac Giang PPMUs sent the detailed workplans to CPMU for comments. As of 28 February 2018, no detailed workplan has been approved by either MARD for CPMU and PPCs for PPMUs. Delay in allocating ODA by PPCs and in approving detailed workplans by MARD and PPCs have caused a lot of difficulties in project implementation, especially disbursement. As a result, no disbursement activities could be done in Quarter I of 2018 due to lack of ODA allocation.

39. **Counterpart Funds.** The Project reported that adequate funds have been provided for 2018 except for Nam Dinh and Ha Tinh PPMUs. The cumulative counterpart funds released as of end-February 2018 is VND38,008 billion (equivalent to US\$1.685 million).

Table 9: Status of ODA and counterpart fund allocation (as of 28 February 2018)

Unit: VND million

No.	Contents	ODA fund		Counterpart fund	
		Allocation	Needs	Allocation	Needs
1	CPMU	159,000	159,000	3,500	3,500
2	Lao Cai	8,100	8,100	498	498
3	Son La	14,300	14,300	865	865
4	Phu Tho	22,900	22,900	No	900
5	Bac Giang	14,700	14,700	800	800
6	Nam Dinh	20,000	20,000	0	900
7	Ha Tinh	12,000	12,000	0	1,200
8	Binh Dinh	20,000	20,000	835	835
9	Tien Giang	13,000	13,000	370	370
10	Ben Tre	10,000	10,000	447	447
11	Soc Trang	15,000	15,000	495	495
	Total	309,000	309,000	7,810	10,810

40. **Audited Financial Statements.** The next Auditor's Report will be due on 30 June 2018. The Mission reminded EA to submit the Audited Financial Statements on time.

41. **Needed actions.**

- (i) CPMU to send request for Project Contract Summary Sheet (PCSS) issuance and the Withdrawal Applications on a more regular basis to narrow the difference of recorded disbursements between ADB and CPMU and to increase the turnover ratio.
- (ii) CPMU to submit withdrawal applications to liquidate/reimburse the advances it has received so far by 31 March 2018
- (iii) ADB will provide additional capacity building to CPMU and PPMU financial management staff on ADB's financial management procedures.

- (iv) CPMU and PPMUs are requested to strictly follow the disbursement timeline to speed up the disbursement.
- (v) CPMU and PPMUs are requested to report to ADB the contract awards and disbursement progress on a monthly basis.
- (vi) Phu Tho PPC to issue the ODA allocation decision to Phu Tho PPMU so that this PPMU can process their Withdrawal Applications.
- (vii) CPMU to provide comments to detailed workplans for ODA funds of Ben Tre, Nam Dinh and Bac Giang immediately.
- (viii) Son La, Lao Cai, Ha Tinh, Binh Dinh, Tien Giang and Soc Trang PPCs to approve the detailed workplans for ODA funds of their respective PPMUs.
- (ix) Phu Tho, Nam Dinh and Ha Tinh PPCs to allocate counterpart funds to their respective PPMUs.

F. Compliance with Loan Covenants

42. The Mission finds the loan covenants to be generally complied or being complied with. An updated schedule of covenants is given in Appendix 5.

G. Environmental Issues

43. **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 waste into clean energy and organic fertilizer from bio-slurry, and disseminate, strengthen, and diversify the knowledge base for the application of CSAWMP. The project aims to target environmental monitoring of at least 5% of SBPs.

44. **Progress.** Project generally has contributed to positive impacts on the environment through improving livestock waste management practices at household and community level. The extension of the number of SBPs, MBPs and LBPs and initiatives of sedimentation tanks to treat waste water after biogas plants, electricity generators using biogas fuel, pig manure separator and utilization of waste water after sedimentation and dried separated pig manure after separation have contributed for reducing waste water and air pollution from livestock activities as well as reducing GHG from waste management. The project also has contributed to strengthening capacity at provincial, district and commune level in managing agricultural wastes. The mission noted that the preparation of environment semiannual monitoring report has improved. Two such reports have been submitted and uploaded on ADB website in 2017. The project has contributed to improving the environmental conditions surrounding livestock farms

45. Although the project contributed to improving environment, but bio-slurry effluent treated through sedimentation tanks and/or the use bio-slurry as fertilizer could not meet with the national standard No. QCVN 62-MT:2016/BTNMT, regulated for quality of livestock effluent and QCVN 08-MT-2015/BTNMT, regulated for quality of surface water. Further treatment of bio-slurry could cause heavy burden for livestock sector, especially for small pig farms at family level, and wasting high value bio-slurry using as fertilizer. The successful implementation of CSAWMP demonstration models by the project have prompted national level policy makers (at the workshop held by the Science, Technology and Environment Council of National Assembly on 13 March) to suggest that the above national standards be revised. The council will organize a hearing with MONRE, MARD and other relevant ministries to review national standards for livestock waste management.

46. **Findings.** During sites visits to some pig and cattle farms in Lao Cai, Ben Tre and Bac Giang, the Mission found the following environment issues (i) the overload of biogas plant capacity and/or over-use of water for cleaning pig farms have caused non-composed manure releasing

after biogas plant in Ben Tre, (ii) inappropriate bio-slurry effluent treatment by sedimentation tanks in Ben Tre and Lao Cai and by lagoons in Bac Giang before releasing to the surface water; (iii) using of untreated bio-slurry as fertilizer and overuse this fertilizer have caused bad smell, insanitation in Ben Tre, Lao Cai and Bac Giang.

47. **Needed Actions.** The following corrective actions proposed to be carried out to secure environmental safeguard compliance and to achieve the project objectives of reducing pollution from agricultural waste by using CSAWMP.

- (i) CPMU and LIC environmental safeguard and biogas technical consultants should provide guidance and training for application of water saving technology that could help reduce water use, and consequently, to increase efficient operation or/and mitigate overload capacity of biogas plants.
- (ii) Biogas design consultant and LIC environment should review and revise the existing designs of sedimentation tank and lagoon systems to make them more effective treatment of bio-slurry before releasing to surface water. The proper models of each type of bio-slurry effluent treatment including sedimentation tank and lagoon system should be documented as guidelines for selection of suitable treatment methods subject to availability of land and investment and treatment cost.
- (iii) CPMU to work with research consultants and LIC environment consultants to apply the results of the CSAWMP research as an overall solution for livestock waste management to meet its objectives of reducing GHG and improving environmental quality.

H. Social Safeguards Issues

48. **Original Targets.** The target of construction of SBPs for EMs with at least 5% of SBP constructed in DMF.

49. **Progress.** By reviewing monitoring report and progress report submitted to ADB, it is noted that the implementation of IPDP has been improved. Safeguard monitoring reports were submitted adequately and in compliance with Loan agreement. By 31 December 2017, total SBPs have been constructed for EMs in three targeted provinces is 2,876 SBPs, out of total 51,663 SBPs for whole project, equivalent 5.5%, and the total SBPs have been constructed for EMs in 6 provinces with EMs present (including Bac Giang, Son La, Soc Trang, Lao Cai, Phu Tho and Binh Dinh) is 4,291 SBPs, equivalent 8.3%. The achievements of IPDP implementation are summarized in Appendix 6.

50. **Findings.** Based on information provided in monitoring report and discussion with Gender and Ethnic Minority Specialist of LIC, following issues were identified:

- a. Capacity building is needed for new social staffs (in CPMU and Phu Tho PPMU);
- b. Training courses on use, operation of small biogas plant and on CSAWMP were not provided to all EM households having small biogas plant built by project;
- c. Difficulties to access FIs of EM households due to procedure for loan process and requirement of guarantee for borrowing the loan;
- d. Suitable method and place for training courses organized for EM households;
- e. Field visits for EM households to visit successful models in CSAWMP and learn about value chain of biogas plant have not conducted yet.

51. **Needed Actions.** Even though the target of construction SBPs for EM was achieved in 2017, CPMU and PPMUs are still requested to do the following:

- i) Encourage the EMs to participate in IPDP 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 demonstration of CSWAMP, vocational training for alternative livelihoods related to biogas and its value chains management to EMs;
- ii) PPMUs review list of EMs participating in training course on use, operating SBP and CSWAMP among the number of EM households with SBP already built to identify who have not received training yet then provide supplement training to such households soonest but no later than 31 May 2018.
 - iii) Use proper training method and organize training course in suitable place based on consultation with EMs e.g conducting training course at the site for small group of EM households
 - iv) Strengthen communication activities direct to EMs, including project information dissemination at village and commune levels;
 - v) Coordinate with local authority and mass organization to find the solution for solving the stuck in mortgage loan and provide the guideline to support EM households to access the project credit;
 - vi) Monitoring the implementation of IPDP as planned and submit to ADB the first internal monitoring on IPDP in July 2018;
 - vii) LIC and Gender and Ethnic Minority specialist are requested to: i) provide the capacity building to new social staff of CPMU/PPMU to be able to implement and monitor activities in IPDP in March 2018; (ii) support CPMU and PPMUs to address the issues and difficulties relating to EMs.

I. Gender Issues

52. **Revised Targets after MTR:** The key gender action plan's targets (in covenant) include (i) at least 20% of those who are trained in biogas management and technical issues are women; (ii) at least 7% of those who are trained and certified as masons for the construction of small Biogas Plants are women (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 15% 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 30% 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 30% 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.

53. **Progress.** The project GAP implementation is at risk of not being completed unsatisfactorily as follows: (i) 83.3 % of actions (5 out of 6) are achieved or on track and 16.7% of action (1 out of 6) is partially achieved. Total of actions: 6. Requirement is 70% of actions are implemented. However, (ii) 54.5% of targets (6 of 11) are achieved or on track; 45.5% of targets (5 out of 11) are partially achieved or under achieved; and 1 target not yet due. Total of targets: 12. Requirement is 75% of targets are achieved.

54. The main results are: (i) 293 female participants out of 1,229 participants participated in training courses on biogas management and technical issues for technical workers (23.8%, which is higher than the target of 20%); (ii) 55,132 participants including 20,522 women were trained on

utilization of biogas technology and operation and maintenance (37.2%, which is lower than the target of 50%). Additional, 41,727 people including 27,523 women were trained at home (66%); (iii) 26 female participants out of 462 participants were trained on SBP construction (5.6%, which is below target of 7%); (iv) 4 female participants out of 38 participants were trained on MBPs and LBPs for engineers and contractors (10.2%, which is below the target of 15%); (v) 363 households received credit of Sub-loans, of which 103 households under the accounts of women (the 363 households have to obtain the authorized papers from their spouses and certified by the Commune People's Committees to register the accounts under their names); (vi) 6,545 female farmers out of 13,877 farmers participated in the training courses on farm management and waste management on farms (47.2%, which is below target of 50%); (vii) 1,058 women out of 2,509 researchers, extension staff participated in the training courses on CSAWMP technology (42.2%, which is higher than the target of 30%); (viii) 604 dissemination meetings and workshops were organized with 28,065 participants including 11,240 women (40.5%), of which 13 dissemination events and consultant involved women-only groups in Lao Cai and Ben Tre provinces (2.2%, which is lower than the target of 30%); (ix) 126 staff in the CPMU and PPMUs, including 56 female staff (44.4%, which is higher than the target is 30%); and (x) 6 gender sensitivity workshops were carried out for gender focal points of PPMUs, technical staff and stakeholders with 253 participants, of which 149 female participants (59%). Please see more detail in Appendix 7.

55. **Issues:** The following issues were identified during the Review Mission:

- (i) The rate of female participated in training courses is lower than project targets: (i) training for masons on SBP construction: 5.6%, target : 7%;(ii) training for contractors and engineers on construction of MBPs and LBPs: 10.2%, target :15%; (iii) training on biogas use for SBP operators 37.2%, target : 50%; (iv) training on CSAWMP technology for farmers: 47.7%, target : 50%);
- (ii) Only 2.2% of dissemination events and consultant involved women-only groups (target :30%);
- (iii) Only half of the CPMU and PPMUs staff participated in the Gender trainings (target: all project staff);
- (iv) During the field visit to Lao Cai and Bac Giang provinces, the mission noted that:
 - The training courses on biogas use organized at the district offices were not convenient for the SBPs operators' participation, especially for women who live in the communes far from district office;
 - In Bac Giang, the training courses on farm management and waste management on farms were organized at commune office and coordinated with commune WU, thus encouraging participation of women in these training courses;
 - In Bac Giang, the mason team led by Ly Thi Lua (Song Khe commune, Bac Giang city), her team has 3 groups with 5-7 masons per group and each group has 1-2 women, but only Ms. Lua participated in the training on construction of SBPs.

56. **Needed Actions.**

- (i) CPMU and PPMUs actively target the female participants in the training courses on the construction of SBPs, MBPs and LBPs, biogas use for SBPs operators, CSAWMP technology for farmers towards the end of the project; these targets will contribute to the achievement of the project GAP targets;

- (ii) The information dissemination and consultations on the project and CSAWMP technology should be integrated into the communal WU's meetings, 30% of which should target the women-only groups in order to enhance their active participation.
- (iii) CPMU conduct more training courses on gender for remaining CPMU and PPMUs staff and introduce project GAP to new stakeholders (contractors, agricultural extension staff, etc.).
- (iv) CPMU with the assistance of gender specialist to guide all PPMUs to review the targets in the GAP which are underachieved and take stronger measures to achieve these targets in order for GAP to be completed satisfactorily.
- (v) PPMUs to organize the training courses on biogas use for SBPs operators at convenient locations so that the local people, especially women can easily access these trainings to achieve the GAP target (50%);
- (vi) CPMU and gender specialist need to instruct and monitor the contractors to ensure that of 30% of personnel in participating institutions trained in O&M of research equipment are women.

III. FOLLOW UP ACTIVITIES

57. 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 9: Agreed Follow-up Actions

No	Issue	Agreed Action	Time frame	Responsibility
1	Output 1: Expanded Use of Livestock Waste Management Infrastructure	(i) CPMU and each PPMU should review the targets for providing ICMD funds of VND3 million and of VND5 million and determine whether the targets of 51,000 and 14,000 respectively can be achieved.	Continuously implementing up to end of project	CPMU/ PPMUs
		(ii) PPMUs in provinces with remote areas should expand the outreach by conducting more awareness programs.	Continuously implementing up to end of project	PPMUs
2	Output 2: Credit Lines for Biogas Value Chains and other climate smart agriculture waste management investments	(i) VBARD and Coop Bank will submit liquidation applications for the amounts already disbursed.	30 April 2018	VBARD and Coop Bank
		(ii) VBARD will retain 750 million VND for disbursement in 2018-2019 and refund the balance of the initial advance to ADB.	30 April 2018	VBARD
		(iii) Coop Bank will retain 3.5 billion VND for disbursement in 2018-2019 and refund the balance from the initial advance to ADB.	30 April 2018	Coop Bank
3	Output 3: Enhanced Climate Smart Agricultural Waste	(i) Contract award to research packages 27-29 and 42-43	May 2018	CPMU
		(ii) Contract award to demonstration 34, 36 and 38	May 2018	CPMU

No	Issue	Agreed Action	Time frame	Responsibility
	Management Practices Technology Transfer	(iii) Approval of Inception Reports of research packages 25 and 26, including detail research outlines to be allowed enough time for dissemination of the results.	April 2018	CPMU
4	Procurement	(i) CPMU to prepare the procurement schedule for 11 pending packages	31 March 2018	CPMU, LIC
		(ii) CPMU to closely monitor the procurement plan to ensure the contract award of these packages by 31 May 2018. If not, they will be cancelled.	31 May 2018	CPMU
		(iii) CPMU to send ADB the updated procurement plan	30 April 2018	CPMU
5	Disbursement	(i) CPMU 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	Continuously implementing up to end of project	CPMU
		(ii) CPMU to submit withdrawal applications to liquidate/reimburse the advances it has received so far	31 March 2018	CPMU/ PPMUs
		(iii) ADB will provide additional capacity building to CPMU and PPMU financial management staff on ADB's financial management procedures	Upon CPMU's request	ADB
		(ii) CPMU and PPMUs are requested to strictly follow the disbursement timeline to speed up the disbursement.	Continuously implementing up to end of project	CPMU/ PPMUs
		(iv) CPMU and PPMUs are requested to report to ADB the contract awards and disbursement monthly.	Monthly	CPMU/ PPMUs
6	ODA and counterpart fund allocation	(i) Phu Tho PPC to issue the ODA allocation decision to Phu Tho PPMU so that this PPMU can process their Withdrawal Applications.	As soon as possible	Phu Tho PPC
		(ii) CPMU to provide comments to detailed workplans for ODA funds of Ben Tre, Nam Dinh and Bac Giang immediately.	As soon as possible	CPMU

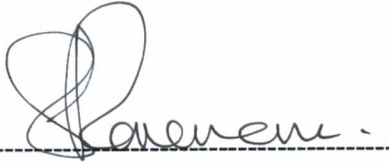
No	Issue	Agreed Action	Time frame	Responsibility
		(iii) Son La, Lao Cai, Ha Tinh, Binh Dinh, Tien Giang and Soc Trang PPCs to approve the detailed workplans for ODA funds of their respective PPMUs.	As soon as possible	Son La, Lao Cai, Ha Tinh, Binh Dinh, Tien Giang and Soc Trang PPCs
		(iv) Phu Tho, Nam Dinh and Ha Tinh PPCs to allocate counterpart funds to their respective PPMUs.	As soon as possible	Phu Tho, Nam Dinh and Ha Tinh PPCs
7	Environmental Safeguard Recommendations	(i) Provide guidance and training for application of water saving to livestock	July 2018	CPMU/LIC/ research consultant package 27
		(ii) Review and revise the existing designs of sedimentation tank and lagoons to make them more effective treatment of bio-slurry	April-July 2018	CPMU/LIC
		(iii) Support PPMU in solving the overloading issue of SBPs	April-June 2018	CPMU/LIC
		(iv) With the support from environment safeguard consultant, mobilize environment equipment and implement sampling program which might be integrated with biogas inspection.	Continuously from May 2018	CPMU/LIC/PPMUs
		(vi) using environment sampling results for analysis of environment quality and intergrade it in semiannual monitoring report, Jul-Dec 2018	Continuously from June 2018	CPMU/LIC
8	EM Recommendations	i) Encourage the EMs to participate in IPDP activities, especially increase of number of SBPs constructed for EMs to meet the target up to end of project.	Continuously implementing up to end of project	CPMU/LIC/PPMU
		(ii) PPMUs review list of EMs participating in training course on use, operating SBP and CSWAMP among the number of EM households with SBP already built to identify who have not received training yet then provide supplement training to such households	May 2018	PPMUs
		(iii) Use proper training method and organize training course at suitable place based on consultation with EMs;	Continuously implementing up to end of project	CPMU/LIC/PPMU
		(iv) Conduct consultation meeting with EMs before training to ensure the provision of information and training materials in a form of appropriate language	Before trainings	PPMUs/ local authorities

No	Issue	Agreed Action	Time frame	Responsibility
		(v) Provide the capacity building to new social staffs of CPMU/PPMU to be able to implement and monitor activities in IPDP;	March 2018	LIC
		(vi) Strengthen communication activities direct to EMs, including project information dissemination at village and commune levels in 6 provinces with EM present;	Continuously implementing up to end of project	PPMUs
		(vii) Monitoring the implementation of IPDP as planned and submit to ADB the first internal monitoring on IPDP;	July 2018	CPMU/ PPMUs
9	GAP recommendations	(i) CPMU and PPMUs actively target the female participants in the training courses on the construction of SBPs, MBPs and LBPs, biogas use for SBPs operators, CSAWMP technology for farmers.	Continuously implementing up to end of project	CPMU and PPMUs
		(ii) PPMUs need to conduct dissemination events, consultation to inform about the project and CSAWMP technology and to ensure 30% of dissemination events and consultation to be involved with women-only groups.	Continuously implementing up to end of project	PPMU
		(iii) CPMU conduct more training courses on gender for remaining CPMU and PPMUs staff and introduce project GAP to new stakeholders.	Continuously implementing up to end of project	PPMU
		(iv) CPMU with the assistance of gender specialist to guide all PPMUs to review the targets in the GAP which are underachieved and take stronger measures to achieve these targets in order for GAP to be completed satisfactorily.	June 2018	CPMU, Gender specialist and PPMUs
		(v) CPMU and gender specialist need to instruct and monitor the contractors to ensure that of 30% of personnel in participating institutions trained in O&M of research equipment are women.	Continuously implementing up to end of project	CPMU, PPMUs and Gender specialist
10	Review mission	Next Review Mission	Q III 2018	ADB

IV. ACKNOWLEDGMENT

58. The Mission wishes to express its sincere appreciation for the cooperation and assistance extended by MARD, APMB and 10 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 on 23. March 2018 by:



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



Mr. Le Van Hien
Director General
Agriculture Projects Management Board
Ministry of Agriculture and Rural Development

List of Appendixes

No	Title of Appendixes
1	List of Key Persons Met
2	Project overall physical progress
3	Profiles of visited households/farms
4	Contract Awards and Disbursement Projections
5	Compliance with Loan Covenants
6	Updated Ethnic Minority Development Plan
7	Updated Gender Action Plan Monitoring Table

List of Key Persons Met

Name	Position	Email Account	Tel. No
MARD			
Chu Văn Chuông	Deputy Director General of ICD		
Lê Minh Tuấn	Staff of ICD	Tuanlm.htqt@gmail.com	0913247782
Tạ Hữu Nghĩa	Head of Department of Cooperative	nghiaktht@gmail.com	0912554806
Ngô Thị Kim Cúc	Vice Head of NIAH	cucngokim@yahoo.com	0989160653
Nguyễn Thành Trung	Environment Division, NIAH		
Đường Công Hoan	Husbandry Department		0912058181
Nguyễn Hoàng Long	Vice Head of VAAS	Longnh.vaas@mard.gov.vn	0912062539
Phạm Thanh Huyền	DDG, Department of Finance		0912632918
Nguyễn Thị Bình Thục	Department of Finance	nbthuc@gmail.com	0914039198
Đình Vũ Thanh	DDG, Department of Science Technology and Environment	Thanhhdv.khcn@mard.gov.vn	0913092270
Nguyễn T. Thanh Huyền	Deputy Head of Division, Center for Agriculture Promotion	thanhhuyenkn@gmail.com	0988886225
Other line ministries			
Nguyễn Lan Anh	Deputy Head, Multilateral Financial Division, Department of Debt Management and External Finance, Ministry of Finance		
Lê Thanh Huệ	Department of Debt Management and External Finance, Ministry of Finance		
Nguyễn Quỳnh Phương	ICD, State Bank of Vietnam	Phuong.nguyenquynh@sbv.gov.vn	0912073830
APMB			
Lê Văn Hiến	Director General	Lehien61@gmail.com	0913436769

Phạm Việt Anh	Deputy Head of Planning and Technical Division	Phamvietanh.bnn@gmail.com	0913447751
Nguyễn Thị Minh Hằng	Staff, Planning and Technical Division	Huongng4@gmail.com	01699292871
Đặng Hữu Kiên	Vice Head, Consultant Management Division	Danghuukien@gmail.com	0912295902
Đồng Xuân Huy	Head		
Central Project Management Unit			
Nguyễn Thế Hình	Project Director	nguyenthe.hinh@gmail.com	0913247782
Vũ Tiến Dũng	Deputy Project Director	Vutiendung1972@gmail.com	0913543045
Hoàng Thái Ninh	Deputy Project Director	hoangthaininh@gmail.com	0989198200
Nguyễn Văn Chung	Staff	chungnguyenvanhd@yahoo.com	01682578578
Nguyễn Thái Sơn	Environment Officer	thaison@apmb.gov.vn	0902468122
Dương Thị Diễm Hằng	Accountant	duongdiemhang@gmail.com	0902149939
Lương Huy Hoàng	Staff	Mr.hoang0980@gmail.com	0986854617
Trịnh Thị Thuý Hôi	Staff	Thuyhoi1982@gmail.com	0912669197
Nguyễn Thị Minh Hằng	Gender Staff	duongdiemhang@gmail.com	0902149939
Loan Implementation Consultants			
Đặng Thị Phương Lan	Consultant for Lao Cai	orchidiae@gmail.com	0903238288
Lê Thị Mộng Phương	Gender and EM Consultant	lephuongxhh@gmail.com	0912268809
Nguyễn Văn Bộ	Deputy Team Leader	Nguyenvanbo2@gmail.com	0913214195
Hồ Thị Lan Hương	Consultant	huonglcasp@gmail.com	0913040872
Bùi Văn Chính	Consultant	Chinhbuiivan43@gmail.com	0912179197
Financial Intermediates			
Nguyễn Đức Hải	Deputy General Director, Viet Nam Bank for Social Policies		
Phan Cự Nhân	Director of Communication & International Co-operation Dept, Viet Nam Bank for Social Policies	phancunhan@gmail.com	'0913019480
Lê Thu Hà	Coopbank	Lethuha262@gmail.com	0904983367

Nguyễn Thu Hà	Head of FI Department, Agribank	hantt@agribank.com.vn	0989993486
Nguyễn Việt Hùng	FI Department, Agribank	viethung_nguyenvba@yahoo.com	0913934065
ADB			
Sanath Ranawana	Senior Natural Resources Economist		
Trương Minh Huệ	Associate Project Analyst		
Phạm Quang Phúc	Senior Environment Officer		
Ngô Thúy Quỳnh	Consultant (Resettlement)		
Trần Thúy Hải	Consultant (Gender)		
Tien Giang province			
Huỳnh Thanh Nông	Vice Project Director, PPMU	huynhthanhnong@yahoo.com.vn	0983801049
Đoàn Thanh Phong	Project Director, PPMU	tphongtg@gmail.com	0918287639
Nguyễn Thanh Hòa	Accountant, PPMU	hoathn@gmail.com	0972933312
Nguyễn Minh Nhựt	Technical Officer, PPMU	Nguyenminhnhut23104@gmail.com	01649439661
Nguyen Thi Huynh	Officer (Gender and EM)	qseaptiangiang@gmail.com;	0975171825
Ben Tre province			
Nguyễn Thế Nghĩa	Project Coordinator, PPMU	lcasepbt@gmail.com	01699073793
Phạm Thị Thu Sương	Director, PPMU	Phanthusu2000@gmail.com	0918330169
Phạm Thị Mai	Accountant, PPMU	Pthimai81@gmail.com	0988458482
Nguyễn Khánh Bình	Technical Officer, PPMU	<u>Ncbinh.knkn@yahoo.com.vn</u>	0919240240
Trần Thị Kim Ngân	Accountant, PPMU	Ngantran1224@gmail.com	01676578442
Lê Quang Vinh	Officer (Gender and EM)	vinhlequang11@gmail.com	0906027909
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
Binh Dinh province (PPMU address: 110 Tran Hung Dao, Quy Nhon city, Binh Dinh province)			

Dao Van Hung	Project Director, PPMU	Daohung_62@yahoo.com.vn	0988159706
Huynh Ngoc Diep	Deputy Project Director, PPMU		
Nguyễn Ngọc Hùng	Project Coordinator		
Ho Thi Giac Ngan	Officer (Gender and EM)	Lcaspbinhdinh@gmail.com	0935970309
Nam Dinh Province			
Hoang Thi To Nga	Project Director, PPMU	Ngasam67@gmail.com	0918951967
Vu Duc Luu	Chief Accountant, PPMU	vuduclusnnd@gmail.com	0903212730
Nguyen Trong Tan	Project Coordinator, PPMU	Trongtan78@gmail.com	0913472700
Minh Văn Hiểu	Deputy Project Director, PPMU	Hieuty13@gmail.com	0192850210
Nguyen T. Minh Giang	Technical Officer, PPMU (Gender)	Minhgiang170@gmail.com	0988910407
Lao Cai province			
Đỗ Văn Duy	Deputy Director, Lao Cai DARD		
Nguyen Dinh Tam	Project Officer, PPMU	tamthuylaocai@gmail.com	01655551999
Phạm Thị Hoa		phamhoalc@gmail.com	0919706042
Cao Thị Hòa Bình		choabinh@gmail.com	0984667817
Ngô Quyền		Quylenle1977@gmail.com	0916486133
Đỗ Thành Luân		Thanhluan.snnlc@gmail.com	0941085333
Nguyễn Thị Khánh Hòa		Nguyenkhanhoa.vfu@gmail.com	0974581286
Nguyễn Thị Ngọc Anh		Anhnn137@gmail.com	0904705590
Son La Province			
Le Van Thanh	Project Director, PPMU	Lcaspsonla@gmail.com	0904109456
Lo Thanh Bang	Project Coordinator, PPMU	Banglothanh75@gmail.com	0988432886
Phu Tho province			
Tu Anh Son	Deputy Director of DARD - Project Director, PPMU	tusonpt@gmail.com	0989149457
Ha Tinh province			
Nguyễn Xuân Liêm	Chief Accountant, PPMU	liemhoi@gmail.com	0913350842

Nguyễn Xuân Hoan	Project Director, PPMU	xuanhoansnn@gmail.com	0944667999
Bac Giang province			
Nguyễn Trung Kiên	Project Director, PPMU	kiengseapbg@gmail.com	0949140737
Dương Thế Khoa	Technical Officer, PPMU	thekhoabg@gmail.com	0985588750
Luu Thi Phuong Dung	Gender staff, PPMU	luudung85bg@gmail.com	0976908797
Nguyễn Thu Huyền	Staff, PPMU	Milano.kito@gmail.com	0911009992
Nguyễn Thị Oanh	Staff, PPMU	Nguyenthioanh.ccts@gmail.com	0986701568
Trần Thanh Phong	Staff, PPMU	Tranthanhphong.bg@gmail.com	0975144946
Dương Thị Hoài Thu	Accountant, PPMU	Thuduong8686@gmail.com	0987919186

OVERALL PROJECT PHYSICAL PROGRESS (as of 28/2/2018)

No.	Components/Activities	Cost	Weight	Dis amount	Rated Progress (0 - 100)	Weighted Progress
	Component 1: Expanded Use of Livestock Waste Management Infrastructure					
	Standardizing and disseminating a design package for BVC infrastructure	2,500,000	3.68%	1,501,000	60	2.21%
	Strengthening the monitoring capacity of relevant agencies to hand over and monitor the constructed biogas plant	2,459,300	3.62%	904,311	37	1.33%
	Beneficiaries as a financial incentive to carry out Eligible Subprojects	10,485,455	15.44%	6,134,000	59	9.03%
	Capacity building in designing, constructing, operating and monitoring biogas plants	1,209,726	1.78%	564,000	47	0.83%
	Strengthening the capacity and providing equipment for relevant agencies to manage national biogas database	343,682	0.51%	207,000	60	0.30%
	Component 2: Credit Lines for Biogas Value Chains					
	FLs 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	29,817,452	43.90%	607,000	2.04	0.89%
	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	5,637,583	8.30%	21,442	0.38	0.03%
	Developing livestock waste management models for agricultural production and greenhouse gas emission reductions	4,306,732	6.34%	1,802,000	42	2.65%
	Capacity building of researchers, extension staff and farmers including vocational training program, training packages and study tours on CSAWMP	1,206,182	1.78%	714,000	59	1.05%
	Establish an information system (e-library, map sets on agro-ecological zones and distance learning system) to disseminate awareness and knowledge CSAWMP	790,000	1.16%	183,000	23	0.27%

	Component 4: Effective project management					
	Establish CPMU and PPMUs to be operational; Conduct a gender awareness raising workshop for PMUs, IDC	6,177,009	9.09%	3,215,000	52	4.73%
	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	2,986,820	4.40%	1,035,078	35	1.52%
	Total	67,919,941	100%	16,887,831	475	24.86%

BRIEF INFORMATION OF MBP IN LAO CAI

1. Farm owner: Lương Văn Khang

2. Address: Tân Thượng village, Trì Quang commune, Bao Thang district, Lao Cai province; Tel: 0919 810 113

3. Farm characteristics

Total farm area: 4.5ha

* Livestock: + Cows: Present: 20 cows; Future plan: 135 cows, of which: 80 female cows, 55 fatty cows

+ Buffaloes: at present 02 buffaloes

+ Pigs: Present: 5 pigs; Future plan: 20 fatty pigs

* present Crops: Grass: 2 ha; Tea: 0.7 ha; Fish pond: 2000m²; Rice field: 0.2 ha.

* Other activities: distilling liquor, tea drying service

* Product value of the farm at current scale: 355 million VND/year; with profits of 230 million VND/year (*excluded the cost for employing 01 permanent labour*).

High profit is attributed to: cost saving from firewood equivalent to 12 million per year; cost saving from chemical fertiliser equivalent to 21 million VND/year since all composted livestock waste and bio-slurry is used for crops.

4. Costs for construction of BP and supporting structures (sedimentation tank, piping system, stove...) and financial subsidy

- Size of MBP: MBP KT1 type, with volume of 70.7m³

- Total cost: 167,000,000 VND

+ Project subsidy: 50,000,000 VND

+ Owner's investment: 117,000,000 VND

5. Project impacts

Livestock environment is improved. Disease is limited. Organic fertiliser can be produced and bio-slurry is used for irrigating grass and tea which help to improve soil fertility, productivity and quality of crops, and save costs from chemical fertiliser; biogas is used for cooking, drying tea and distilling liquor which help to save money on firewood and make cooking easier.

6. Photo



BRIEF INFORMATION ON THE BIO-SLURRY IRRIGATION SYSTEM FOR FRUIT TREES

1. **Farm owner:** Tran Van Thanh

2. **Address:** Group 3, Phong Hải town, BaoThang district, Lao Cai

Tel: 0917.924.688

3. Farm characteristics

- Total farm area: 7ha; Livestock size: Fatty pigs: 200, Sow: 50
- Crop size: Pomelo: 2 ha; Dragon fruit: 3.5 ha; Fish pond: 02 ponds 1500 m²;

* Product value at the current size:

+ The product value of the farm by current scale is 4 billion VND/year from pig production.

Because pig prices have fallen over the past year, so the farm is not profitable.

+ Grapefruit and dragon fruit are only in the basic stage of construction so profit is not calculated because the products have not been collected yet; However, it is estimated at the experimental stage of construction that the farm will save the fertilizer cost from the use of all manure and biogas waste for 2 ha of grapefruit is 80 million VND and 3.5 ha dragon fruit is 140 million VND.

4. Costs of construction and financial subsidy for dripping system

- Total cost: 366,000,000 VND

+ Project subsidy: 96,000,000 VND (including 2 septic tanks of 11m³, 02 specialised pumps, 01 plastic water tank of 2000 litres, design cost, labour cost for construction, dripping plastic pipe system for 1ha of pomelo)

+ Owner investment: 270,000,000 VND

5. Project impacts

Producing organic fertilizer and utilizing waste water from biogas plant for irrigating grapefruit and dragon fruit. Especially, in addition to save cost of fertilizers, irrigation system also save labor costs and labor release.

6. Photo



BRIEF INFORMATION OF MBP IN BEN TRE

1. Farm owner: Nguyen Van Thanh - Tel: 01699706195

2. Address: Thoi Thanh village, Thanh Phu district, Ben Tre Province.

3. Farm characteristics:

Types of animals::

+ Sows: 30 + Fattening pigs: 270

Total farm area: 10.000 m², in which 4000 m² of farm area and left area of coconut garden and house.

- The amount of livestock waste is about 450kg/day

- The volume of waste water is about 2 m³/ day.

4. Support from LCASP project: Technical assistance and 50 million VND.

Size of MBP

- MBP KT1 type, with volume of 52.2m³

- Pressurised tank: 6,585m³:

- Sterilization basin: 1 basin x 2m²

- Environment tank and waste water storage tank: 2 tanks x 15m³/tank = 30 m³,

Costs for construction of BP and supporting structures (sedimentation tank, piping system, stove...) and financial subsidy

- Total cost: 134,640,000 VND

+ Project subsidy: 50,000,000 VND

+ Owner's investment: 84,640,000 VND

Biogas consumption

Total biogas production/day: 52,2 m³ x 0.2 = 10,44 m³

- Cooking: 4 persons x 0.3 m³/ person = 1.2 m³/day

- Heating lamp: 2 lamp x 0.38m³ / day = 0,76 m³/day

- Electricity generator: single phase-5kW with equipment of air filter and air bag. By-product liquid: 5 kw x 0,56 m³ x 3 giờ = 8,4 m³

- Installment: a pump with flow rate of 5m³/h

- Invest in irrigation system of soft plastic pipe with diameter in $\Phi 34$ → using bioslurry to irrigate coconut gardens in period of 7-10 days

Use of bio-slurry

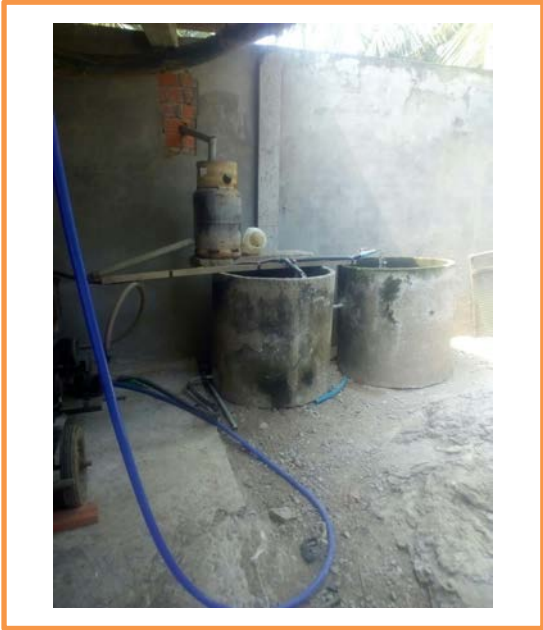
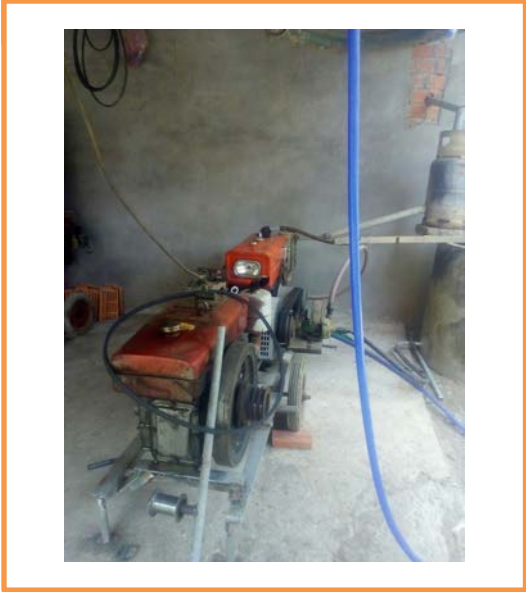
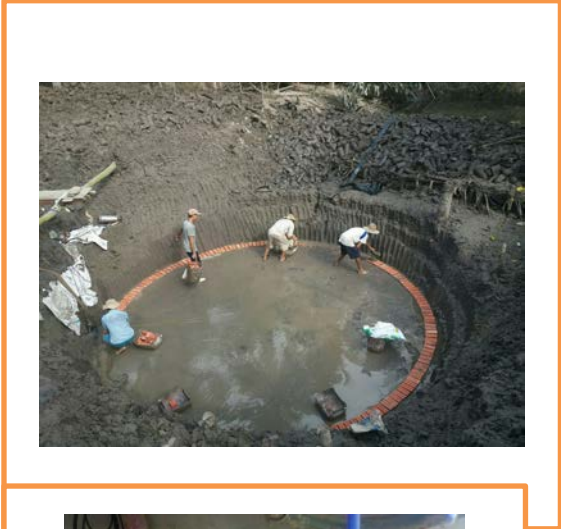
- Irrigating 0.3 ha of coconout; frequency: one every 10 days.

- In practice, 100% of bio-slurry is used for coconout and vegetables in the garden

5. Impact of the project's support on farm activity :

Reducing environmental pollution on farm. Organic fertiliser can be produced and bio-slurry is used for irrigating coconut which help to improve soil fertility, productivity and quality of crops, and save costs from chemical fertiliser; biogas is used for cooking, heating lamp

6. Photos (if any)



BRIEF INFORMATION OF DEMONSTRATION MODELS OF APPLICATION MANURE SEPARATING SYSTEM IN BEN TRE PROVINCE

Model of separation

1. Farm owner: Hồ Văn Truyền

2. Address: Thanh Thoi B village, Mo Cay Nam district, Ben Tre Province

Tel: 0919718170

3. Farm characteristics

Types of animals::

+ Fattening pigs: 700 + Area of sow house: 5000 m²

Biogas plant: Amount of biogastanks : HDPE: 9000-m³, by-product liquid charging into bio-pond of morning glory and water hyacinth.

- Electricity generator by biogas of 16 KVA

4. Support from LCASP project: Project sponsor a Model of application manure separating system SM260/20Mini, origin in CRIMAN – Italy, 3Kw/380V/50Hz

+ Total cost: 1.072.000.000VND

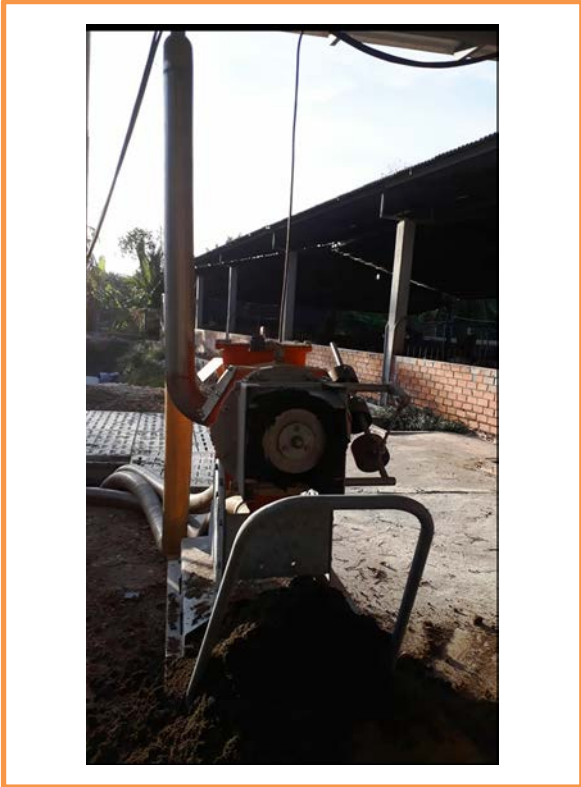
+ Project support: 770.000.000 VND (separating system includes: Screw press separator; Motor Pumps; Motor Mixer; Pipe line system for manure collecting and storage; Power adapter system (1-phase to 3-phase); Power Switchboard/ Dashboard; Wires and accessories); Trainings: operation instruction, technology transferring etc....)

Approximately collecting 50% of total solid waste from livestock waste water, about 500kg solid waste per day and 166 tons of solid per year as input material for producing organic fertilizer.

Maximum electricity power: 8,2kwh. However, the stirring machine can be switched off with pump and compressor running by electricity power of 6kwh

5. Impact of the project's support on farm activity : reducing the overload of biogas plant as well as preventing the huge amount of waste from the farm when increasing the livestock size in terms of elevated price of pig.

6. Photos (if any)



Information about the farm Mr. Le Van Khiem

1. Mr. Le Van Khiem's farm
2. Address: Van Chung Village - Lam Cam Commune - Tan Yen District - Bac Giang Province
3.
 3. Description of farm activities:
 - Type of cattle: 2500 pigs
 - Type of plant:
 - The total area of the farm is 2.5 ha
 - Other economic activities: Are not
 - Estimate the value of farm products
 - Annual production; Pig farm 01 year 02 batch. Each batch of 2500 pigs. A total of 5000 pigs a year. The average weight of livestock is 110 kg/head.
4. Support from LCASP project: separation machine
5. Impact of project support on farm activities:
 - Contribute to increased income from fertilizer; At the beginning of the farm, 50 tons were sold at an average price of 800 - 1000 VND/kg. Income is 40 million.
 - Thanks to the investment of the LCASP project, the waste separation plant has been reduced to the environment such as: gas used to run out of fuel, limited air pollution.
6. A few farm pictures

Information about Nguyen Ba Huu Farm

1. Nguyen Ba Huu Farm

2. Address: Dam Lac Village - Viet Ngoc Village - Tan Yen District - Bac Giang Province

3. Description of farm activities:

- Type of cattle: pigs 4000 pigs,
- Grapefruit, jackfruit and newly planted (3600 m²) not yet harvested
- The total area of the farm is 6.4 ha
- Other economic activities. Are not
- Estimate the value of farm products Annual production; Farm 01 year 02 litter. Each batch of 2000 pigs. A total of 4000 pigs. Crude weight of 110 kg/head. Total output of live hog is 4000 pigs, average weight 110 kg/unit.

4. Assistance from the LCASP project

Support from LCASP project: separation machine

5. Impact of project support on farm activities

- Contribute to increased income from fertilizer; At the beginning of the farm, 26 tons were sold at an average price of 1000 VND/kg. Income is 26 millions VND.
- Thanks to the investment of the LCASP project, the waste separation plant has been reduced to the environment such as: gas used to run out of fuel, limited air pollution.
- Use a fertilizer fertilizer for fruit trees on the farm, reduce investment in chemical fertilizers.

6. A few farm pictures

Information about Mr. Thân Văn Thành's farms

A. Farm information

1. Name: Than Van Thanh

2. Address: Dun 3 - An Duong - Tan Yen - Bac Giang

3. Description of the farming activity:

- Total area of about 10 hectares. Inside:

+ pork: 3000

+ The area of fruit trees is about 5 ha

- Profit for agriculture to be approx 2 billion/year

4. Support from LCASP project: The system uses wastewater after biogas to irrigate fruit trees

5. Impact of the project's support on farm activity:

- reduce labor

- Save time irrigation

- Saving the chemical fertilizer

- The quality of agricultural products is improved

6. Photos (if any):



**Loan 2968-VIE: Low carbon Agricultural Support Project
Overall Provision and Projection of Counterpart Funds**

No	CPMU/Province	Total CF Estimated (VND mil.)	Cumulative Disburs. As 28/2/2018									Disbursed Ratio %
				2018				2019				
				Q I	Q II	Q III	Q IV	Q I	Q II	Q III	Q IV	
*	CPMU	28,807	17,529	800	900	900	900	1,290	1,290	1,290	1,329	61%
1	Binh Dinh	6,005	2,394	209	209	209	209	225	225	50	0	40%
2	Bac Giang	4,780	1,749	200	200	200	200	200	200	200	200	37%
3	Ben Tre	3,965	1,077	50	97	150	150	50	95	150	150	27%
4	Ha Tinh	6,626	3,450	300	300	300	300	300	300	300	300	52%
5	Lao Cai	4,435	2,108	126	124	124	124	124	124	124	124	48%
6	Nam Dinh	5,858	2,129	200	200	200	300	200	200	200	200	36%
7	Phu Tho	5,695	2,493	0	300	300	300	300	300	0	0	44%
8	Soc Trang	3,939	1,936	124	124	124	124	124	124	124	124	49%
9	Son La	5,978	2,011	135	135	135	135	150	150	0	0	34%
10	Tien Giang	3,422	1,132	20	150	100	100	80	90	90	90	33%
Total		79,509	38,008	2,163	2,738	2,741	2,841	3,043	3,098	2,528	2,517	48%
Total C.F Requirements for 2016												
Total Shortage of counterpart funds												

APPENDIX 5: PROJECT SPECIFIC COVENANTS - AS DISPLAYED IN LEGAL AGREEMENTS

Product	Schedule	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

Product	Schedule	No.	Description	Remarks/Issues	Type
Loan 2968	Article 4	2	<p>(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 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>	Being complied with	Financials
			<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.</p>	On going.	
			<p>(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.</p>	Being complied with.	

Product	Schedule	No.	Description	Remarks/Issues	Type
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 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.	Complied with.	Financials
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

Product	Schedule	No.	Description	Remarks/Issues	Type
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

Product	Schedule	No.	Description	Remarks/Issues	Type
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

Product	Schedule	No.	Description	Remarks/Issues	Type
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

Product	Schedule	No.	Description	Remarks/Issues	Type
			(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

Product	Schedule	No.	Description	Remarks/Issues	Type
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

Product	Schedule	No.	Description	Remarks/Issues	Type
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 measures and requirements set forth in the EARF and any EMP or EMDP promptly after becoming aware of the breach.	Being complied with.	

Product	Schedule	No.	Description	Remarks/Issues	Type
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

Product	Schedule	No.	Description	Remarks/Issues	Type
Loan 2968	Schedule 5	19	<p>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.</p>	<p>(i) Being complied with (ii) Partially complied with (iii) Being complied with (iv) Partially complied with (v) Partially complied with (vi) Complied with (vii) Complied with (viii) Being complied (ix) Being complied with (x) Partially complied with (xi) Being complied with (xii) Complied with (xiii) Complied with</p>	Social

Product	Schedule	No.	Description	Remarks/Issues	Type
Loan 2968	Schedule 5	20	The Borrower shall ensure that in all Project Provinces, information dissemination, education and mass -communication activities are carried out in a timely manner to promote the replication of biogas technology application and utilization.	On going.	Social
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

Product	Schedule	No.	Description	Remarks/Issues	Type
Loan 2968	Schedule 5	24	<p>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 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.</p>	Being complied with.	Others

Product	Schedule	No.	Description	Remarks/Issues	Type
Loan 2968	Schedule 5	25	<p>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</p>	Being complied with.	Others
Loan 2968	Schedule 5	26	<p>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.</p>	Being complied with.	Others

Product	Schedule	No.	Description	Remarks/Issues	Type
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 2968	Schedule 5	28	The Borrower shall and shall ensure that each FI promptly informs the 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.	Being complied with.	Others

APPENDIX 6: UPDATED ETHNIC MINORITIES DEVELOPMENT PLAN
As of 28 Feb 2018

No.	Activities	Status	Achievements
1	Livestock waste management		
1.1	Biogas plant value chain management		
1.1.1	Map EM statistic in sample provinces, their livelihoods and potential links to BP value chains.	On-going	<p><i>By end of February 2018</i> the database for BPs under Package 13, with separated data for ethnic minorities, has been implemented and updated with 40,764 biogas plants of whole project. Of which 24,046 BPs are from 6 provinces with EM.:</p> <p>-Son La: 1,520</p> <p>-Lao Cai: 2,083</p> <p>- Bac Giang; 4,523</p> <p>-Phu Thọ: 8,576</p> <p>-Soc Trang: 2,463</p> <p>-Binh Dinh: 5,293</p>
1.1.2	Assess resources and constraints for EMs to construct BPs	Ongoing	<p>Assessment during implementation phase has been initially done through the consultation with provinces in November 2016.</p> <p>Second assessment in May 2017: LIC has drafted assessment forms. CPMU has sent letters to EM provinces and received the feedbacks from some provinces.</p> <p>Assess resources and constraints for EMs to construct BPs has been conducted by LIC during the training course on Gender and EM in Thai Nguyen for staffs from 4 provinces.</p>
1.1.3	Construction of SBPs for EMs	Ongoing	<p><u>By end of February 2018:</u></p> <p>Project has built 51,663 small biogas plants, including 4,290 plants for ethnic minority households in 05 selected provinces (accounting for 8.3% of total number of small biogas plants in 10 project provinces. Detailed data:</p> <p><u>Lào Cai:</u> 1,165/2,703=43%</p> <p>Phú Thọ: 247/10,059=2%</p> <p>Bình Định: 2/7,693=0.2%</p> <p>Sóc Trăng: 1,000/3,002=33%</p> <p>Bac Giang: 639/7,865=8%</p> <p><u>Son La:</u> 1,237/2,360=52%</p>

No.	Activities	Status	Achievements
1.1.4	Organize to potentially share BP value chain benefits from BP owners to EMs	Ongoing	The project has organized various communication activities to disseminate information about the project including the proposals for sharing Biogas Value Chain (BVC) benefits (energy and organic fertilizer) from BP owners. <u>Up to 28 Feb 2018</u> , the information dissemination has been done in 6 ethnic minority provinces including:
			- 473 information dissemination meetings and workshops
			- 129 articles broadcast on TV
			- 1,663 articles broadcast on radio
			- 121 articles on newspapers
			- 8,678 bulletin boards
			- 15,500 posters
			- 89,000 leaflets
- 38 video clips			
1.1.5	Monitor BP value chain management within EMs	Ongoing	<u>Up to 28 Feb 2018</u> : All the 10 provinces have constructed 51,663 SBPs, including 4,290 SBPs for EMs, receiving the supervision and technical assistance from the project in terms of BVC management.
1.2 Carbon market access			
1.2.1	Assess EM driven investments that may link carbon emission	Ongoing	All data on biogas plants of ethnic minorities will be provided to the National Biogas Program to support carbon credit program
			<u>Cumulative data as of 28 Feb 2018</u> , The Project has provided 51,663 SBPs, of which 4,290 SBPs are provided for ethnic minorities in 6 EMs provinces (Accounting for 8.3% of the total number of SBPs in 10 project provinces).
1.2.2	Train EMs on CSAWMP linked to carbon markets	Ongoing	<u>Cumulative data as of 31 Dec-2017</u> : 13,877 people from the 10 project provinces have been trained on CSAWMP, of which 1,998 are ethnic minorities, accounting for 14.4% <i>Considering the 6 provinces with EMs only, the number of trained EM accounts for 16.9% (1,998/11,772)</i>

No.	Activities	Status	Achievements
1.2.3	Assess FIs which are suitable for EM to access the credit		Social policy bank was proposed as an additional FI for project however the negotiation process has not been achieved yet.
1.3	<i>Biogas value chains sustainability</i>		
1.3.1	Train EMs to manage their livestock and wastes	Ongoing	The project has provided training courses on O&M of biogas plants and CSAWMP for participants to manage livestock and wastes
1.3.1a	Training on CSAWMP:	Ongoing	<i>Cumulative data as of 31 Dec 2017:</i> 13,877 people of the 10 provinces have been trained on CSAWMP, of which 1,998 are ethnic minorities, accounting for 14.4%. <i>Considering the 6 provinces with EMs only (Son La, Lao Cai, Bac Giang, Phu Tho, Binh Dinh and Soc Trang),</i> the number of trained EM accounts for 16.9% (1,998/11,772)
1.3.2(b)	Ethnic minority people trained on the use of small biogas plants	Ongoing	<i>As of 28 Feb 2018,</i> among 33,414 trained people in 06 provinces with ethnic minorities and among 55,149 of all project trainees, 4,475 ethnic minority people have been trained on the use of small biogas plants, accounting for 13.4% and 8.11% respectively.
1.3.2(c)	Ethnic minority people trained on the operation at home (during the inspection and acceptance visits by technical staff)	Ongoing	<i>As of 28 Feb 2018,</i> among 33,414 trained people in 06 provinces with ethnic minorities and among 55,149 of all project trainees, 4,475 ethnic minority people have been trained on the operation of small biogas plants, accounting for 13.4% and 8.11% respectively.
1.3.3	Facilitate EM access to FIs	Ongoing	<i>In previous mission,</i> cumulative number of households who have access to credit is 729, including 268 EM households accounting for 36.8 %. As of 28 Feb 2018, cumulative number of households who have access to credit is 363, including 92 EM households accounting for 25.3 %. The reason of big change in data has been clarified by Consultant is the figures in previous mission are target not actual implementation.
2	CSAWMP Technology Transfer		
2.1	<i>CSAWMP Promotion</i>		
2.1.1	Ensure EM areas included in agro-climatic mapping system	Ongoing	Ethnic minority areas are being input to the Project detailed agricultural climate map Currently, the map is being prepared under the Package 19 and the contract was signed on 11th April 2016. 6 provinces with EM have been updated to the map

No.	Activities	Status	Achievements
2.1.2	Disseminate CSAWMP knowledge explored from E-libraries to improve EM skill and knowledge.	On-going	The package was awarded on 11 April 2017. The contractor is working with the stakeholders in accordance with the TOR. The equipment will be procured after the design is completed.
2.1.3	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. Besides, the use of organic fertilize in EM area will be integrated in the demonstrations or researches packages relating to organic fertilizer production Ethnic minority people have attended training courses on livestock waste management held by CPMU and PPMUs, Ethnic minorities will be also taken to visit the project demonstration and research models. In December 2017, 2 demonstrations on manure separator have been implemented in 9 out of 10 provinces (excluding Lào Cai). 1 package on power generator has been implemented in Lào Cai, Bến Tre, Tiền Giang and Sóc Trăng. 1 package on using bio-slurry has been implemented in Bình Định and Sóc Trăng
2.1.4	Ensure EMs are included in livestock waste management	On-going	Up to 28 Feb 2018, EM people have attended in training courses on livestock waste management held by CPMU and PPMUs
2.1.5	Encourage at least 30% of CSAWMP promotion participants among EMs are women.	Ongoing	Project has provided training to 13,877 farmers on CASWMP, including 1,998 EM people (14.4%). As of 28 Feb 2018, Project has trained 2,509 agriculture extension staff on CSAWMP, including 343 ethnic minority people (14.0%). Among 344 trained ethnic minority extension staff, there are 124 women, accounting for 36,15%.
2.2	<i>CSAWMP Models/ Technology Development Transfer</i>		
2.2.1	Ensure that researchers and extension workers trained to properly monitor and document CSAWMP progress in EMs.	On-going	As of December 2017, 6 provinces with EM have provided training for 844 extension staff, including 316 EM staff, (36%).
2.2.3	Disseminate CSAWMP skills and knowledge to EM, BP owners and other farmers in EM areas.	Ongoing	Project has provided training to 13,877 farmers on CASWMP, including 1,998 EM people (14.4%).
2.3	<i>Biogas plant value chain model</i>		

No.	Activities	Status	Achievements
2.3.1	Assess surplus of gas, electricity, bio-slurry for EMs	Ongoing	Regular assessment has been done by the provinces on the use of surplus gas for biogas power generator and the use of bio-slurry for crops. Most of households with BPs installed have used surplus gas and bio-slurry. In addition, This activity will be conducted in research packages also.
2.3.2	Manage gas, electricity and organic fertilizers for EMs	Ongoing	<p>100% participant EMs are trained and guided for making full use of gas, electricity, and organic fertilizers from BP. 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</p> <p><i>As of 28 Feb 2018</i>, among 33,414 trained people in 06 provinces with ethnic minorities and among 55,149 of all project trainees, 4,475 ethnic minority people have been trained on the operation of small biogas plants, accounting for 13.4% and 8.11% respectively.</p>
3	Project Management		
3.1	Establish indicators to target EMs in the province	Not yet due	Gender and Ethnic Minority Consultant will perform this task.
3.2	Ensure social safeguard staff include support for EMs in their work plan	Ongoing	<p>(i) The Gender and EM Specialist has conducted a training course for the gender focal point staff, and technicians on EM and gender mainstreaming and mobilisation of EM people in project activities in June 2017 in Thái Nguyên. From June to December 2017, 2 courses have been organised in Cần Thơ city and 1 course in Quy Nhơn city on Gender and EM issues. The trainers have instructed safeguards staff of the provinces with EM on how to prepare quarterly and annual plans to support EM people.</p> <p>(ii) Send EMDP to all provinces</p> <p>(iii) Review the activities in the EMDP and provide instructions to the provinces</p> <p>(iv) Develop assessment tool to assess challenges of EM in accessing biogas plants and credit</p> <p>6 provinces with EM have sent their reports to CPMU and LIC on the assessment of EMDP implementation as well as the gender and EM integrated plans. The outputs of the plans have been incorporated in the internal monitoring reports.</p>

No.	Activities	Status	Achievements
3.3	Ensure FIs to support EMs	Ongoing	As of 28 Feb 2018, cumulative number of households who have access to credit is 363, including 92 EM households accounting for 25.3 %.

SUMMARY MAIN ACTIVITIES BY PROVINCE

No	Item	Lao Cai	Son La	Phu Tho	Bac Giang	Ha Tinh	Binh Dinh	Soc Trang	Nam Dinh	Tien Giang	Ben Tre	Total as of 31 March,2017
1	Total constructed SBPs	2,314	1,879	8,312	7,245	4,843	7,002	2,678	4,233	2,629	4,734	45,869
	Total constructed SBPs for EM	854	925	115	394	0	0	847				3,135
2	Dissemination activities (There is no specific activities for EMs)											
	Dissemination workshops	66	131	38	89		11	6	58	22	10	431
	TV programs	7	3	0	5	10	38	6	10	10	12	101
	Radio programs (in ethnic languages also):	21	12	44		262	544	1,080	540	1,915	18	4,436
	Articles on newspapers				50		51		22			123
	Leaflets;	10,000	15,000	20,000	7,000	10,000	10,000	25,000	10,000	20,000	3,000	130,000
	Information boards				150	262	4,000	15	204	10		4,641
	Posters;		5,000	3,000				7,500			4,000	19,500
	Video clip			6	10		1	6	2			25
	Banner										200	200
	Hand book						100					100
3	Training course on BP operation and CSAWMP for participants to manage their livestock and wastes	555	360	845	937	632	1,021	1,005	1,819	1,074	322	8,570
	Training course on BP operation and CSAWMP for EM	330	316		47			527				1,220

No	Item	Lao Cai	Son La	Phu Tho	Bac Giang	Ha Tinh	Binh Dinh	Soc Trang	Nam Dinh	Tien Giang	Ben Tre	Total as of 31 March.2017
4	ToT for extension staffs on CSAWMP	18	212	0	37	599	352		0	0	322	1,776
	ToT for EM extension staffs on CSAWMP	2	180		1	0	0					183
5	2 FIs provide credit participants	400	0	0	238	0	91	0	0	0	0	729
	2 FIs provide credit participants for EM	258	0	0	10	0	0	0		0	0	268

Appendix 7:

UPDATED GENDER ACTION PLAN (GAP) MONITORING TABLE

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

Project Mission leader: Sanath Ranawana

Date of update: 13 March 2018

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge																																																				
1. Expanded livestock waste management infrastructure	1. T1: At least 20% of those who are trained in biogas management and technical issues are women.	<p>• On-going/Achieved: 36 training courses were conducted for technical staff in biogas management and technical issues. Among 1,229 participants, of which 293 female participants (23.8%).</p> <table border="1" data-bbox="737 669 1438 1188"> <thead> <tr> <th></th> <th>Total</th> <th>Women</th> <th>% women</th> </tr> </thead> <tbody> <tr> <td>CPMU</td> <td>710</td> <td>182</td> <td>25.6</td> </tr> <tr> <td>Lao Cai</td> <td>27</td> <td>7</td> <td>25.9</td> </tr> <tr> <td>Son La</td> <td>53</td> <td>11</td> <td>20.8</td> </tr> <tr> <td>Phu Tho</td> <td>127</td> <td>45</td> <td>35.4</td> </tr> <tr> <td>Bac Giang</td> <td>43</td> <td>11</td> <td>25.6</td> </tr> <tr> <td>Nam Dinh</td> <td>40</td> <td>8</td> <td>20.0</td> </tr> <tr> <td>Ha Tinh</td> <td>56</td> <td>14</td> <td>25.0</td> </tr> <tr> <td>Binh Dinh</td> <td>53</td> <td>8</td> <td>15.1</td> </tr> <tr> <td>Tien Giang</td> <td>25</td> <td>4</td> <td>16.0</td> </tr> <tr> <td>Ben Tre</td> <td>22</td> <td>1</td> <td>4.5</td> </tr> <tr> <td>Soc Trang</td> <td>73</td> <td>2</td> <td>2.7</td> </tr> <tr> <td>Total</td> <td>1,229</td> <td>293</td> <td>23.8</td> </tr> </tbody> </table>		Total	Women	% women	CPMU	710	182	25.6	Lao Cai	27	7	25.9	Son La	53	11	20.8	Phu Tho	127	45	35.4	Bac Giang	43	11	25.6	Nam Dinh	40	8	20.0	Ha Tinh	56	14	25.0	Binh Dinh	53	8	15.1	Tien Giang	25	4	16.0	Ben Tre	22	1	4.5	Soc Trang	73	2	2.7	Total	1,229	293	23.8	- PPMUs are conscious and makes effort to train more female in technical workers in the future (Tien Giang (TG), Soc Trang (ST), Binh Dinh (BD) and Ben Tre (BT))
	Total	Women	% women																																																				
CPMU	710	182	25.6																																																				
Lao Cai	27	7	25.9																																																				
Son La	53	11	20.8																																																				
Phu Tho	127	45	35.4																																																				
Bac Giang	43	11	25.6																																																				
Nam Dinh	40	8	20.0																																																				
Ha Tinh	56	14	25.0																																																				
Binh Dinh	53	8	15.1																																																				
Tien Giang	25	4	16.0																																																				
Ben Tre	22	1	4.5																																																				
Soc Trang	73	2	2.7																																																				
Total	1,229	293	23.8																																																				

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge																																																
	<p>2• T2. At least 50% of trainees on biogas use will be women.</p>	<p>• On-going/Partially achieved: Total of participants is 96,856 including 48,045 female participants (49.6%)¹. In which:</p> <ul style="list-style-type: none"> - 2,050 training courses on utilization of biogas technology and operation and maintenance with 55,132 participants (including 20,522 female participants (37.2%)) <table border="1" data-bbox="741 468 1441 977"> <thead> <tr> <th></th> <th>Total</th> <th>Women</th> <th>% women</th> </tr> </thead> <tbody> <tr> <td>Lao Cai</td> <td>2,897</td> <td>740</td> <td>25.5</td> </tr> <tr> <td>Son La</td> <td>1,991</td> <td>659</td> <td>33.1</td> </tr> <tr> <td>Phu Tho</td> <td>9,696</td> <td>4,153</td> <td>42.8</td> </tr> <tr> <td>Bac Giang</td> <td>7,620</td> <td>1,922</td> <td>25.2</td> </tr> <tr> <td>Nam Dinh</td> <td>4,759</td> <td>1,972</td> <td>41.4</td> </tr> <tr> <td>Ha Tinh</td> <td>7,361</td> <td>3,386</td> <td>46.0</td> </tr> <tr> <td>Binh Dinh</td> <td>7,814</td> <td>3,565</td> <td>45.6</td> </tr> <tr> <td>Tien Giang</td> <td>2,958</td> <td>1,334</td> <td>45.1</td> </tr> <tr> <td>Ben Tre</td> <td>6,657</td> <td>1,931</td> <td>29.0</td> </tr> <tr> <td>Soc Trang</td> <td>3,379</td> <td>860</td> <td>25.5</td> </tr> <tr> <td>Total</td> <td>55,132</td> <td>20,522</td> <td>37.2</td> </tr> </tbody> </table>		Total	Women	% women	Lao Cai	2,897	740	25.5	Son La	1,991	659	33.1	Phu Tho	9,696	4,153	42.8	Bac Giang	7,620	1,922	25.2	Nam Dinh	4,759	1,972	41.4	Ha Tinh	7,361	3,386	46.0	Binh Dinh	7,814	3,565	45.6	Tien Giang	2,958	1,334	45.1	Ben Tre	6,657	1,931	29.0	Soc Trang	3,379	860	25.5	Total	55,132	20,522	37.2	<p>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 .</p>
	Total	Women	% women																																																
Lao Cai	2,897	740	25.5																																																
Son La	1,991	659	33.1																																																
Phu Tho	9,696	4,153	42.8																																																
Bac Giang	7,620	1,922	25.2																																																
Nam Dinh	4,759	1,972	41.4																																																
Ha Tinh	7,361	3,386	46.0																																																
Binh Dinh	7,814	3,565	45.6																																																
Tien Giang	2,958	1,334	45.1																																																
Ben Tre	6,657	1,931	29.0																																																
Soc Trang	3,379	860	25.5																																																
Total	55,132	20,522	37.2																																																

¹ Mr Lam Soay, Ms. Trieu Thi Kum Mang and Ms. Trinh Thi Thu Van (Bo Lien 2 village, Thuan Hung commune, My Tu district, Soc Trang province), these households were supported 3 million VND to construct SBP and participated in the training on biogas use and waste management in the commune and at home. According to them, before the construction of biogas plants, the environment in this area is very polluted, because the wastes of cows directly discharged into the canals. But since the construction of this biogas plant, the environment in here is much better and they use gas for cooking and save money on gas purchase. Mrs. Kum Mang borrowed 9 million VND from Vietnam Bank for Social Policies and paid interest with 90,000 VND /month.

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge																																																												
		<p>- 41,727 peoples (including 27,523 female participants (66%)) were trained at-home.</p> <table border="1" data-bbox="741 345 1453 739"> <thead> <tr> <th>PPMU</th> <th>Total</th> <th>Women</th> <th>% women</th> </tr> </thead> <tbody> <tr><td>Son La</td><td>341</td><td>107</td><td>31.0</td></tr> <tr><td>Lao Cai</td><td>3,547</td><td>2,510</td><td>71.0</td></tr> <tr><td>Bac Giang</td><td>6,714</td><td>4,700</td><td>70.0</td></tr> <tr><td>Phu Tho</td><td>8,516</td><td>5,872</td><td>69.0</td></tr> <tr><td>Nam Dinh</td><td>4,850</td><td>3,745</td><td>77.2</td></tr> <tr><td>Ha Tinh</td><td>4,561</td><td>3,979</td><td>87.0</td></tr> <tr><td>Binh Dinh</td><td>130</td><td>76</td><td>58.0</td></tr> <tr><td>Ben Tre</td><td>7,254</td><td>2,954</td><td>41.0</td></tr> <tr><td>Tien Giang</td><td>2,961</td><td>2,165</td><td>73.12</td></tr> <tr><td>Soc Trang</td><td>2,853</td><td>1,415</td><td>50.0</td></tr> <tr><td>Total</td><td>41,727</td><td>27,523</td><td>66.0</td></tr> </tbody> </table>	PPMU	Total	Women	% women	Son La	341	107	31.0	Lao Cai	3,547	2,510	71.0	Bac Giang	6,714	4,700	70.0	Phu Tho	8,516	5,872	69.0	Nam Dinh	4,850	3,745	77.2	Ha Tinh	4,561	3,979	87.0	Binh Dinh	130	76	58.0	Ben Tre	7,254	2,954	41.0	Tien Giang	2,961	2,165	73.12	Soc Trang	2,853	1,415	50.0	Total	41,727	27,523	66.0													
PPMU	Total	Women	% women																																																												
Son La	341	107	31.0																																																												
Lao Cai	3,547	2,510	71.0																																																												
Bac Giang	6,714	4,700	70.0																																																												
Phu Tho	8,516	5,872	69.0																																																												
Nam Dinh	4,850	3,745	77.2																																																												
Ha Tinh	4,561	3,979	87.0																																																												
Binh Dinh	130	76	58.0																																																												
Ben Tre	7,254	2,954	41.0																																																												
Tien Giang	2,961	2,165	73.12																																																												
Soc Trang	2,853	1,415	50.0																																																												
Total	41,727	27,523	66.0																																																												
	<p>3• T3. At least 20% of trainees on SBP construction issues will be women. (Adjusted 7% in MTR mission)</p>	<p>• On-going/partially achieved: 17 training courses on construction of small Biogas Plants, among 462 participants, of which 26 were women (5.6%).</p> <table border="1" data-bbox="778 866 1477 1256"> <thead> <tr> <th>PPMU</th> <th>Courses</th> <th>Total</th> <th>women</th> <th>% women</th> </tr> </thead> <tbody> <tr><td>Son La</td><td>1</td><td>29</td><td>0</td><td>0</td></tr> <tr><td>Lao Cai</td><td>2</td><td>49</td><td>4</td><td>8,2</td></tr> <tr><td>Bac Giang</td><td>1</td><td>19</td><td>1</td><td>5,0</td></tr> <tr><td>Phu Tho</td><td>3</td><td>70</td><td>12</td><td>17,0</td></tr> <tr><td>Ha Tinh</td><td>3</td><td>126</td><td>3</td><td>2,0</td></tr> <tr><td>Binh Dinh</td><td>2</td><td>50</td><td>0</td><td>0</td></tr> <tr><td>Ben Tre</td><td>1</td><td>28</td><td>5</td><td>18,0</td></tr> <tr><td>Tien Giang</td><td>2</td><td>34</td><td>0</td><td>0</td></tr> <tr><td>Soc Trang</td><td>2</td><td>57</td><td>1</td><td>1,75</td></tr> <tr><td>Nam Dinh</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Total</td><td>17</td><td>462</td><td>26</td><td>5,63</td></tr> </tbody> </table>	PPMU	Courses	Total	women	% women	Son La	1	29	0	0	Lao Cai	2	49	4	8,2	Bac Giang	1	19	1	5,0	Phu Tho	3	70	12	17,0	Ha Tinh	3	126	3	2,0	Binh Dinh	2	50	0	0	Ben Tre	1	28	5	18,0	Tien Giang	2	34	0	0	Soc Trang	2	57	1	1,75	Nam Dinh	0	0	0	0	Total	17	462	26	5,63	<p>- Mason of Biogas Plants (BP) are usually professional and skillful masons and get further training on BPs, it is a high skilled jobs but not a full time job so it is difficult for women to get trained and become masons.</p> <p>- TG,BD and Son La (SL): no female trainees on SBP constructions) ->PPMUs in province that managed to train female mason to recruit more actively and train more female masons</p>
PPMU	Courses	Total	women	% women																																																											
Son La	1	29	0	0																																																											
Lao Cai	2	49	4	8,2																																																											
Bac Giang	1	19	1	5,0																																																											
Phu Tho	3	70	12	17,0																																																											
Ha Tinh	3	126	3	2,0																																																											
Binh Dinh	2	50	0	0																																																											
Ben Tre	1	28	5	18,0																																																											
Tien Giang	2	34	0	0																																																											
Soc Trang	2	57	1	1,75																																																											
Nam Dinh	0	0	0	0																																																											
Total	17	462	26	5,63																																																											

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge																												
	<p>4• T4. At least 30% of trained employees in MBPs and LBPs are women. (Adjusted 15% in MTR mission)</p>	<p>• On-going/partially achieved: 3 training courses in MBPs and LBPs were conducted for 38 participants with 4 women included (10.5%)</p>	<p>Few female technical staff ,so technical training faces difficulty ensuring female participation</p>																												
<p>2.Credit lines for biogas value chains</p>	<p>5. T5. At least 50% of credit recipients will be registered under husband-wife joint accounts or on behalf of women.</p>	<p>• On-going/achieved: There are 363 credit recipients, of which 319 are registered under husband-wife joint accounts or on behalf of women (87.9%).</p> <table border="1" data-bbox="744 572 1406 857"> <thead> <tr> <th>PPMU</th> <th>Total</th> <th>Husband-wife or women</th> <th>% Husband-wife or women</th> </tr> </thead> <tbody> <tr> <td>Lao Cai</td> <td>127</td> <td>100</td> <td>78,7</td> </tr> <tr> <td>Phu Thọ</td> <td>5</td> <td>4</td> <td>80,0</td> </tr> <tr> <td>Bac Giang</td> <td>142</td> <td>136</td> <td>95,8</td> </tr> <tr> <td>Binh Dinh</td> <td>71</td> <td>65</td> <td>91,5</td> </tr> <tr> <td>Tien Giang</td> <td>18</td> <td>14</td> <td>77,8</td> </tr> <tr> <td>Total</td> <td>363</td> <td>319</td> <td>87,9</td> </tr> </tbody> </table>	PPMU	Total	Husband-wife or women	% Husband-wife or women	Lao Cai	127	100	78,7	Phu Thọ	5	4	80,0	Bac Giang	142	136	95,8	Binh Dinh	71	65	91,5	Tien Giang	18	14	77,8	Total	363	319	87,9	
PPMU	Total	Husband-wife or women	% Husband-wife or women																												
Lao Cai	127	100	78,7																												
Phu Thọ	5	4	80,0																												
Bac Giang	142	136	95,8																												
Binh Dinh	71	65	91,5																												
Tien Giang	18	14	77,8																												
Total	363	319	87,9																												
	<p>6• T6. 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/achieved: There are 363 credit recipients, of which 319 are registered under husband-wife joint accounts or on behalf of women (87.9%).</p> <table border="1" data-bbox="744 1015 1500 1271"> <thead> <tr> <th>Province</th> <th>Total</th> <th>Husband-wife or Women</th> <th>% recipients under H-W or Women</th> </tr> </thead> <tbody> <tr> <td>Lao Cai</td> <td>127</td> <td>100</td> <td>78,7</td> </tr> <tr> <td>Phu Tho</td> <td>5</td> <td>4</td> <td>80,0</td> </tr> <tr> <td>B. Giang</td> <td>142</td> <td>136</td> <td>95,8</td> </tr> <tr> <td>B. Dinh</td> <td>71</td> <td>65</td> <td>91,5</td> </tr> <tr> <td>T. Giang</td> <td>18</td> <td>14</td> <td>77,8</td> </tr> <tr> <td>Total</td> <td>363</td> <td>319</td> <td>87,9</td> </tr> </tbody> </table>	Province	Total	Husband-wife or Women	% recipients under H-W or Women	Lao Cai	127	100	78,7	Phu Tho	5	4	80,0	B. Giang	142	136	95,8	B. Dinh	71	65	91,5	T. Giang	18	14	77,8	Total	363	319	87,9	
Province	Total	Husband-wife or Women	% recipients under H-W or Women																												
Lao Cai	127	100	78,7																												
Phu Tho	5	4	80,0																												
B. Giang	142	136	95,8																												
B. Dinh	71	65	91,5																												
T. Giang	18	14	77,8																												
Total	363	319	87,9																												

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge
3.Enhanced CSAWMP technology transfer	7• A1. Gender sensitive research strategy prepared.	<p>• On-going/likely achieved: CSAWMP research strategy developed and adaptive research on 6 CSAWMP topics conducted by June 2019. The name of 6 packages are:</p> <ul style="list-style-type: none"> - Package 25 (Research on organic fertilizer production from livestock waste and bio slurry by value chain): the shortlist and RFP submitted to ADB. - Package 26 (Research on biogas technology improvement and effective biogas utilization by value chain): the shortlist and RFP submitted to MARD. - Package 27 (Research on the water-saving pig farming technology) . - Package 28 (Research on effective utilization of crop waste by value chains): RFP submitted to MARD. - Package 29 (Research on the treatment of sludge sediment in shrimp farming) . - Package 30 (Research on the cultivation techniques for GHG emission reduction). <p>In the 6 CSAWMP research topics , there are 2 research topics include gender issues. (Package 25 and package 26).</p>	The Gender Specialist need to work with CPMU, PPMU and contractors to integrate gender issues into specific activities of the research.
	8. A2. Training materials of CSAWMP technology and methodology of dissemination are women friendly (avoiding gender	<p>• Achieved: The Training materials of CSAWMP technology using pictures and appropriate illustrations, so women can easily understand and apply into practice².</p>	

² 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.

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge
	<p>9• T7. 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 meetings). Adjusted 30% in MTR mission</p>	<p>On-going/under achieved: 604 dissemination meetings and workshops have been organized, of which 13 meetings and workshops are for women in Lao Cai and Ben Tre provinces only (2.2%). 28,065 participants participated in 604 meetings including 11,240 women (40.5%).</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>
	<p>10• T8. 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.</p>	<p>On-going/likely achieved In the 6 research project topics there are two packages were awarded in Q4. 2017: - Package 25 (Research on organic fertilizer production from livestock waste and bio slurry by value chain). - Package 26 (Research on biogas technology improvement and effective biogas utilization by value chain The gender specialist worked with contractors to integrate gender issues in research activities and the results of these activities will be reported in the next report.</p>	<p>The gender specialist continue to work with contractors to integrate gender issues in research activities and monitor the implementation of these activities.</p>

Project Outputs	Proposed targets /actions	Progress				Issues/Challenge																																																	
	<p>11• T9. Women account for at least 50% of those who are trained on farm management and waste management on farms. (Moved from Output 1 to output 3)</p>	<p>•On-going/partially achieved: The project conducted 500 training courses on CSAWMP for 13,877 participants including 6,546 women (47.2%).</p>				<p>⇒ The rate of female participation in these training in Lao Cai, Binh Dinh, Ha Tinh, Tien Giang, Ben Tre and Soc Trang is underachieved →PPMUs of these provinces need to encourage the female participants through coordination with commune WU.</p>																																																	
<table border="1"> <thead> <tr> <th data-bbox="744 384 921 436">PPMU</th> <th data-bbox="925 384 1071 436">Total of participants</th> <th data-bbox="1075 384 1220 436">Women</th> <th data-bbox="1224 384 1377 436">% women</th> </tr> </thead> <tbody> <tr> <td colspan="4" data-bbox="744 439 1377 471">CPMU</td> </tr> <tr> <td data-bbox="744 474 921 507">Lao Cai</td> <td data-bbox="925 474 1071 507">780</td> <td data-bbox="1075 474 1220 507">302</td> <td data-bbox="1224 474 1377 507">38.7</td> </tr> <tr> <td data-bbox="744 510 921 543">Son La</td> <td data-bbox="925 510 1071 543">596</td> <td data-bbox="1075 510 1220 543">453</td> <td data-bbox="1224 510 1377 543">76.0</td> </tr> <tr> <td data-bbox="744 546 921 578">Phu Tho</td> <td data-bbox="925 546 1071 578">845</td> <td data-bbox="1075 546 1220 578">528</td> <td data-bbox="1224 546 1377 578">62.5</td> </tr> <tr> <td data-bbox="744 581 921 614">Bac Giang</td> <td data-bbox="925 581 1071 614">3,180</td> <td data-bbox="1075 581 1220 614">1,796</td> <td data-bbox="1224 581 1377 614">56.5</td> </tr> <tr> <td data-bbox="744 617 921 649">Nam Dinh</td> <td data-bbox="925 617 1071 649">2,599</td> <td data-bbox="1075 617 1220 649">1,295</td> <td data-bbox="1224 617 1377 649">49.8</td> </tr> <tr> <td data-bbox="744 652 921 685">Ha Tinh</td> <td data-bbox="925 652 1071 685">33</td> <td data-bbox="1075 652 1220 685">15</td> <td data-bbox="1224 652 1377 685">45.5</td> </tr> <tr> <td data-bbox="744 688 921 721">Binh Dinh</td> <td data-bbox="925 688 1071 721">1,342</td> <td data-bbox="1075 688 1220 721">413</td> <td data-bbox="1224 688 1377 721">30.8</td> </tr> <tr> <td data-bbox="744 724 921 756">Tien Giang</td> <td data-bbox="925 724 1071 756">2,571</td> <td data-bbox="1075 724 1220 756">1,099</td> <td data-bbox="1224 724 1377 756">42.6</td> </tr> <tr> <td data-bbox="744 759 921 792">Ben Tre</td> <td data-bbox="925 759 1071 792">350</td> <td data-bbox="1075 759 1220 792">70</td> <td data-bbox="1224 759 1377 792">20.0</td> </tr> <tr> <td data-bbox="744 795 921 828">Soc Trang</td> <td data-bbox="925 795 1071 828">1,581</td> <td data-bbox="1075 795 1220 828">575</td> <td data-bbox="1224 795 1377 828">36.4</td> </tr> <tr> <td colspan="2" data-bbox="735 807 1377 832"> <p>Total</p> </td> <td data-bbox="925 807 1071 832">13.877</td> <td data-bbox="1075 807 1220 832">6.546</td> <td data-bbox="1224 807 1377 832">47.2</td> </tr> </tbody> </table>		PPMU	Total of participants	Women	% women		CPMU				Lao Cai	780	302	38.7	Son La	596	453	76.0	Phu Tho	845	528	62.5	Bac Giang	3,180	1,796	56.5	Nam Dinh	2,599	1,295	49.8	Ha Tinh	33	15	45.5	Binh Dinh	1,342	413	30.8	Tien Giang	2,571	1,099	42.6	Ben Tre	350	70	20.0	Soc Trang	1,581	575	36.4	<p>Total</p>		13.877	6.546	47.2
PPMU	Total of participants	Women	% women																																																				
CPMU																																																							
Lao Cai	780	302	38.7																																																				
Son La	596	453	76.0																																																				
Phu Tho	845	528	62.5																																																				
Bac Giang	3,180	1,796	56.5																																																				
Nam Dinh	2,599	1,295	49.8																																																				
Ha Tinh	33	15	45.5																																																				
Binh Dinh	1,342	413	30.8																																																				
Tien Giang	2,571	1,099	42.6																																																				
Ben Tre	350	70	20.0																																																				
Soc Trang	1,581	575	36.4																																																				
<p>Total</p>		13.877	6.546	47.2																																																			

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge																																																				
	<p>12• T10. Select and train at least 40% women as champions of smart-agriculture in research and dissemination of CSAWMP technology. Adjusted 30% in MTR mission</p>	<p>On-going/achieved: The Project have organized training courses (TOT) for 2,509 extension staff, of which 1,058 are women, accounting for 42.2%;</p> <table border="1" data-bbox="746 378 1400 835"> <thead> <tr> <th>PPMU</th> <th>Total of participants</th> <th>Women</th> <th>% women</th> </tr> </thead> <tbody> <tr> <td>CPMU</td> <td>274</td> <td>82</td> <td>29.9</td> </tr> <tr> <td>Lao Cai</td> <td>26</td> <td>9</td> <td>34.6</td> </tr> <tr> <td>Son La</td> <td>364</td> <td>150</td> <td>41.2</td> </tr> <tr> <td>Phu Tho</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Bac Giang</td> <td>67</td> <td>31</td> <td>46.3</td> </tr> <tr> <td>Nam Dinh</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Ha Tinh</td> <td>1,069</td> <td>644</td> <td>60.2</td> </tr> <tr> <td>Binh Dinh</td> <td>387</td> <td>82</td> <td>21.2</td> </tr> <tr> <td>Tien Giang</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Ben Tre</td> <td>322</td> <td>60</td> <td>18.6</td> </tr> <tr> <td>Soc Trang</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>2,509</td> <td>1,058</td> <td>42.2</td> </tr> </tbody> </table>	PPMU	Total of participants	Women	% women	CPMU	274	82	29.9	Lao Cai	26	9	34.6	Son La	364	150	41.2	Phu Tho				Bac Giang	67	31	46.3	Nam Dinh				Ha Tinh	1,069	644	60.2	Binh Dinh	387	82	21.2	Tien Giang				Ben Tre	322	60	18.6	Soc Trang				Total	2,509	1,058	42.2	
PPMU	Total of participants	Women	% women																																																				
CPMU	274	82	29.9																																																				
Lao Cai	26	9	34.6																																																				
Son La	364	150	41.2																																																				
Phu Tho																																																							
Bac Giang	67	31	46.3																																																				
Nam Dinh																																																							
Ha Tinh	1,069	644	60.2																																																				
Binh Dinh	387	82	21.2																																																				
Tien Giang																																																							
Ben Tre	322	60	18.6																																																				
Soc Trang																																																							
Total	2,509	1,058	42.2																																																				
	<p>13• A3. Ensure legal (e.g., employment contract) and remuneration support for champions.</p>	<p>• On-going/achieved: All extension staffs participated in ToT training courses have been supported per diem and delivered the certificate.</p>																																																					
	<p>14. T11. 30% of personnel in participating institutions trained in O&M of research equipment are women.</p>	<p>• On-going: Package 14 was awarded to contractor , the training courses on O&M of research equipment will implemented in 2018.</p>	<p>- CPMU and gender specialist need to work with the contractors to ensure that of 30% of personnel in participating institutions trained in O&M of research equipment are women..</p>																																																				

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge
4.Effective project management	15. A4. Project management support CPMU and each PPMU will have a focal point/person for gender and	<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. (11 focal point staff for gender : 01 staff of CPMU and 10 staff of 10 provinces) 	
	16. A5. 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	<ul style="list-style-type: none"> • On-going/partially achieved: 6 training courses on raising gender awareness and ethnic minority were conducted in Can Tho, Binh Dinh and Thai Nguyen for project staff and stakeholders. Of a total 253 participants, 149 were females (59%) 	⇒ CPMU conduct more training courses on gender for remaining CPMU and PPMUs staff and introduce project GAP to new stakeholders (contractors, agricultural extension, etc.).
	17• A6. Develop and update sex-disaggregated and ethnic minority data as part of project M&E and reporting system.	<ul style="list-style-type: none"> • On-going/ achieved: <ol style="list-style-type: none"> (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. 	

Project Outputs	Proposed targets /actions	Progress	Issues/Challenge																																																				
	<p>18• T12. 30% of CPMU and PPMU staff are women.</p>	<p>• Achieved: A CPMU and 10 PPMUs established in second quarter of 2013. As of March 2018, 56 out of 126 staff are women, (44.4%).</p> <table border="1" data-bbox="744 379 1340 807"> <thead> <tr> <th>Provinces</th> <th>Total</th> <th>Women</th> <th>% women</th> </tr> </thead> <tbody> <tr> <td>CPMU</td> <td>25</td> <td>15</td> <td>60</td> </tr> <tr> <td>Son La</td> <td>6</td> <td>1</td> <td>17</td> </tr> <tr> <td>Lào Cai</td> <td>11</td> <td>4</td> <td>36</td> </tr> <tr> <td>Bac Giang</td> <td>10</td> <td>5</td> <td>50</td> </tr> <tr> <td>Phu Thọ</td> <td>11</td> <td>5</td> <td>45</td> </tr> <tr> <td>Nam Định</td> <td>14</td> <td>5</td> <td>36</td> </tr> <tr> <td>Ha Tinh</td> <td>10</td> <td>4</td> <td>40</td> </tr> <tr> <td>Binh Dinh</td> <td>10</td> <td>3</td> <td>30</td> </tr> <tr> <td>Ben Tre</td> <td>9</td> <td>4</td> <td>44</td> </tr> <tr> <td>Tien Giang</td> <td>8</td> <td>5</td> <td>63</td> </tr> <tr> <td>Soc Trang</td> <td>13</td> <td>5</td> <td>38</td> </tr> <tr> <td>Total</td> <td>126</td> <td>56</td> <td>44,4</td> </tr> </tbody> </table>	Provinces	Total	Women	% women	CPMU	25	15	60	Son La	6	1	17	Lào Cai	11	4	36	Bac Giang	10	5	50	Phu Thọ	11	5	45	Nam Định	14	5	36	Ha Tinh	10	4	40	Binh Dinh	10	3	30	Ben Tre	9	4	44	Tien Giang	8	5	63	Soc Trang	13	5	38	Total	126	56	44,4	
Provinces	Total	Women	% women																																																				
CPMU	25	15	60																																																				
Son La	6	1	17																																																				
Lào Cai	11	4	36																																																				
Bac Giang	10	5	50																																																				
Phu Thọ	11	5	45																																																				
Nam Định	14	5	36																																																				
Ha Tinh	10	4	40																																																				
Binh Dinh	10	3	30																																																				
Ben Tre	9	4	44																																																				
Tien Giang	8	5	63																																																				
Soc Trang	13	5	38																																																				
Total	126	56	44,4																																																				