

Loan 2968-VIE: Low Carbon Agriculture Support Project

Aide Mémoire of the Review Mission

(8 – 22 March 2019)

I. INTRODUCTION

1. On 12 December 2012, the Asian Development Bank (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 (the Project). 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.

3. Implementation of the various components and sub-components is being done through the executing agency (EA) - the Ministry of Agriculture and Rural Development (MARD) that is 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 (FIs) that are Vietnam Bank for Agriculture and Rural Development (VBARD) and Co-operative of Vietnam (Co-opBank).

4. ADB conducted a loan review and handover mission (the Mission)¹ between 11 and 22 March 2019. The purpose of the Mission was to review project progress since the last review mission and address implementation issues. The Mission introduced the new ADB project officer, Mr. Vu Ngoc Chau, who will henceforth be responsible for the administration of the Project, to MARD, CPMU and IAs.

5. After the kick-off meeting in Ha Noi on 11 March 2019, the Mission visited Nam Dinh, Bac Giang and Soc Trang provinces from 11 to 16 March 2019. The Mission met the representatives of EA and 12 IAs to (i) review overall project implementation progress; (ii) review implementation status of 24 follow-up actions agreed by the last review mission in September 2018; (iii) review implementation progress by project component; (iv) review project procurement; (v) review project monitoring, evaluation and reporting; (vi) review project costs and financing; (vii) review compliance with loan covenants; (viii) review environment management; (ix) review implementation of social safeguards; (x) review implementation of gender action plan; (xi) resolve the outstanding issues; and (xii) carry out field visits to four selected demonstrations. The Mission also reviewed the implementation of the research packages on 8 March 2019.

¹ The Mission comprised Mr. Ho Le Phong, Senior Project Officer (Natural Resources and Agriculture), who passed the mission leadership to Mr. Vu Ngoc Chau, Senior Project Officer (Natural Resources and Agriculture); Truong Thi Minh Hue, Associate Project Analyst; Tran Thuy Hai, Gender Specialist (Staff Consultant) and Do Thi Huyen, Environmental Specialist (Staff Consultant) participated in the field visits from 11 to 16 March 2019.

6. This Aide Mémoire summarizes the findings of the Mission and agreements reached for the project implementation, which were discussed at the wrap-up meeting held on 22 March 2019 in Ha Noi. The agreements recorded in this Aide Mémoire are subject to the approval of higher authorities of ADB and the Government. The list of key persons met is given as Appendix 1.

II. MAIN FINDINGS AND ISSUES

A. Overall Project Implementation Progress

7. The project is being rated “potential problem”. As of 28 February 2019, overall project implementation progress is estimated to be 62.8% based on weighted progress of project components (details are given in Appendix 2) against the ADB elapsed loan period of 95%. The overall cumulative spending of the project funds (including the ADB loan and counterpart funds) was \$25.164 million, which is equivalent to 62% of the total project funding requirements of \$40.825 million (details are given in Appendix 3).

8. For the ADB loan, the cumulative contract awards and disbursements were \$26.566 million and \$26.401 million, respectively, which are equivalent to 71.07% and 70.63% of the net loan amount of \$37.378 million. For 2019, the Project has awarded \$0.814 million and disbursed \$0.374 million against the annual projections of \$9.421 million and \$11.323 million for contract awards and disbursements, respectively.

9. For the counterpart funds, the cumulative disbursement of counterpart funds was \$2.231 million (equivalent to 68% of the total requirements of \$3.281 million).

B. Implementation Status of Agreed Follow-up Actions

10. There are 24 follow-up actions agreed by the last review mission in September 2018. At present, 11 actions were implemented, five (5) actions were partially implemented, five (5) actions are being implemented and three (3) actions are not yet implemented (details are given in Appendix 4).

C. Implementation Progress by Project Component

Output 1: Expanded Use of Livestock Waste Management Infrastructure

11. **Revised Targets after the mid-term review (MTR).** The key performance indicators for this component are: (i) 65,000 small biogas plants (SBPs), 40 medium biogas plants (MBPs) and 2 large biogas plants (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) the incentive for carbon market development (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.

12. **Progress.** As of 28 February 2019, the achievement are as follows: (i) 57,738 SBPs², 60 MBPs³ and 2 LBPs⁴ were constructed of which 5,655 (9.8%) biogas plants were constructed for ethnic minorities households; (ii) the ICMD funds were channeled to 56,601 accounts of beneficiaries. The progress on construction of biogas plants by the project province is given in Appendix 5; (iii) 110,346 SBP operators (including 56,979 or 51.6% are women), 552 masons (including 29 or 5.3% are women), 1,268 technicians (including 297 or 23% are women), 28 engineers (including 4 or 14.3% are women) and 18 contractors. In total the Project has delivered 2,321 training courses. Details of the biogas plant training implemented by CPMU and PPMUs are given in Appendix 6; and (iv) 44,006 biogas plants financed under the Project have been recorded in the single national biogas plant database.

13. The recent outbreak of African Swine Fever and low price of pork has contributed to the low demand for development of the biogas plans (BPs) in few provinces. Binh Dinh province proposed to reallocate an amount of VND8 million from this component to scale up the successful demonstrations under output 3.

14. The mission did not allow to visit any BPs due to outbreak of African Swine Fever. However, PPMUs reported that some constructed BPs are overloaded and anticipated malfunctioning due to the BP operators do not follow the BP operation guideline properly, the amount of waste discharged was too large in comparison with the size of the built BPs. The gas leaking and effluent loads from those BPs caused pollution and unacceptable for irrigation or discharging into the environment. The problems were identified by previous review missions. It is clear that the BP operators lack the technical knowledge to operate and maintain the plants and had no incentive to fix the problems when they occurred.

Output 2: Credit Lines for BVCs and other climate smart agriculture waste management investments

15. **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.

16. **Progress.** The Government sent official request to cancel \$30 million of loan proceeds allocated to this component on 17 December 2018 and ADB approved the cancellation on 19 December 2018. Both FIs, VBARD and Co-opbank, continue to experience difficulties in making sub-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 of the FIs. The recent outbreak of African Swine Fever and diseases has also contributed to the low demand for credit. Only 411 sub-loans have been provided until now, and all these are under joint accounts as required by FIs. Of \$3.6 million allocated for this component, \$3.2 million was transferred to the advance accounts of FIs. However, they have used only \$0.79 million as of 28 February 2019. VBARD and Co-opbank were unable to provide any solutions as to how they could improve the disbursement of the credit line and but committed to refund the un-used amounts of the advance loan funds to ADB by 30 June 2019. Implementation status of the credit lines is given in Appendix 8.

² SBP has a capacity of up to 50 cubic meters.

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

⁴ LBP has a capacity of above 499 cubic meters.

Output 3: Enhanced CSAWMP technology transfer

17. **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 demonstrations are successfully implemented 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.

18. **CSAWMP Researches.** Contracts have been awarded and consultants mobilized for all packages of this component. Procurement/implementation status of each CSAWMP research package is given in Appendix 9.

19. The research packages' results are expected to be applied for improving agriculture solid waste management, as they address the current limitations of shrimp and livestock waste treatment technologies and provide the new opportunities to private sector to gain profits if investing in agriculture with the new environmental technologies. In principle, most of research packages require a duration of 24 months for implementation (18 months for research and 6 months for pilot). However, 2/7 packages started from January 2018, the rest has just started June 2018 or December 2018. Therefore, adequate extension time is needed to fulfill the research activities and allow application of the research packages' results after their completion.

20. **CSAWMP Demonstrations.** The Mission found that the demonstration activities were providing useful CSAWM solutions. The implementation status of each CSAWMP demonstration package is given in Appendix 10. The demonstrations constructed have a positive impact on these households' bio-physical environment as well as their socio-economic conditions. Installed demonstrations reduce agricultural waste effectively and treating the effluent loads that are acceptable for irrigation or for discharging into the village drainage system. The profiles of visited demonstrations are given in Appendix 7.

21. The project provinces proposed several models from on-going demonstrations and research packages (e.g. supply of manure separating system to treat livestock waste to produce material for organic fertilizer; supply of utilization system for treatment of biogas digested effluent demonstration as the fertilizer of the crops) to be replicated. However, several project provinces also raised a concern on the efficiency of manure separating system to treat livestock waste to produce material for organic fertilizer. The Mission stressed that purpose of the demonstrations should be a show case of complete solution to managing the agriculture waste generated by the farm. After the completion of demonstration and research packages, only the models that evaluated by assigned authority as satisfactorily rating will be replicated and each province will adopt no more than one model for each type of satisfactory model.

22. The Mission noted that the loan implementation consultant (LIC) was unable to provide any support to the project implementation since January 2019 due to delay of EA in extending the contract of LIC. The Mission requires CPMU to extend the LIC contract by 31 March 2019 to fulfill the implementation of the project activities until the completion of the project completion report acceptable to the Government and ADB.

23. **CSAWMP Information System.** The consultant finalized the design and equipment's specification of the e-library system. The contract of equipment package (package 22) for the information system was signed on 23 January 2019 and expected to

be completed by 23 May 2019 for the designed software installation and hand over to the stakeholders.

24. **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 of MARD) on the following topics: (i) production of biological fertilizer from cattle manure and sugarcane waste; (ii) techniques for repairing and maintaining biogas equipment; (iii) raising red worms at small scale from cattle and chicken manure; (iv) producing biological organic fertilizer from crop residue; and (v) production of organic fertilizer from pig manure. The project has also supported 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. In total, the Project has trained 21,983 farmers (of which 10,680 or 48.6% are women), and 1,434 extension staff (of which 413 or 28.8% are women). Details of the CSAWMP training implemented by CPMU and provinces are given in Appendix 11.

Output 4: Effective Project Management

25. **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) PPMUs with sex-disaggregated and ethnicity data collected and reported operating effectively in 10 provinces by 2015.

26. **Progress.** CPMU and 10 PPMUs were established in second quarter of 2013 and are fully staffed. As of February 2019, 56 out of 129 staffs (equivalent to 43%) of the CPMU and PPMUs are women. The gender focal point was appointed since July 2016. PPMS with sex-disaggregated and ethnicity data collected and reported is operating effectively in 10 provinces.

D. Project Procurement

27. **Progress.** In total, the Project comprises 19 consulting services (including - research packages) and 25 procurement of goods packages, of which 19 consulting services packages and 19 procurement of goods packages were awarded. The Mission found that long delay occurred to procurement and implementation of all seven research packages due to inadequate disbursement ceiling approved by the Government for the Project in 2017 (only VND7.7 billion against the need of VND90 billion), therefore, an extension of one year is required for their completion.

E. Project Monitoring and Evaluation and Reporting

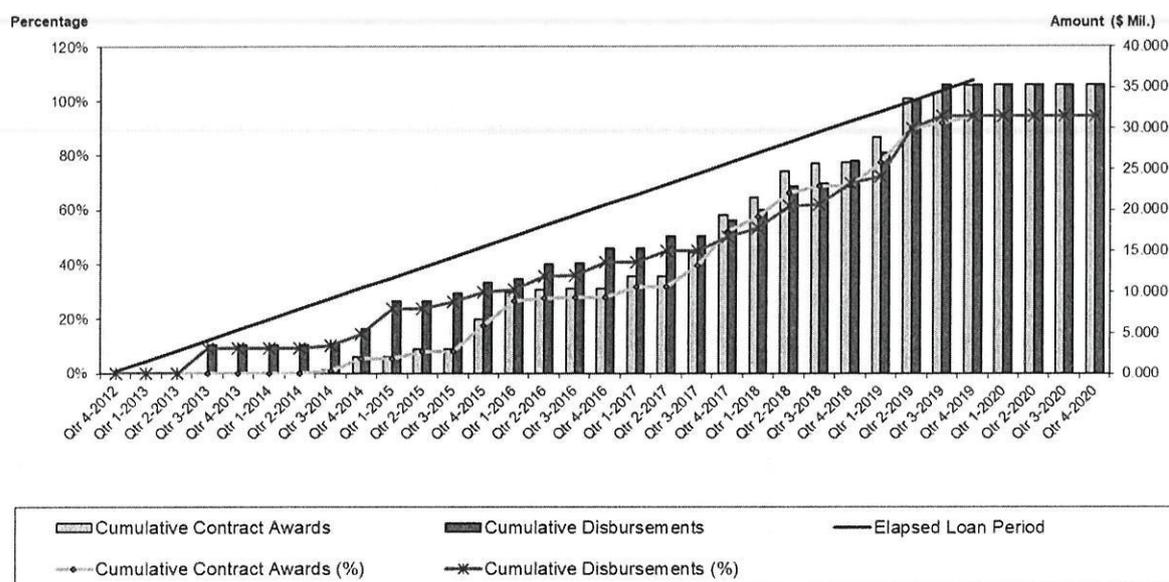
28. The reports prepared by several PPMUs for the mission were not used the same format and lack a lot of information and data. Furthermore, inconsistencies of data in reports prepared by CPMU and PPMUs reflect a failure in recording data in the information system.

F. Project Costs and Financing

29. **ADB Loan.** CPMU and PPMUs have updated their projected schedules for contract awards and disbursements of the ADB loan. Details are given in Appendices 12 and 13. The major findings of this exercise are as follows:

- (i) Per updated cost estimates of CPMU and PPMUs, the ADB loan requirements are \$37.544 million (including \$2.191 million for the interest charge during implementation). The cost overrun amount is \$0.166 million;
- (ii) For 2019, CPMU, FIs and PPMUs plan to award \$7.613 million and disburse \$11.727 million compared to the annual projections of \$9.421 million and \$11.323 million for contract awards and disbursements, respectively; and
- (iii) Actual and projected schedules of the ADB loan contract awards and disbursements are presented on the graph below:

Loan 2968-VIE: Low carbon Agricultural Support Project
Actual & projected Schedules of the ADB Loan Contract Awards and Disbursements Against Elapsed Loan Period



30. **Counterpart Funds.** For 2019, the counterpart funding requirement is VND19.702 billion. As of 28 February 2019, VND2.258 billion was disbursed (equivalent to 11% of the requirement). At present, Nam Dinh PPC has not yet allocated adequate counterpart funds for 2019 with shortage of VND200 million. Details are given in Appendix 14.

31. **Reallocation of the project funds.** Given the Project's implementation progress and anticipated benefits generated from CSAWMP technology transfer to be carried out under Component 3 of the Project, the ADB savings (if any) are proposed to be reallocated to increase the budget for CSAWMP technology transfer as proposed by the project provinces. Overall loan reallocation needs to be processed as soon as possible to facilitate the project implementation.

G. Compliance with Loan Covenants

32. The Mission found 46 of 47 loan covenants complied with or being complied with. Only one loan covenant regarding implementation of the gender action plan (GAP) is being partially complied with due to the percentages of women participated in the project training and dissemination events and consultations for women-only groups are still lower than the targets. Details for the status of compliance with all loan covenants are given in Appendix 15.

H. Implementation of Environment Management

33. **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.

34. **Progress.** The Project generally has contributed to positive impacts on the environment through improving livestock waste management practices at household and community level. Up to the mission time, 57,738 SBPs out of 65,000 target, 60 MBPs and 2 LBPs has been constructed contributing for reduction of manure and production of biogas for domestic use. PPMUs in ten provinces monitored 5-10% of SBPs and all MBPs. The second half semi-annual report (SEMR) of 2018 was submitted in February 2019 and being revised for disclosure at ADB's website. The project carried out CSAWMP researches and pilot activities to resolve some outstanding environmental issues, which were identified by the previous review missions, such as overloading biogas plants, using bio-slurry and composting, and improving biogas power generation.

35. **Issues.** During site visits to the pig, cattle and shrimp farms in Bac Giang and Soc Trang, the Mission found that slow progress in some CSAWMP researches and the pilot studies are impacted in producing the expected results by June 2019 for replication and mitigation of the environmental impacts, such as (i) the research on water saving pig farming in Bac Giang province that tested in the winter season may have different result in the hot weather season. In addition, the poor pigsty's environmental sanitation may also affect its pig farming, especially in the context of outbreak epidemic; (ii) the research on the treatment of sludge sediment in shrimp farming in Soc Trang province just started with shrimp seedlings and demonstration construction, it would take another several months to test the results on comprehensive sludge and wastewater treatment; and (iii) in Nam Dinh province, the pilot activities on improved small and medium biogas power generators just started recently, not enough time for assessment of power generation stability and efficiency. Furthermore, there is no environment sampling due to no monitoring equipment was used. PPMUs received environment equipment and handed over to DARD's Department of Livestock Production. However, due to lack of guidance and technical expertise, only Nam Dinh PPMU carried out a trial monitoring program, and the results were not integrated in the second SEMRs of 2018.

36. **Needed Actions.** The Mission proposed three follow-up actions in para. 47 to secure environmental safeguard compliance and achieve the project objectives of reducing pollution from agricultural waste by using CSAWMP.

I. Implementation of Social Safeguards

37. **Original Targets.** The target of construction of SBPs for ethnic minorities (EMs) with at least 5% of SBP constructed in DMF.

38. **Progress.** Based on the internal social safeguards monitoring report submitted by CPMU, the Mission found that from the previous mission in September 2018, CPMU and PPMUs have paid much effort to include EMs in the project's activities. The updated ethnic minority development plan (EMDP) was prepared and approved by ADB and local agencies in Q4. 2018. CPMU/PPMUs understand on their EMDP and had been providing information, training, consulting, technical supports, etc. to such targeted groups. However, some criteria of the updated EMDP (such as at least 30% of CSAWMP promotion participants among EMs are women) has not got much the progress due to some difficulties of geographic and local customs. The achievements of EMDP implementation has not been

updated to the Mission due to the absence of LIC. The implementation status of updated EMDP implementation are summarized in Appendix 16. The Mission requested CPMU and PPMUs to implement follow-up actions given in para. 47.

J. Implementation of GAP

39. **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.

40. **Overall implementation:** The project GAP implementation is on track. All 6 activities (100%) are either completed or on track. Of 12 targets, 7 targets (58.3%) are either achieved or on track, and 5 targets (41.7%) are either partially achieved or under achieved. The updated GAP monitoring table is given as Appendix 17.

41. **Output 1:** (i) 297 female participants out of 1,290 participants participated in training courses on biogas management and technical issues for technical workers (23.4%, higher than target of 20%); (ii) 56,979 women among 110,346 participants received training on utilization of biogas technology and operation and maintenance (51.6%, higher than target of 50%).

42. **Output 2:** All 411 households received credit of sub-loans under the joint accounts of husband-wife.

43. **Output 3:** (i) 127 women among 366 participants participated in the training courses on O&M of research equipment (34.7%, higher than the target of 30%); (iii) 2 out of 6 researches (packages 26 and 27) related to gender issues, achieved the target of 2 research topics include gender issues.

44. **Output 4:** (i) CPMU and PPMUs have appointed gender focal points to be responsible for GAP implementation and reporting; (ii) 56 of 129 staff of the CPMU and PPMUs are female (43.4% higher than the target of 30%); and (iii) The project conducted gender sensitivity workshops for all PPMUs staff and stakeholders with 445 participants, of which 230 are female (51.7%).

45. **Issues:** The following issues were identified by the Mission: (i) the rate of female participation in the training courses on construction of SBP and MBP-LBP for contractors, engineers and workers is lower than project target (5.3% and 8.7% compare to the target

of 7% and 15% for SBP and MBP-LBP, respectively) because the availability of female engineers, contractors' representatives and workers is small, therefore it is difficult to meet the project training target for the women participation; (ii) 10,680 women among 21,983 farmers participated in the CSAWMP (48.6%, lower than the target of 50%); (iii) 413 women among 1,434 extension staff participated in the CSAWMP technology (28.8%, lower than the target: 30%); (iv) only 11.4% of dissemination and consultation events took place involving women-only groups (97 of 855 events) while the target is 30%; and (vi) the progress report of packages 26 and 27 did not mention gender related issues in these packages.

K. Implementation of Financial Management Assessment Action Plans

46. The financial management assessment action plans were not clearly mentioned in the financial management assessment in the project administration manual. However, some risk mitigation measures have been identified and updated by CPMU as in Appendix 18.

III. FOLLOW-UP ACTIONS

47. The agreed follow-up actions are as follows:

- MARD to obtain approval of the Government for the project extension of one year as soon as possible, and ADB to process a loan extension after receiving official request of the Government;
- CPMU to submit the overall reallocation of the project funds to MARD for approval by 31 March 2019, considering the ADB loan cost overrun amount of \$0.166 million;
- PPMUs to identify and provide re-training program (include the management to technical issues like BP overload or excess gas) to the targeted BP operators. The targeted masons/technicians may also receive re-training to advise farmers on the appropriate BP development and O&M. The re-training program (if required) should be implemented as soon as possible but not later than 30 June 2019;
- The completed demonstration/research models that rated "satisfactorily" by assigned authority may be replicated no more than one model each type each project province, subject to completion within time frame of the project. Any activity that extends to after the loan closing date should be financed by counterpart funds, which confirmed by an official letter of MARD send to ADB prior contract awarded;
- APMB/CPMU to extend the contract of LIC by 31 March 2019 to support the implementation of the project activities;
- CPMU/PPMUs to reintroduce the reporting requirements (e.g. report template, data management systems that focus on the consistency of data/information) for project progress/review mission report to ADB by July 2019 (if the project extends);
- FIs to submit withdrawal applications to liquidate the used amounts of ADB advance funds and refund the un-used amounts of advance funds to ADB by 30 June 2019;
- Regarding implementation of the environment management: (i) CPMU and research consultants to continue and speed up researches and pilot activities in application CSAWMP. Special attention should be paid on biogas technology improvement and effective biogas utilization - speeding up testing and proper use of gas filters and power generators for replication (package 26). Considering improvement of environmental sanitation for water saving pig farming (package 27), taking into consideration of swine epidemic outbreak and changing climate; (ii)

CPMU to carry out a training workshop focusing on environmental effect monitoring using environmental monitoring equipment during Q2. 2019. The training aims to guide environmental staff of DARDs' Department of Livestock Production and PPMUs to handle environmental sampling and analysis; and (iii) PPMUs to carry out environment effect monitoring, and integrate results into the next SEMR for period from January to June 2019, which is in due by 31 July 2019;

- Regarding implementation of the social safeguards: (i) PPMUs to increase encouragement of CSAWMP promotion participants among EMs by coordinating with relevant agencies/association (e.g. agriculture extension and veterinary staff, women groups) to conduct information dissemination activities and BP related events by the end of the project; (ii) PPMUs to organize regularly site visits for potential ethnic minority customers to local typical biogas plants as well as successful CSAWMP models of LCASP, getting much more participants of female EMs in such CSAWMP promotion activities/events (e.g. trainings, field trips, informal meetings, etc.) to replicate to EM areas; (iii) CPMU to increase the monitoring to ensure that all objectives in the EMDP achieved by the end of the project; and (iv) CPMU to submit the completion report for EMDP implementation before the closing date of the project;
- Regarding implementation of GAP: (i) PPMUs to cooperate with Women Union (WU) and Farmer Union to conduct training courses on CSAWMP for farmers and extension staff to ensure by the end of project, these targets will be achieved; (ii) PPMUs conduct more dissemination events with women only group through the WU meetings to inform the project activities and CSAWMP; (iii) CPMU to request contractors of Packages 26 and 27 to report the research results related to gender issues in the next progress report; (iv) CPMU to prepare a report on GAP PCR based on the ADB template (*in the case the project is not extended*);
- CPMU/PPMUs to complete the follow-up actions agreed by the last mission that are not yet implemented, partially implemented and being implemented. Details are given in Appendix 4; and
- The next review mission of ADB to be fielded in September 2019.

IV. ACKNOWLEDGMENT

48. The Mission expresses its appreciation to MARD and all staff and representatives of the organizations who provided their time and cooperation to the Mission.

Signed in Ha Noi on 25th March 2019 by:



Vu Ngoc Chau
Mission Leader, VRM
Asian Development Bank

List of Key Persons Met

Name	Position	Email Account	Tel. No
MARD			
Trần Kim Long	DG, ICD		
Bùi Văn Nhạc	Senior Officer, Department of Infrastructure Technical		
Ngô Nguyễn Nhan	Deputy Head, Department of Crops		
Tổng Xuân Chinh	DDG, Department of Husbandry		
Đình Vũ Thanh	DDG, Department of Technology Science		
Nguyễn Xuân Khôi	Department of Technology Science		
Nguyễn Đức Thái	Department of Organization		
APMB			
Phạm Việt Anh	Deputy Head of Planning and Technical Division	phamvietanh.bnn@gmail.com	0913447751
Đặng Hữu Kiên			
Central Project Management Unit			
Nguyễn Thế Hinh	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	Officer	chungnguyenvanhd@yahoo.com	01682578578
Dương Thị Diễm Hằng	Chief Accountant	duongdiemhang@gmail.com	0902149939
Nguyễn Thị Minh Hương	Planning Officer	huongng4@gmail.com	01699292871
Đình Thái Sơn	Technical Officer	thaison@apmb.gov.vn	0902.468.122
Nguyễn Thái Sơn	Technical Officer		
Nguyễn Thị Ngọc Lan	Admin Officer		
Lương Huy Hoàng	Officer		
Nguyễn Thị Thành	Admin Officer		
Trịnh Thị Thúy Hằng	Technical Officer		

Phạm Thị Thùy Linh	Technical Officer		
Loan Implementation Consultants			
Lê Thị Thoa			
Research Consultants			
Nguyễn Khắc Anh	Team Leader/Central Science Technology Development Investment and Consulting Company JSC	nguyenkhacanhtud@gmail.com	0966.719.216
Phạm Văn Toán	Officer/ Central Science Technology Development Investment and Consulting Company JSC	vantoanpham@gmail.com	0961.896.698
Bê Thị Hoàng Yến	Head of Project Development, Asian Development and Management Institute	yenbth@admn.vn	0914.353.605
Bùi Hữu Đoàn	Team Leader/ Asian Development and Management Institute	bhdoan@vnua.vn	0975.229.668
Trần Thị Mai Hương	Executive Assistant/ Asian Development and Management Institute	huongttm@amdi.vn	0982.054.386
Nguyễn Tiến Trung	General Director, Kankyo	prtrungtn@gmail.com	038.5088888
Lê Hùng Tuấn	Director, JV of Northern Contractors	ctytuvanbacbo@gmail.com	0913.526.315
Nguyễn Thành Trung	Team Leader/ JV of Northern Contractors	Trung0475@yahoo.com	096.2011.497
Nguyễn Võ Linh	Vice Director, Rural Development and Agriculture Management Institute	volinh@gmail.com	0912.082.000
Lê Như Kiều	Project Team leader, Rural Development and Agriculture Management Institute	lenhukieu2018@gmail.com	0903.203.767
Trần Thị Đình	Project Assistant, Rural Development and Agriculture Management Institute	Tranhdinh5@gmail.com	0987.496.636
Nguyễn Việt Đôn	Specialist, Rural Development and Agriculture Management Institute	nvietdon@gmail.com	0936.672.239
Vi Thế Đăng	Director, Aquaculture Services and technology transfer consulting center	vithedang@gmail.com	0912.541.081

Nguyễn Tử Cương	Project Team Leader, Director, Aquaculture Services and technology transfer consulting center	fitesvietnam@gmail.com	0903.421.228
Vương Thị Mai	Accountant, Aquaculture Services and technology transfer consulting center	maikt2013@gmail.com	08229.82399
Trần Thị Minh Loan	AD Consult		
Nguyễn Hoàng Long	VAAS		
Phạm Đức Thọ	Consultant for package 26		
Nguyễn Văn Chính	Director, AMDI		
Financial Intermediates			
Nguyễn Việt Hùng	FI Department, VBARD	viethung_nguyenvba@yahoo.com	0913934065
Nguyễn Ngọc Hồng	Deputy Head, FI department, VBARD	Hongnn_qlkd@agribank.com.vn	0912.356.026
Lê Thị Thu Hà	Deputy Head, International Relations and Project Management, Co-opbank	haltt@co-opbank.vn	0904.983.367
Đỗ Nguyễn Thanh Nhung	Staff, International Relations and Project Management, Co-opbank	nhungdnt@co-opbank.vn	0983.828.128
Tien Giang province			
Trần Thanh Phong	Project Director, PPMU	tphongtg@gmail.com	0918287639
Nguyễn Thanh Hòa	Accountant, PPMU	hoathn@gmail.com	0972.933.312
Phạm Nhật An	Technical Officer, PPMU	Anpham065@gmail.com	0349.955.943
Ben Tre province			
Nguyễn Thế Nghĩa	Director, PPMU	lcaspbt@gmail.com	01699073793
Nguyễn Khánh Bình	Technical Officer, PPMU	ncbinh.knkn@yahoo.com.vn	0919240240
Phan Thị Thu Sương	Project Coordinator, PPMU	lcaspbt@gmail.com	0918.330.169
Trần Thị Kim Ngân	Accountant, PPMU	lcaspbt@gmail.com	037.657.8442
Soc Trang province			
Quach Van Tay	Project Director, PPMU	taycctyst@gmail.com	0913708736

Cao Tấn Đạt	Officer, PPMU	caotandat1987@gmail.com	0914614887
Le Van Quang	Project Coordinator cum Technical Officer, PPMU	levanquang68@gmail.com	0918573883
Ngô Hiền Triết	Technical officer, PPMU	hientrietst@gmail.com	0939.818.344
Huỳnh Đức Thắng	Technical Officer, PPMU	huynhducthangst@gmail.com	0918.234.347
Nguyễn Ngọc Lam Tuyền	Technical Officer, PPMU	Lamtuyen8989@gmail.com	089.611.5119
Trần Thùy Trang	Accountant, PPMU	Trangthuy6801@gmail.com	0978.599.238
Võ Phú Lâm	Technical Officer, PPMU	Lamminh1975@gmail.com	0913.548.959
Trương Văn Dũng	Vice Director, DARD		0918.553.551
Binh Dinh province			
Lê Ngọc Hùng	Project Coordinator	ngochung05@gmail.com	0907414278
Nam Dinh Province			
Hoang Thi To Nga	Project Director, PPMU	ngasam67@gmail.com	0918951967
Nguyen Trong Tan	Project Coordinator, PPMU	trongtan78@gmail.com	0913472700
Vũ Đức Lưu	Accountant, PPMU		
Nguyễn T. Minh Giảng	Technical Officer, PPMU		
Lương Thanh Tùng	Technical Officer, PPMU	Luongthanhtungty44a@gmail.com	0977751856
Nguyễn Thị Nhân	Technical Officer, PPMU		0986.386.496
Lê Thị Dung	Technical Officer, PPMU		0943.450.096
Trần Thị Huế	Technical Officer, PPMU		0948.027.663
Đặng Ngọc Quang	Accountant, PPMU		0915.300.469
Lao Cai province			
Phạm Thị Hoa	Deputy Director, PPMU	phamhoalc@gmail.com	0919706042
Cao Thị Hòa Bình	Project Officer, PPMU	choabinh@gmail.com	0984667817
Nguyễn Thị Khánh Hòa	Project Officer, PPMU	nguyenkhanhoa.vfu@gmail.com	0974581286
Son La Province			
Lo Thanh Bang	Project Coordinator, PPMU	banglothanh75@gmail.com	0988432886

Cầm Ngọc Vinh	Project Officer, PPMU	camngocvinh94@gmail.com	0972653288
Phu Tho province			
Tu Anh Sơn	Deputy Director of DARD cum Project Director of PPMU	tusonpt@gmail.com	0989149457
Trần Văn Quyết	Project Officer, PPMU	quyetknpt@gmail.com	0974.862.810
Ha Tinh province			
Nguyễn Xuân Hoàn	Project Director, PPMU	xuanhoansnn@gmail.com	0944667999
Đình Ngọc Đức	Technical Staff	Dinhngocduc50dhv@gmail.com	0911.095.586
Hà Văn Trà	Vice Director, PPMU		
Bac Giang province			
Nguyễn Trung Kiên	Project Director, PPMU	kienqseapbg@gmail.com	0949140737
Dương Thế Khoa	Technical Officer, PPMU	thekhoabg@gmail.com	0985588750
Trần Thanh Phong	Officer, PPMU	tranthanhphong@gmail.com	0975.144.946
Lưu Thị Phương Dung	Officer, PPMU	Luudung85bg@gmail.com	0976.908.797
Nguyễn Thị Oanh	Officer, PPMU	Nguyenthioanh.ccts@gmail.com	0986.701.568
Nguyễn Thị Hương	Officer, PPMU	Huongbg2306@gmail.com	0906.027.669
Nguyễn Thu Huyền	Officer, PPMU	Milano.kito@gmail.com	0911.009.992
Đào Xuân Vinh	Vice Project Director, PPMU	daoxuanvinhbg@gmail.com	0983.015.971

Overall Project Physical Progress

(As of 28/2/2019)

No.	Components/Activities	Funds Required (VND mil.)	Weight	Disbursed Amount (VND mil.)	Rated Progress (0 - 100)	Weighted Progress
Component 1: Expanded Use of Livestock Waste Management Infrastructure						
1	Standardizing and disseminating a design package for BVC infrastructure	56,000	6.4%	45,937	82	5.3%
2	Strengthening the monitoring capacity of relevant agencies to hand over and monitor the constructed biogas plant	45,486	5.2%	39,590	87	4.5%
3	Monitoring the disbursement of funds paid to Eligible Beneficiaries as a financial incentive to carry out Eligible Subprojects	211,501	24.3%	183,902	87	21.1%
4	Capacity building in designing, constructing, operating and monitoring biogas plants	23,790	2.7%	17,320	73	2.0%
5	Strengthening the capacity and providing equipment for relevant agencies to manage national biogas database	2,237	0.3%	2,237	100	0.3%
Component 2: Credit Lines for Biogas Value Chains						
6	FIs to provide credit lines to Eligible Beneficiaries to finance Biogas Value Chain Infrastructure and other climate smart agriculture waste management investments which satisfy the Subproject Eligibility Criteria	54,600	6.3%	19,900	36.45	2.3%
Component 3: Enhanced CSAWMP technology transfer						
7	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	110,395	12.7%	17,543	15.89	2.0%
8	Developing livestock waste management models for agricultural production and greenhouse gas emission reductions	95,892	11.0%	58,485	61	6.7%
9	Capacity building of researchers, extension staff and farmers including vocational training program, training packages and study tours on CSAWMP	21,184	2.4%	20,089	95	2.3%
10	Establish an information system (e-library, map sets on agro-ecological zones and distance learning system) to disseminate awareness and knowledge CSAWMP	16,095	1.8%	13,720	85	1.6%

No.	Components/Activities	Funds Required (VND mil.)	Weight	Disbursed Amount (VND mil.)	Rated Progress (0 - 100)	Weighted Progress
11	Package 46: Supply of laboratory system for testing the quality of organic fertilizer materials and products	35,730	4.1%		-	0.0%
Component 4: Effective project management						
12	Establish CPMU and PPMUs to be operational; Conduct a gender awareness raising workshop for PMUs, IDC	116,085	13.3%	83,022	72	9.5%
13	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	81,840	9.4%	45,551	56	5.2%
Total		870,835	100%	547,296	849	62.8%

Overall Disbursement Ratios

(As of 28/2/2019)

No.	CPMU/ Province	Project Funds Required (VND mil.)			Actual Disbursements (VND mil.)			
		ADB Loan	Counterpart Funds	Total	ADB Loan	Counterpart Funds	Total	%
*	CPMU	297,384	32,470	329,854	130,072	21,270	151,342	46%
1	Binh Dinh	59,778	4,257	64,035	49,134	3,257	52,391	82%
2	Bac Giang	68,880	3,456	72,336	53,161	2,556	55,717	77%
3	Ben Tre	32,951	2,068	35,019	28,206	1,518	29,724	85%
4	Ha Tinh	42,672	5,850	48,522	29,941	4,650	34,591	71%
5	Lao Cai	34,391	3,141	37,532	25,602	2,606	28,208	75%
6	Nam Dinh	53,261	4,129	57,390	44,498	3,129	47,627	83%
7	Phu Tho	74,900	3,523	78,423	57,189	3,058	60,247	77%
8	Soc Trang	31,593	2,858	34,451	19,389	2,389	21,778	63%
9	Son La	27,169	3,653	30,822	20,245	2,710	22,955	74%
10	Tien Giang	26,060	1,793	27,853	21,460	1,358	22,818	82%
11	VBARD	6,800	1,200	8,000	6,460	1,140	7,600	95%
12	Co-opbank	39,610	6,990	46,600	10,455	1,845	12,300	26%
*	IDC	50,836	-	50,836	14,180	-	14,180	28%
Total in VND mil.		846,283	75,388	921,671	509,991	51,486	561,477	61%
Total in USD mil.		37.544	3.281	40.825	22.933	2.231	25.164	61%

Implementation Status of the Agreed Follow-up Actions

(As of 28/2/2019)

No	Agreed Actions	Implementation Status
1	The Government to send official request for the cancellation of \$30 million to ADB as soon as, so ADB can process this cancellation within 2018	Implemented
2	MARD to obtain approval of the Government for the project extension of one year as soon as possible, and ADB to process a loan extension after receiving official request of the Government	Being implemented MOF is preparing submission to Government to request for Loan extension
3	MARD to send an official letter to ADB to commit that MARD will finance the works of research packages 42 and 43, which will be implemented after the loan closing date, by the counterpart funds	Implemented
4	CPMU to immediately update template of the project implementation progress with the appendices of this review mission Aide Memoire and issue it for use of PPMUs. CPMU and PPMUs to prepare the quarterly reports and reports for the subsequent review missions following the updated format	Partially implemented as the reports prepared by CPMU and PPMUs for the mission were inconsistent and made confusion
5	Ben Tre and Soc Trang PPCs to allocated adequate counterpart funds for 2018 as soon as possible but not later than 30 November 2018	Implemented
6	MARD through the Ministry of Finance to request VBARD and Co-opbank to (i) submit withdrawal applications to liquidate the used amounts of the ADB advance loan funds; and (ii) refund un-used amounts of the advance loan funds to ADB if they have no plan to use them	Implemented
7	After FIs have refunded the un-used ADB loan advance amounts, they can be used to replicate the CSAWMP demonstrations, which were successfully implemented and are economically effective, in the provinces that did not have them yet. CPMU to submit request of the replications for no-objection of ADB as soon as possible to allow adequate time for their implementation	Not yet implemented
Environmental Safeguard Recommendations		
8	CPMU with the support from LIC to prepare and approve IEEs for the additional MBPs to ensure the mitigation measures implemented complying with the project's EARF, and integrate EMPs in the bidding documents of these construction packages	Implemented
9	CPMU to work with the environment consultant of LIC to provide guidance on using bio-slurry and composting manure as fertilizers, avoiding overuse of untreated manure by October 2018	Partially implemented. Pilot activities implemented in Bac Giang, Nam Dinh and Soc Trang
10	CPMU to work with the environment consultant of LIC	Being implemented. Pilot

No	Agreed Actions	Implementation Status
	to guide and plan of using biogas produced by MBPs/LBPs, avoiding release gas into the atmosphere by November 2018	activities (Package 26) are implemented in Nam Dinh and Binh Dinh provinces
11	CPMU to work with PPMUs to improve documentation in the biogas database, and provide technical assistance for the project beneficiary households in operating SBPs and improving sanitation and safety operation of biogas plants	Being implemented
12	CPMU to support PPMUs in solving the overloading issue of SBPs by November 2018	Being implemented. Guidance provided for separation of manure and composting for organic fertilizers, reducing overloaded biogas plants
13	CPMU with support from the environment consultant of LIC to support PPMUs to use environment equipment and implement sampling program, which might be integrated with biogas inspection and in the next SEMRs from September 2018	Not yet implemented
14	CPMU and CSAWMP researchers to study on proper use of power generator for LBPs/MBPs by June 2019	Being implemented. Pilot activities in Nam Dinh and Binh Dinh provinces.
Social Safeguard Recommendations		
15	CPMU to update the EMDP for 7 EM project provinces with actual number of EM beneficiaries of each province and budget for implementation as well. The updated EMDP should be submitted to ADB for review and approval no later than 15 Oct 2018, then submitted to the PPCs for approval and disclosure to EM communities and upload on ADB website no later than 30 Oct 2018	Implemented
16	CPMU and PPMUs to implement all activities regulated in the updated EMDP for all 7 EM project provinces	Implemented
17	CPMU to submit the revised internal monitoring report on implementation of EMDP covering period from January to June 2018 to ADB by 15 October 2018	Implemented
18	From now to the project completion, CPMU and PPMUs with support of the loan implementation consultants (LIC) to conduct internally monitoring implementation of the updated EMDP activities and recommend measures to speed up its implementation	Partly implemented as contract of the LIC social safeguards consultant haven't extended yet, they only worked until December 2018
19	CPMU to extend contract of the LIC social consultant (if needed) until all activities of the updated EMDP have been substantially completed	Not yet implemented
GAP Recommendations		
20	CPMU and PPMUs to actively outreach female participation in training courses on construction of MBPs and LBPs, especially female workers to achieved the GAP targets	Partially implemented as the percentage of female participants in the training courses on MBPs and LBPs was only 14.3%, lower

No	Agreed Actions	Implementation Status
		than target of 15%.
21	PPMUs to cooperate with women union (WU) to conduct dissemination events with women only group, or through the WU meetings to inform the project activities as implemented by Tien Giang PPMU ¹	Partially implemented , only 11.4% of dissemination events involved women-groups, lower than target 30%.
22	CPMU to conduct more training courses on gender for the remaining CPMU and PPMUs staff and introduces project GAP to new stakeholders (contractors, agricultural extension staff, etc.)	Implemented
23	CPMU to collect sex-disaggregated data on O&M research equipment trainings and monitor the contractors to follow the GAP target (30% of staff in participating institutions trained are women)	Implemented
Review mission		
24	The next review mission of ADB to be fielded in March or April 2019	Implemented

¹ Tien Giang PPMU has cooperated with WUs at district and commune levels to organize dissemination events on project activities for WU leaders who after these training re-introduced to their members. This is a good way attracting women participation in training courses as well as disseminating the benefits of using biogas and CSAWMP.

Biogas Construction by Province

(As of 28 February 2019)

No	Provinces	Biogas Plants Constructed									
		Small		Medium		Large	Total	%	Ethnic Minority	%	ICMD Funds Transferred
		3 mil	5 mil	10 mil	50 mil						
1	Lao Cai	2,466	1000	0	4	0	3,470	6.0%	1,812	3.1%	3,349
2	Son La	2,086	660	0	0	0	2,746	4.8%	1,480	2.6%	2,746
3	Phu Tho	10,000	835	4	0	0	10,839	18.8%	370	0.6%	10,339
4	Bac Giang	7,460	1365	0	23	0	8,848	15.3%	880	1.5%	8,848
5	Nam Dinh	4,868	509	0	7	2	5,386	9.3%	0	0.0%	5,379
6	Ha Tinh	5,276	0	6	0	0	5,282	9.1%		0.0%	5,148
7	Binh Dinh	8,021	554	0	6	0	8,581	14.8%	5	0.0%	8,579
8	Tien Giang	2,935	931	0	2	0	3,868	6.7%		0.0%	3,558
9	Ben Tre	5,394	195	0	3	0	5,592	9.7%	1	0.0%	5,555
10	Soc Trang	2,820	363	0	5	0	3,188	5.5%	1,107	1.9%	3,100
	Total	51,326	6,412	10	50	2	57,800	100%	5,655	9.8%	56,601

Biogas Plant Training

(As of 28 February 2019)

No	Provinces	Biogas Plant Training to Operators, Masons, Technicians, Engineers and Contractors								
		Operators		Masons		Technician		Engineer		Contractor
		Total	Women	Total	Women	Total	Women	Total	Women	
*	CPMU			126	3	710	182	28	4	18
1	Lao Cai	8,454	4,392	49	4	27	7	0	0	0
2	Son La	2,746	943	29	0	75	11	0	0	0
3	Phu Tho	19,515	10,762	70	12	127	45	0	0	0
4	Bac Giang	17,687	8,737	19	1	43	11	0	0	0
5	Nam Dinh	11,351	6,243	0	0	70	13	0	0	0
6	Ha Tinh	12,818	7,993	126	3	56	14	0	0	0
7	Binh Dinh	8,845	4,088	28	0	53	8	0	0	0
8	Tien Giang	7,647	5,221	34	0	25	4	0	0	0
9	Ben Tre	14,890	6,223	14	5	9	1	0	0	0
10	Soc Trang	6,393	2,377	57	1	73	1	0	0	0
Total		110,346	56,979	552	29	1,268	297	28	4	18
Percentage			51.6%		5.3%		23.4%		14.3%	

Information about models that ADB organization visited

I. Pilots/Demonstrations visited in Bac Giang province

1. Fattening pig farming model on slatted floor in Bac Giang province

* **Farm owner:** Mr To Hien Thanh's farm

* **Address:** Mr To Hien Thanh's farm, Danh Thuong 2 village, Danh Thang commune, Hiep Hoa district, Bac Giang province.

* **Farm characteristics**

- Type of animal: scale of 500 fattening pigs, 30 sows.

In which: 300 pigs are being bred in the model (150 pigs on slatted floor and 150 control pigs on concrete floor with old technology)

- Total area of the farm is 5.6 ha (including 3 ha of fish ponds)

- Other economic activities: bred fish and ducks for laying eggs.

- Estimated value of products / year:

+ 750 piglets, worth 1,275 billion VND

+ 125 tons of fattening pigs, worth 5,625 billion VND

+ 200 tons of fish, worth 8 billion VND

+ Dusks: newly bred so have not yet harvested.

* **Support from the LCASP project:** Investment of the research package 27 for slatted floor model: VND 180 million for improving house (can breed 300 fattening pigs/ litter); VND 80 million for building a waste treatment system (composting house, waste storage tank)

* **Impact**

+ Saving over 80% amount of using water, also means reducing over 80% of the amount of liquid livestock waste discharged, that is a premise for good waste management, pollution reduction;

+ Pig weight increased by 12% compared to old farming technology; equivalent to an increase of profit of 600 thousand VND / head (equivalent to 450 million VND / year compared with scale of 300 pigs, 2.5 litters / year)

+ The amount of organic fertilizer is 120 tons (with scale of 300 pigs, 2.5 litters / year) equivalent to 240 million VND / year

+ Other benefits: Waste does not discharge completely into the environment, saving labor.

* **Photos**



2. Waste treatment model for organic fertilizer production in Bac Giang province

* **Farm owner:** Mr Nguyen Van Nghiep's farm

* **Address:** Dong Tam 3 village, Thuong Thang commune, Hiep Hoa district, Bac Giang province.

* **Farm characteristics**

- Type of animal: scale of 1700 fattening pigs, 80 sows.

In which: waste treatment model for 1700 fattening pigs

- Total area of the farm is 15 ha (including 10 ha of rice and upland crops; 2 ha of vegetables in greenhouses and 3 ha for pig farming)

- Other economic activities: not available.

- Estimated value of products / year:

+ 2000 piglets, worth 3.4 billion VND

+ 125 tons of fattening pigs, worth 19.12 billion VND

+ The value of cultivation products is about 2.4 billion VND

* **Support from the LCASP project:** Investment of the research package 27 for the model: building a filter tank to separate livestock waste for 1700 fattening pigs is 30 million VND (volume of 30 m³: 3 compartments, 2 bottoms); 50 million VND for digging 3 liquid waste treatment ponds (cloth lining); 50 million VND to build compost houses (forced air blowing).

* **Impact**

+ The amount of organic fertilizer is 640 tons (with the scale of 1,700 pigs, 2.5 liters / year) equivalent to the value of 1.28 billion VND / year

+ Other benefits: Reduce discharge of untreated waste into the environment, save labor.

* **Photos**



II. Pilots/Demonstrations visited in Soc Trang province

1. Model of Biogas slurry usage in Soc Trang

* **Farm owner:** Lieu Anh Tuan

* **Address:** So la 1 hamlet, Tham Don commune, My Xuyen district, Soc Trang province

* **Farm characteristics**

Mr. Tuan's household is raising 18 dairy cows, 3 calves and 4 sows and 2 ha of Mulato 1 grass to feed cows.

Cow waste is loaded into KT2 biogas plant with volume of 11m³. Biogas is used for cooking, 2 meals a day.

Biogas slurry is flowing through by-product tank, with volume of 22.68 m³ (7.2 x 2.1 x 1.5m).

Biogas slurry from this tank is pumped by a 1hp pump to the grass field, the method of direct watering into the groove of the bed so that the water is absorbed into the soil. Irrigation water is treated or diluted before pumping to the grass field.

* **Support from the LCASP project:**

Biogas slurry tank, the pump and the pipe system under demonstration package 37

* **Impact**

According to the initial assessment of households, previously not knowing how to use bioslurry to irrigate the grass, for every 1 ha of grass, households had to buy 3 bags of NPK (50kg each) and 1 bag of urea, with a total money is 2.2 million VND to apply for the grass field, and after 45 days to harvest a batch of grass.

Since the LCASP project supported the model of using bioslurry to irrigate the grass, household does not have to buy NPK but only using the urea. Initial results show that the use of biogas slurry to irrigates the grass making the greener and better, reducing the amount of NPK by 100%, the time of harvesting grass decreases by 1/3 , which means a lot of grass need 30 days to be harvested and productivity increases by 10%. Previously, time for harvesting the grass was 45 days.

* **Photos**



2. Pilot of no-waste-discharging shrimp farm by using organic substances and collecting suspended substances into flocs as feed for white leg shrimp

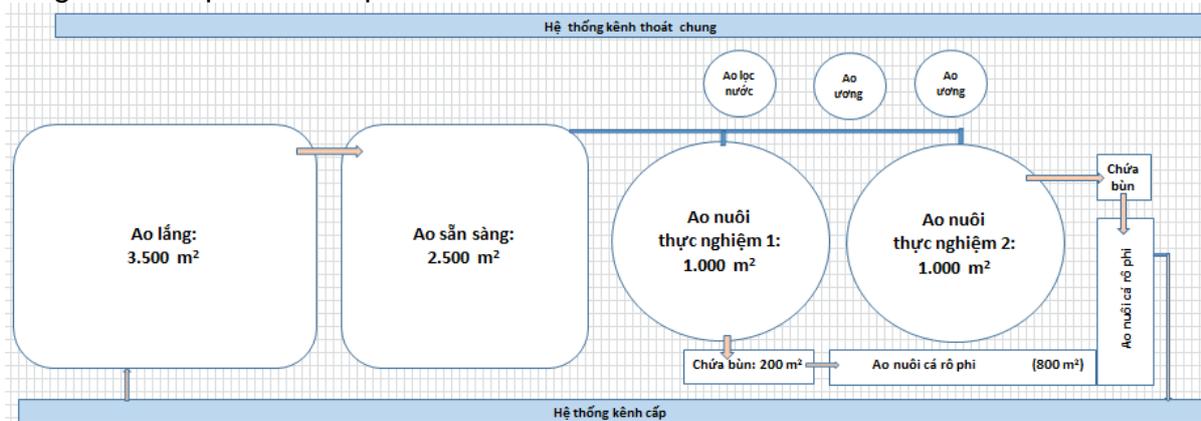
* **Farm owner:** Vinh Thuan Co., Ltd

* **Address:** Vinh Thuan Co., Vinh Chau town, Soc Trang province

* Farm characteristics

Shrimp Farming without discharging waste into the environment by the technology of creating a group of bacteria to treat nitrogen-based inorganic and organic substances into protein and collecting suspended substances into flocs as feed for white leg shrimp".

Diagram of experimental pilot



Technology description

- Design and build shrimp farming system according to experimental requirements. Effectively technical measures would be implemented such as adding molasses or flour to have a C / N ratio equal to or greater than 15/1, which is a favorable condition for the development of heterotrophic bacteria. These bacteria would treat organic matter, algae to create flocs. Shrimp eat these flocs, thereby reducing feed consumption ratio (FCR) and minimizing waste in water and sludge; The aeration system ensures that organic matter is always suspended in water; Paddlewheels ensure an external flow rate of 8 to 12 m /s; Floc volume 3-5ml / l.

- PL12 vannamei (12 days old) was nursed at 2 rearing tanks up to 30 days old. Shrimp breeds will be transferred to two grow-out ponds. Water and sludge from shrimp ponds will be transferred to sludge containing ponds and treated by tilapia. The clean water is supplied back to the settling pond for circulation to the ponds. During shrimp farming, waste water and sludge are not released to the outside environment.

* Support from the LCASP project:

Some costs for expert remuneration, pond design, digging ponds, bed covering, roof systems, aeration system, biological products,... about 700 million VND under research package 29

* Impact

Economic efficiency on the experimental model:

- Improve productivity and profitability ratio higher than the control model
- Reduce FCR rate compared to the control model
- Increase the survival rate by 5% compared to the control model.
- Reduce the risk ratio compared to the control model

Environmental efficiency:

- Waste water is treated according to a closed circulatory system, not discharging into the environment.
- Sludge is processed by tilapia and used for copepods or polychaete worms.

Social efficiency

- There is no conflict due to no daily water discharge to the common canal.

- Quality of shrimp products ensure food safety for consumers.
- The life of shrimp farmers is stable due to the high successful farming rate.

*** Photos**



Implementation Status of Credit Lines

(As of 28/2/2019)

No	Provinces	Credit Lines Number of Sub-loans						
		VBARD		Coopbank		Total		
		No. of Sub-loans	Joint Accounts	No. of Sub-loans	Joint Accounts	No. of Sub-loans	Joint Accounts	Women %
1	Lao Cai	127	127			127	127	100%
2	Son La					0	0	
3	Phu Tho	8	8			8	8	100%
4	Bac Giang	81	81	106	106	187	187	100%
5	Nam Dinh					0	0	
6	Ha Tinh					0	0	
7	Binh Dinh	16	16	55	55	71	71	100%
8	Tien Giang	18	18			18	18	100%
9	Ben Tre					0	0	
10	Soc Trang					0	0	
	Total	250	250	161	161	411	411	100%

CSAWMP Researches
(As of 28 February 2019)

Package No.	Package name	Cost (VND mil.)	Procurement/Implementation Status
25	Research on organic fertilizer production from livestock waste and bio slurry by value chain	26,787	Contract signed, consultants were mobilized. Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan approved; second payment done. The Consultant is completing the researches and preparing the research result reports.
26	Research on biogas technology improvement and effective biogas utilization by value chain	22,097	Contract signed, consultants were mobilized. Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan approved; second payment is being processed. The Consultant is completing the researches and preparing the research result reports.
27	Research on the water-saving pig farming technology	13,326	Contract signed, consultants were mobilized. Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan submitted, but not yet approved; second payment done. The Consultant is completing the researches and preparing the research result reports.
28	Research on effective utilization of crop waste by value chain	22,800	Contract signed, consultants were mobilized. Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan submitted, but not yet approved; second payment not yet done.
29	Research on the treatment of sludge sediment in shrimp farming	15,314	Contract signed, consultants were mobilized. Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan submitted, but not yet approved; second payment done. The Consultant is completing the researches and preparing the research result reports.
42	Piloting technology for special designed organo-mineral	3,997	Contract signed, consultants were mobilized. Inception report approved;

Package No.	Package name	Cost (VND mil.)	Procurement/Implementation Status
	fertilizers production from livestock waste and Bio-slurry for key crops in Vietnam		Technology review report submitted, but not yet approved.
43	Establishing comprehensive system of production and supply of microbial product for organic fertilizer production from agricultural waste and bio-slurry	3,096	Contract signed, consultants were mobilized. Inception report not yet submitted

CSAWMP Demonstrations

(As of 28 February 2019)

Package No.	Package name	Provinces	Cost (VND mil.)	Procurement/Implementation 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	27,492	Bac Giang: contract liquidated. 8/8 separator systems are in good operation Ben Tre: contract not yet liquidated. 5/5 separator systems are in good operation Binh Dinh: contract liquidated. 4/4 separator systems are in good operation Phu Tho: contract liquidated. 13/13 separator systems are in good operation
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	19,760	Ha Tinh: contract liquidated. 2/2 separator systems are in good operation Nam Dinh: contract liquidated. 7/7 separator systems are in good operation Soc Trang: 1/1 separator systems are in good operation. Requesting contract extension to May 2019. Son La: contract liquidated. 5/5 separator systems are in good operation Tien Giang: contract liquidated. 5/5 separator systems are in good operation
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	10,248	Binh Dinh: contract not yet liquidated. 1/1 system is in good operation Ha Tinh: contract liquidated. 1/1 system is in good operation Nam Dinh: contract liquidated. 2/2 systems are in good operation Soc Trang: contract not yet liquidated. 1/1 system is in good operation
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	4,413	Contract signed, Bac Giang: 2/2 systems are handed over and in good operation, Binh Dinh: 1/1 system is handed over and in good operation
36	Supply of biogas generator system for demonstration	Binh Dinh, Ha Tinh, Lao Cai, Soc Trang and Tien Giang	6,272	Binh Dinh: contract not yet liquidated. 01/01 generator system is in good operation Lao Cai: contract not yet liquidated. 21/21 generator systems are in good operation Soc Trang: contract not yet liquidated. 01/01 generator system is in good operation Tien Giang: contract liquidated. 02/02 generator systems are in good operation
37	Supply of utilization system for treatment of biogas digested effluent demonstration as the fertilizer of the crops	Soc Trang and Binh Dinh	4,124	Contract signed, Binh Dinh: contract not yet liquidated; 71/71 households installed and in operation in; Soc Trang: contract not yet liquidated; 25/25 households installed with equipment in Soc Trang

Package No.	Package name	Provinces	Cost (VND mil.)	Procurement/Implementation Status
38	Supply of utilization system for treatment of cattle dung as the feedstock for red worm raising demonstration	Soc Trang	334	Contract signed, demonstration is in good operation in Soc Trang
44	Supplying comprehensive waste management system for demonstration of manure separating to produce organic fertilizer material, fully utilization of biogas by generator, and bio-slurry treatment for crop watering in Bac Giang province	Bac Giang	1,965	Contract not yet liquidated; generator and manure systems are handed over and in good operation
45	Supply of utilisation system for treatment of biogas digested effluent demonstration as the fertiliser of the crops for Ha Tinh	Ha Tinh	90,000.00 USD	RFQ not yet approved. Contract award expected in March 2019
47	Supply of farm scale biogas generator system for demonstration of Bac Giang province	Bac Giang	86,783.00 USD	RFQ not yet approved. Contract award expected in April 2019
48	Supply of utilization system for treatment of biogas digested effluent demonstration as the fertilizer of the crops for Bac Giang	Bac Giang	86,211.00 USD	RFQ not yet approved. Contract award expected in April 2019
49	Supply of utilization system for treatment of pig waste as the feedstock for red worm raising demonstration for Bac Giang province	Bac Giang	86,652.00 USD	RFQ not yet approved. Contract award expected in April 2019

CSAWMP Training
(As of 28 February 2019)

No	Provinces	Number of People Trained on CSAWMP			
		Farmers		Extension Staff	
		Total	Women	Total	Women
0	CPMU			274	82
1	Lao Cai	945	380	39	16
2	Son La	748	526	212	77
3	Phu Tho	3,500	1,874	0	0
4	Bac Giang	3,630	2,054	67	31
5	Nam Dinh	4,365	2,102	100	50
6	Ha Tinh	1,069	644	33	15
7	Binh Dinh	1,401	472	387	82
8	Tien Giang	2,754	1,176	0	0
9	Ben Tre	840	192	322	60
10	Soc Trang	2,731	1,260	0	0
Total		21,983	10,680	1,434	413
Percentage			48.6%		28.8%

Overall Projected Contract Award Schedule for ADB Loan

No.	CPMU/ Province	ADB Loan Required (VND mil.)	Cum. Con. Awards as of 28/2/2019	Contract Award (VND mil.)								Ratio %
				2019				2020				
				March	Q II	Q III	Q IV	Q I	Q II	Q III	Q IV	
*	CPMU	297,384	251,304	460	42,180	860	860	860	860			85%
1	Binh Dinh	59,778	52,813	200	6,765	0	0					88%
2	Bac Giang	68,880	54,817	100	13,415	200	348					80%
3	Ben Tre	32,951	29,077	213	3,059	522	80					88%
4	Ha Tinh	42,672	30,347	592	8,092	150	3,491					71%
5	Lao Cai	34,391	27,050	1,175	2,932	2,697	537					79%
6	Nam Dinh	53,261	44,498	0	6,926	900	937					84%
7	Phu Tho	74,900	63,962	1,720	5,722	494	3,002					85%
8	Soc Trang	31,593	23,053	400	6,572	768	800					73%
9	Son La	27,169	20,245	50	4,348	1,222	1,304					75%
10	Tien Giang	26,060	24,543	1,353	124	19	21					94%
11	VBARD	6,800	6,460		170	170						95%
12	Co-opbank	39,610	10,455	4,505	6,545	9,010	9,095					26%
Total in VND mil.		795,447	638,623	10,768	106,850	17,012	20,475	860	860	0	0	80%
Total in USD mil.		35.353	28.480	0.481	4.631	0.768	0.917	0.037	0.037	0.000	0.000	80%

Overall Projected Disbursement Schedule for ADB Loan

No.	CPMU/ Province	ADB Loan Required (VND mil.)	Cumulative Disburs. As of 28/2/2019	Disbursement (VND mil.)								Ratio %
				2019				2020				
				March	Q II	Q III	Q IV	Q I	Q II	Q III	Q IV	
*	CPMU	297,384	130,072	15,660	73,925	75,087	920	860	860			44%
1	Binh Dinh	59,778	49,134	200	8,444	1,350	650					82%
2	Bac Giang	68,880	53,161	0	15,171	200	348					77%
3	Ben Tre	32,951	28,206	0	2,173	2,492	79					86%
4	Ha Tinh	42,672	29,941	998	5,154	3,088	1,467	2,024				70%
5	Lao Cai	34,391	25,602	400	5,155	500	2,734					74%
6	Nam Dinh	53,261	44,498	0	6,926	900	937					84%
7	Phu Tho	74,900	57,189	0	14,215	494	3,002					76%
8	Soc Trang	31,593	19,389	200	5,084	626	6,293					61%
9	Son La	27,169	20,245	50	4,348	1,280	1,246					75%
10	Tien Giang	26,060	21,460	19	4,541	19	21					82%
11	VBARD	6,800	6,460		170	170						95%
12	Co-opbank	39,610	10,455	4,505	6,545	9,010	9,095					26%
Total in VND mil.		795,447	495,811	22,032	151,852	95,216	26,792	2,884	860	0	0	62%
Total in USD mil.		35.353	22.324	0.967	6.571	4.139	1.190	0.124	0.037	0.000	0.000	62%

0.7937588

IAAs	Actual Dis @Mar2019	Sep2018 CA projection	%	Ranking
CPMU	26,734	47,040	57%	8
Binh Dinh	4,656	4,024	116%	1
Bac Giang	8,467	7,513	113%	2
Ben Tre	2,025	2,975	68%	6
Ha Tinh	2,682	7,563	35%	10
Lao Cai	3,821	7,788	49%	9
Nam Dinh	13,315	15,439	86%	3
Phu Tho	8,981	14,685	61%	7
Soc Trang	1,463	10,028	15%	11
Son La	3,707	5,339	69%	5
Tien Giang	3,238	4,351	74%	4

Overall Provision and Projection of Counterpart Funds

No	CPMU/ Province	Total CF Required (VND mil.)	Cumulative Disburs. as of 31-12-2018									Disbursed Ratio %	
				2019				2020					
				Jan-Feb	March	Q II	Q III	Q IV	Q I	Q II	Q III		Q IV
*	CPMU	32,470	21,270	1,000	1,500	2,000	1,000	1,500	2,000	2,200			66%
1	Binh Dinh	4,257	3,257	167	83	250	250	250					77%
2	Bac Giang	3,456	2,556	200	100	300	150	150					74%
3	Ben Tre	2,068	1,518	66	34	100	150	200					73%
4	Ha Tinh	5,850	4,650	200	100	300	300	300					79%
5	Lao Cai	3,141	2,606	66	34	100	100	235					83%
6	Nam Dinh	4,129	3,129	200	100	300	200	200					76%
7	Phu Tho	3,523	3,058	66	34	165	100	100					87%
8	Soc Trang	2,858	2,389	113	56	100	100	100					84%
9	Son La	3,653	2,710	107	53	240	260	283					74%
10	Tien Giang	1,793	1,358	73	37	110	110	105					76%
11	VBARD	1,200	1,140			30	30						95%
12	Co-opbank	6,990	1,845		795	1,155	1,590	1,605					26%
Total VND		75,388	51,486	2,258	2,926	5,150	4,340	5,028	2,000	2,200	0	0	68%
Total USD (mil)		3.281	2.231	0.097	0.129	0.227	0.193	0.223	0.086	0.095	0.000	0.000	68%
Total C.F Requirements for 2019				19,702									
Total allocated for 2019				19,502									
Total Shortage of counterpart funds				200									

Compliance of Loan Covenants

No.	Schedule	Description	Remarks/Issues	Type
1	Article 4	(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
2	Article 4	(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
3	Schedule 5	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
4	Article 3	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
5	Article 3	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 ADB, and shall be without prejudice to, and without limitation on, the obligations of the Borrower under the Loan Agreement.	Complied with	Financials
6	Article 4	(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.	Being complied with	Financials

7	Article 4	(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.	Being complied with	Financials
8	Article 4	(c) The Borrower shall enable ADB, upon ADB's request, to discuss the financial statements for the Project and the Borrower's financial affairs where they relate to the Project with the auditors appointed pursuant to subsection (a)(iii) hereinabove and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB. This is provided that such discussions shall be conducted only in the presence of an authorized officer of the Borrower, unless the Borrower shall otherwise agree.	Being complied with	Financials
9	Schedule 5	(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
10	Schedule 5	(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	Others
11	Schedule 5	(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	Others
12	Schedule 5	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
13	Article 3	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
14	Article 4	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
15	Article 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

16	Article 3	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
17	Schedule 5	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
18	Article 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
19	Article 4	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
20	Schedule 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
21	Schedule 5	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

22	Article 3	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
23	Article 4	(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
24	Article 4	(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	Financials
25	Article 3	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	
26	Schedule 5	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
27	Schedule 5	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
28	Schedule 5	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
29	Schedule 5	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
30	Schedule 5	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

31	Schedule 5	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
32	Schedule 5	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
33	Schedule 5	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
34	Schedule 5	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
35	Schedule 5	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
36	Schedule 5	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	
37	Schedule 5	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

38	Schedule 5 and revised by the MTR	<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 7% 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 15% 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 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 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 with (ix) Partially complied with (x) Complied with (xi) Complied with (xii) Complied with (xiii) Complied with</p>	Social
39	Schedule 5	<p>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.</p>	Being complied with	Social
40	Schedule 5	<p>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.</p>	Being complied with	Others
41	Schedule 5	<p>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.</p>	Being complied with	Others

42	Schedule 5	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
43	Schedule 5	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.	Being complied with	Others
44	Schedule 5	In addition to these requirements, to deter corruption and increase transparency, the Borrower shall create a Project website within 5 months of the Effective Date, accessible by the general public, to disclose various information concerning the Project including general information about the Project, public procurements related to the Project, Project progress and contact details in English and Vietnamese languages. The website shall also provide a link to ADB's Integrity Unit (http://www.adb.org/Integrity/complaint.asp) for reporting to ADB any grievances or allegations of corrupt practices arising out of the Project and Project activities. For each contract, the website shall include information on, among others, the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods/services, including consulting services, procured. The Borrower shall cause the Project Executing Agency to permit any bidder to request an explanation as to why a bid was unsuccessful and either the Project Executing Agency shall respond within 20 working days. The website will be updated promptly and regularly after each award of contract, (ii) each submission of the semi-annual Environmental Monitoring Report to ADB. In addition to the web-based disclosure, stakeholders, which include civil society and non-governmental organizations, shall be provided by the Borrower with detailed information on procurement on public notice boards in their respective areas.	Being complied with	Others

45	Schedule 5	The Borrower shall and shall ensure that the Project Executing Agency and each IA complies with: (i) ADB's policy relating to Enhancing the Asian Development Bank's Role in Combating Money Laundering and the Financing of Terrorism (2003); and (ii) applicable laws and regulations of the Borrower on combating money laundering and financing of terrorism and that Loan proceeds are not used, directly or indirectly, in money laundering or financing of terrorism.	Being complied with	Others
46	Schedule 5	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
47	Schedule 5	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

Implementation Status of Updated Ethnic Minority Development Plan

(As of 28 Feb 2019)

No.	Activities	Status	Achievements																
1	Livestock waste management																		
1.1	<i>Biogas plant value chain management</i>																		
1.1.1	Map EM statistic in sample provinces, their livelihoods and potential links to BP value chains.	On-going	<p><u>By end of 28 Feb 2019</u> the database for BPs under Package 13, with separated data for ethnic minorities, has been implemented and updated with 44,006 biogas plants of whole project. Of which 25,918 BPs are from 6 provinces with EM:</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: center;">Provinces</th> <th style="text-align: center;">Number of EM</th> </tr> </thead> <tbody> <tr> <td>Lào Cai</td> <td style="text-align: right;">2,192</td> </tr> <tr> <td>Sơn La</td> <td style="text-align: right;">2,231</td> </tr> <tr> <td>Phú Thọ</td> <td style="text-align: right;">8,899</td> </tr> <tr> <td>Bắc Giang</td> <td style="text-align: right;">4,643</td> </tr> <tr> <td>Bình Định</td> <td style="text-align: right;">5,283</td> </tr> <tr> <td>Sóc Trăng</td> <td style="text-align: right;">2,670</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">25,918</td> </tr> </tbody> </table>	Provinces	Number of EM	Lào Cai	2,192	Sơn La	2,231	Phú Thọ	8,899	Bắc Giang	4,643	Bình Định	5,283	Sóc Trăng	2,670	Total	25,918
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1.1.2	Assess resources and constraints for EMs to construct BPs	On-going	<p>Assessment during implementation phase has been initially done through the consultation with provinces in November 2016. 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	On-going	<p><u>By end of 28 Feb 2019:</u> Considering the 6 provinces with EMs only, there are 38,272 small biogas plants constructed, of which 5,534 for ethnic minority households (accounting for 14.5% in 06 selected provinces). In the 10 provinces, Project has built 58,380 small biogas plants, including 5,535 plants for ethnic minority households (accounting for 9.5% of total number of small biogas plants in 10 project provinces (Ben Tre has 01 ethnic household).</p>																

No.	Activities	Status	Achievements
1.1.4	Organize to potentially share BP value chain benefits from BP owners to EMs	On-going	<p>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.</p> <p><u>Up to 28 Feb 2019</u>, the information dissemination has been done in 6 ethnic minority provinces including:</p> <ul style="list-style-type: none"> - 855 information dissemination meetings and workshops - 161 articles broadcast on TV - 4,513 articles broadcast on radio - 351 articles on newspapers - 11,374 bulletin boards - 69,000 posters - 352,720 leaflets - 34 video clips
1.1.5	Monitor BP value chain management within EMs	On-going	<p><u>Up to 28 Feb 2019</u>: All the 10 provinces have constructed 58,380 SBPs, including 5,535 SBPs for EMs, receiving the supervision and technical assistance from the project in terms of BVC management.</p>
1.2 Carbon market access			
1.2.1	Assess EM driven investments that may link carbon emission	On-going	<p>All data on biogas plants of ethnic minorities will be provided to the National Biogas Program to support carbon credit program</p> <p><u>Cumulative data as of 28 Feb 2019</u>, The Project has provided 58,380 SBPs, of which 5,535 SBPs are provided for ethnic minorities (Accounting for 9.5% of the total number of SBPs in 10 project provinces).</p>
1.2.2	Train EMs on CSAWMP linked to carbon markets	On-going	<p><u>Cumulative data as of 28 Feb-2019</u>: 23,317 people from the all project have been trained on CSAWMP, of which 3,874 are ethnic minorities, accounting for 16.6%</p> <p><i>Considering the 6 provinces with EMs only, the number of trained EM accounts for 28.36% (3,874/13,660)</i></p>
1.2.3	Assess FIs which are suitable for EM to access the credit		<p>Social policy bank was proposed as an additional FI for project however the negotiation process has not been achieved yet.</p>
1.3	Biogas value chains sustainability		

No.	Activities	Status	Achievements
1.3.1	Train EMs to manage their livestock and wastes	On-going	The project has provided training courses on O&M of biogas plants and CSAWMP for participants to manage livestock and wastes
1.3.1(a)	Training on CSAWMP:	On-going	<u>Cumulative data as of 28 Feb 2019</u> : 23,317 people of the all project have been trained on CSAWMP, of which 3,874 are ethnic minorities, accounting for 16.6%. <u>Considering the 6 provinces with EMs only (Son La, Lao Cai, Bac Giang, Phu Tho, Binh Dinh and Soc Trang)</u> , the number of trained EM accounts for 28.36% (3,874/13,660)
1.3.2(b)	Ethnic minority people trained on the use of small biogas plants	On-going	<u>As of 28 Feb 2019</u> , among 37,503 trained people in 06 provinces with ethnic minorities and among 61,925 of all project trainees, 5,132 ethnic minority people have been trained on the use of small biogas plants, accounting for 13.7% and 8.3% respectively.
1.3.2(c)	Ethnic minority people trained on the operation at home (during the inspection and acceptance visits by technical staff)	On-going	<u>As of 28 Feb 2019</u> , among 24,051 trained people in 06 provinces with ethnic minorities and among 46,335 of all project trainees, 4,431 ethnic minority people have been trained on the operation of small biogas plants, accounting for 18.4% and 9.6% respectively.
1.3.3	Facilitate EM access to FIs	On-going	As of 28 Feb 2018, cumulative number of households who have access to credit is 411, including 92 EM households accounting for 22 %. 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	CSAWMP Promotion		
2.1.1	Ensure EM areas included in agro-climatic mapping system	On-going	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
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

No.	Activities	Status	Achievements
			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 2019, 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.	On-going	Project has provided training to 21,983 farmers on CASWMP, including 3,685 EM people (17%). As of 28 Feb 2019, Project has trained 1,334 agriculture extension staff on CSAWMP, including 189 ethnic minority people (14.2%). Among 189 trained ethnic minority extension staff, there are 124 women, accounting for 66%.
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 28 Feb 2019, 6 provinces with EM have provided training for 705 extension staff, including 189 EM staff, (26.81%).
2.2.3	Disseminate CSAWMP skills and knowledge to EM, BP owners and other farmers in EM areas.	On-going	Project has provided training to 21,983 farmers on CASWMP, including 3,685 EM people (17%).
2.3	<i>Biogas plant value chain model</i>		
2.3.1	Assess surplus of gas, electricity, bio-slurry for Ems	On-going	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.

No.	Activities	Status	Achievements
2.3.2	Manage gas, electricity and organic fertilizers for EMs	On-going	<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 2019</i>, among 37,503 trained people in 06 provinces with ethnic minorities and among 61,925 of all project trainees, 5,132 ethnic minority people have been trained on the operation of small biogas plants, accounting for 13.7% and 8.3% 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	On-going	<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>
3.3	Ensure FIs to support EMs	On-going	As of 28 Feb 2019, cumulative number of households who have access to credit is 411, including 92 EM households accounting for 22 %.

UPDATED GENDER ACTION PLAN (GAP) MONITORING TABLE

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

Date of update: 28 February 2019

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.	• On-going/Achieved: The project conducted training courses for technical staff in biogas management and technical issues. Among 1,268 participants, of which 297 female participants (23.4%).				
			Total	Women		% Women
		CPMU	710	182		25.6
		Lao Cai	27	7		25.9
		Son La	75	11		14.7
		Phu Tho	127	45		35.4
		Bac Giang	43	11		25.6
		Nam Dinh	70	13		18.6
		Ha Tinh	56	14		25.0
		Binh Dinh	62	8		12.9
		Tien Giang	25	4		16.0
		Ben Tre	9	1		11.1
		Soc Trang	73	1		1.4
	Total	1,268	297	23.4		

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/Achieved: The project conducted centralized trainings and trainings at home on biogas use for 110,346 participants including 56,979 female participants (51.6%)¹.</p> <table border="1"> <thead> <tr> <th rowspan="2">Provinces</th> <th rowspan="2">Total</th> <th rowspan="2">Women</th> <th rowspan="2">% Women</th> <th colspan="2">Centralized trainings</th> <th colspan="2">At home</th> </tr> <tr> <th>Total</th> <th>Women</th> <th>Total</th> <th>Women</th> </tr> </thead> <tbody> <tr> <td>Lao Cai</td> <td>8,45</td> <td>4,392</td> <td>52.0</td> <td>4,873</td> <td>3,267</td> <td>3,581</td> <td>1,125</td> </tr> <tr> <td>Son La</td> <td>2,746</td> <td>943</td> <td>34.3</td> <td>514</td> <td>158</td> <td>2,232</td> <td>785</td> </tr> <tr> <td>Phu Tho</td> <td>19,515</td> <td>10,762</td> <td>55.1</td> <td>8,679</td> <td>5,985</td> <td>10,836</td> <td>4,777</td> </tr> <tr> <td>Bac Giang</td> <td>17,687</td> <td>8,737</td> <td>49.4</td> <td>8,848</td> <td>6,300</td> <td>8,839</td> <td>2,437</td> </tr> <tr> <td>Nam Dinh</td> <td>11,351</td> <td>6,243</td> <td>55.0</td> <td>5,868</td> <td>3,900</td> <td>5,483</td> <td>2,343</td> </tr> <tr> <td>Ha Tinh</td> <td>12,818</td> <td>7,993</td> <td>62.4</td> <td>4,561</td> <td>3,979</td> <td>8,257</td> <td>4,014</td> </tr> <tr> <td>Binh Dinh</td> <td>8,845</td> <td>4,088</td> <td>46.2</td> <td>209</td> <td>117</td> <td>8,636</td> <td>3,971</td> </tr> <tr> <td>Tien Giang</td> <td>7,647</td> <td>5,221</td> <td>68.3</td> <td>3,866</td> <td>3,067</td> <td>3,781</td> <td>2,154</td> </tr> <tr> <td>Ben Tre</td> <td>14,890</td> <td>6,223</td> <td>41.8</td> <td>7,989</td> <td>4,143</td> <td>6,901</td> <td>2,080</td> </tr> <tr> <td>Soc Trang</td> <td>6,393</td> <td>2,377</td> <td>37.2</td> <td>3,014</td> <td>1,517</td> <td>3,379</td> <td>860</td> </tr> <tr> <td>Total</td> <td>110,346</td> <td>56,979</td> <td>51.6</td> <td>48,421</td> <td>32,433</td> <td>61,9255</td> <td>24,546</td> </tr> </tbody> </table>						Provinces	Total	Women	% Women	Centralized trainings		At home		Total	Women	Total	Women	Lao Cai	8,45	4,392	52.0	4,873	3,267	3,581	1,125	Son La	2,746	943	34.3	514	158	2,232	785	Phu Tho	19,515	10,762	55.1	8,679	5,985	10,836	4,777	Bac Giang	17,687	8,737	49.4	8,848	6,300	8,839	2,437	Nam Dinh	11,351	6,243	55.0	5,868	3,900	5,483	2,343	Ha Tinh	12,818	7,993	62.4	4,561	3,979	8,257	4,014	Binh Dinh	8,845	4,088	46.2	209	117	8,636	3,971	Tien Giang	7,647	5,221	68.3	3,866	3,067	3,781	2,154	Ben Tre	14,890	6,223	41.8	7,989	4,143	6,901	2,080	Soc Trang	6,393	2,377	37.2	3,014	1,517	3,379	860	Total	110,346	56,979	51.6	48,421	32,433	61,9255	24,546	
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¹ Interview 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. Ms. Le Thi Yen, Duong Que village, Phuoc Trung commune, Go Cong Dong district, Tien Giang province, her household was supported 5 million to construct SBP (Female headed household), she was trained on biogas use at home during the contractor installed SBP.

Project Outputs	Proposed targets / Actions	Progress	Issues / Challenge																																																				
	<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: CPMU and PPMUs conducted training courses on construction of small Biogas Plants with 552 participants including 28 women (5.3%).</p> <table border="1"> <thead> <tr> <th>CPMU/ PPMU</th> <th>Total</th> <th>Women</th> <th>% Women</th> </tr> </thead> <tbody> <tr> <td>CPMU</td> <td>126</td> <td>3</td> <td>2.4</td> </tr> <tr> <td>Lao Cai</td> <td>49</td> <td>4</td> <td>8.2</td> </tr> <tr> <td>Son La</td> <td>29</td> <td>-</td> <td>0.0</td> </tr> <tr> <td>Phu Tho</td> <td>70</td> <td>12</td> <td>17.1</td> </tr> <tr> <td>Bac Giang</td> <td>19</td> <td>1</td> <td>5.3</td> </tr> <tr> <td>Nam Dinh</td> <td>-</td> <td>-</td> <td>0.0</td> </tr> <tr> <td>Ha Tinh</td> <td>126</td> <td>3</td> <td>2.4</td> </tr> <tr> <td>Binh Dinh</td> <td>28</td> <td>-</td> <td>0.0</td> </tr> <tr> <td>Tien Giang</td> <td>34</td> <td>-</td> <td>0.0</td> </tr> <tr> <td>Ben Tre</td> <td>14</td> <td>5</td> <td>35.7</td> </tr> <tr> <td>Soc Trang</td> <td>57</td> <td>1</td> <td>1.8</td> </tr> <tr> <td>Total</td> <td>552</td> <td>28</td> <td>5.3</td> </tr> </tbody> </table>	CPMU/ PPMU	Total	Women	% Women	CPMU	126	3	2.4	Lao Cai	49	4	8.2	Son La	29	-	0.0	Phu Tho	70	12	17.1	Bac Giang	19	1	5.3	Nam Dinh	-	-	0.0	Ha Tinh	126	3	2.4	Binh Dinh	28	-	0.0	Tien Giang	34	-	0.0	Ben Tre	14	5	35.7	Soc Trang	57	1	1.8	Total	552	28	5.3	<p>Mason of Biogas Plants (BP) are usually professional and skillful masons and get further training on BPs, it is a high skilled job but not a full-time job, so it is difficult for women to get trained and become masons.</p>
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	<p>4• T4. At least 30% of trained employees in MBPs and LBPs are women. (Adjusted 15% in MTR mission)</p>	<p>• On-going/ Under achieved: CPMU conducted training courses on construction of MBPs and LBPs for 46 engineers, contractors and workers including 4 women (8.7%)</p>	<p>The number of female engineers, and contractors' representatives is small, and hence it is difficult to meet the project training target of the women</p>																																																				

Project Outputs	Proposed targets / Actions	Progress	Issues / Challenge																												
2.Credit lines for biogas value chains	5. T5. At least 50% of credit recipients will be registered under husband-wife joint accounts or on behalf of women.	<p>• On-going/achieved: There are 411 credit recipients and 100% of credit recipients are registered under husband-wife joint accounts or on behalf of women.</p> <table border="1"> <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>127</td> <td>100</td> </tr> <tr> <td>Phu Thọ</td> <td>8</td> <td>8</td> <td>100</td> </tr> <tr> <td>Bac Giang</td> <td>187</td> <td>187</td> <td>100</td> </tr> <tr> <td>Binh Dinh</td> <td>71</td> <td>71</td> <td>100</td> </tr> <tr> <td>Tien Giang</td> <td>18</td> <td>18</td> <td>100</td> </tr> <tr> <td>Total</td> <td>411</td> <td>411</td> <td>100</td> </tr> </tbody> </table>	PPMU	Total	Husband-wife or women	% Husband-wife or women	Lao Cai	127	127	100	Phu Thọ	8	8	100	Bac Giang	187	187	100	Binh Dinh	71	71	100	Tien Giang	18	18	100	Total	411	411	100	The 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.
PPMU	Total	Husband-wife or women	% Husband-wife or women																												
Lao Cai	127	127	100																												
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	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>• On-going/achieved: There are 411 credit recipients and 100% of credit recipients are registered under husband-wife joint accounts or on behalf of women.</p> <table border="1"> <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>127</td> <td>100</td> </tr> <tr> <td>Phu Tho</td> <td>8</td> <td>8</td> <td>100</td> </tr> <tr> <td>B. Giang</td> <td>187</td> <td>187</td> <td>100</td> </tr> <tr> <td>B. Dinh</td> <td>71</td> <td>71</td> <td>100</td> </tr> <tr> <td>T. Giang</td> <td>18</td> <td>18</td> <td>100</td> </tr> <tr> <td>Total</td> <td>411</td> <td>411</td> <td>100</td> </tr> </tbody> </table>	Province	Total	Husband-wife or Women	% recipients under H-W or Women	Lao Cai	127	127	100	Phu Tho	8	8	100	B. Giang	187	187	100	B. Dinh	71	71	100	T. Giang	18	18	100	Total	411	411	100	
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Project Outputs	Proposed targets / Actions	Progress	Issues / Challenge
3.Enhanced CSAWMP technology transfer	7• A1. Gender sensitive research strategy prepared.	<ul style="list-style-type: none"> • Achieved: Research strategy to direct project research activities on CSAWMP was developed in 2015. This research strategy analyzed existing technologies on agricultural wastes and by-products for reducing environmental pollution and creating revenue to farmers in the 10 project provinces² and proposed value chains pilot and demonstration models for of agricultural wastes.³ 	
	8. A2. Training materials of CSAWMP technology and methodology of dissemination are women friendly (avoiding gender stereo types and using appropriate illustrations).	<ul style="list-style-type: none"> • Achieved: The training materials of CSAWMP technology using pictures and appropriate illustrations, so women can easily understand and apply into practice⁴. 	
	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	<ul style="list-style-type: none"> • On-going/under achieved: 855 dissemination meetings and workshops have been organized with 24,981 participants including 11,168 women (45 %). Only 97 meetings and workshops are for women-only group (11.4%). 	<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</p>

² Part 3.2.1. Rice husk briquette and Improved cook stove (page 11)

³ Part 5.1: Biogas technology related models: need to overcome the limitations in environmental treatment and 5.4 : Utilization of fertilizer compressed machine for treating livestock environment and Collection of livestock waste for producing bio-organic fertilizer (page 18).

Interview Ms. Nguyen Thi Anh – Head of Thuc Anh livestock farm – Ha Thanh commune, Phu Tho town, Phu Tho province. Her household participated in the package 32 on Supply of manure separating systems to treat livestock waste to produce material for organic fertilizer demonstration and project supported the automatic irrigation system. This model has saved time in getting water and protecting the environment as well as the health of her family and workers.

⁴ 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>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</p> <p>In the 6 CSAWMP researches have been awarded (Package 25-29 and 42), there are 2 researches related to gender issues. (Package 26 and package 27)⁵: These researches have designed activities related to gender issues.</p> <p>Package 27: the result of this package will help farmers in reducing investment costs, reducing the amount of water in livestock (by not washing barn, bathing pigs) and saving time for women and men in cleaning the barns⁶;</p> <p>Package 26: the result of this package will help local people in the effectively use of animal waste to create a free gas source for cooking, avoid deforestation for fuelwood and save time for women and men in cooking and protect the environment and better women's and family health.</p>	<p>The progress reports of packages 26 and 27 did not mention gender related issues. The contractors of Package 26 and 27 need to report the research results related to gender of these researches to ADB in the next report.</p>

⁵ Package 26 (Research on biogas technology improvement and effective biogas utilization by value chain) and Package 27 (Research on the water-saving pig farming technology).

⁶ Interview Mr. To Hien Thanh (Danh Thuong village, Danh Thang commune, Hiep Hoa district, Bac Giang province) who participated in the Package 26, he received the support by project to construct the barn from 6/2018. Now he is raising 80 pigs in a newly barn, and he saves money from hiring workers, his wife and children to save time in cleaning the barn (4 hours per day).

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. <i>(Moved from Output 1 to output 3)</i></p>	<p>•On-going/ Partially achieved: The project conducted training courses on CSAWMP for 21,983 farmers including 10,680 women (48.6%).</p> <table border="1"> <thead> <tr> <th>PPMU</th> <th>Total of participants</th> <th>Women</th> <th>% Women</th> </tr> </thead> <tbody> <tr> <td>Lao Cai</td> <td>945</td> <td>380</td> <td>40.21</td> </tr> <tr> <td>Son La</td> <td>748</td> <td>526</td> <td>70.32</td> </tr> <tr> <td>Phu Tho</td> <td>3,500</td> <td>1,874</td> <td>53.54</td> </tr> <tr> <td>Bac Giang</td> <td>3,630</td> <td>2,054</td> <td>56.58</td> </tr> <tr> <td>Nam Dinh</td> <td>4,365</td> <td>2,102</td> <td>48.16</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>1,401</td> <td>472</td> <td>33.69</td> </tr> <tr> <td>Tien Giang</td> <td>2,754</td> <td>1,176</td> <td>42.70</td> </tr> <tr> <td>Ben Tre</td> <td>840</td> <td>192</td> <td>22.86</td> </tr> <tr> <td>Soc Trang</td> <td>2,731</td> <td>1,260</td> <td>46.14</td> </tr> <tr> <td>Total</td> <td>21,983</td> <td>10,680</td> <td>48.6</td> </tr> </tbody> </table>				PPMU	Total of participants	Women	% Women	Lao Cai	945	380	40.21	Son La	748	526	70.32	Phu Tho	3,500	1,874	53.54	Bac Giang	3,630	2,054	56.58	Nam Dinh	4,365	2,102	48.16	Ha Tinh	1,069	644	60.2	Binh Dinh	1,401	472	33.69	Tien Giang	2,754	1,176	42.70	Ben Tre	840	192	22.86	Soc Trang	2,731	1,260	46.14	Total	21,983	10,680	48.6	<p>⇒ Some provinces, the rate of female participation in these training was not achieved (Lao Cai, Binh Dinh, Tien Giang Ben Tre and Soc Trang).</p> <p>⇒ PPMUs of these provinces need to encourage the female participants through coordination with commune WU.</p>
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	<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/Partially achieved: The project conducted training courses (TOT) for 1,434 extension staff including 413 women (28.8%).</p> <table border="1"> <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>39</td> <td>16</td> <td>41.03</td> </tr> <tr> <td>Son La</td> <td>212</td> <td>77</td> <td>36.32</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>46.27</td> </tr> <tr> <td>Nam Dinh</td> <td>100</td> <td>50</td> <td>50.00</td> </tr> <tr> <td>Ha Tinh</td> <td>33</td> <td>15</td> <td>45.5</td> </tr> <tr> <td>Binh Dinh</td> <td>387</td> <td>82</td> <td>21.19</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>18.63</td> </tr> <tr> <td>Soc Trang</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Total</td> <td>1,434</td> <td>413</td> <td>28.8</td> </tr> </tbody> </table>	PPMU	Total of Participants	Women	% Women	CPMU	274	82	29.9	Lao Cai	39	16	41.03	Son La	212	77	36.32	Phu Tho	-	-	-	Bac Giang	67	31	46.27	Nam Dinh	100	50	50.00	Ha Tinh	33	15	45.5	Binh Dinh	387	82	21.19	Tien Giang	-	-	-	Ben Tre	322	60	18.63	Soc Trang	-	-	-	Total	1,434	413	28.8	
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	<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/ Achieved. Package 14 was awarded to contractor, the training courses on O&M of research equipment are implemented in 2018 with 366 participants including 127 female participants (34.7%) .</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 ethnic minority issues.	<ul style="list-style-type: none"> • Achieved: CPMU and each PPMU assigned a focal point for gender and ethnic minority issues. The gender focal point was appointed in 2016. (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 part of the project orientation.	<ul style="list-style-type: none"> • Achieved: The project conducted training courses on raising gender awareness and ethnic minority for project staff, contractors and other stakeholders. Of a total 445 participants, of which 230 were females (51.7%). 129 (100%) staff from the CPMU and PPMUs participated in the Gender trainings. 	
	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"> • Achieved: <ul 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	
	18• T12. 30% of CPMU and PPMU staff are women.	<ul style="list-style-type: none"> • Achieved: A CPMU and 10 PPMUs established in second quarter of 2013. As of 28 Feb. 2019, 56 out of 129 staff are women (43.4%). 					
		Provinces	Total	Women	% women		
		CPMU	23	14	60.87		
		Lao Cai	11	4	36.36		
		Son La	5	1	20.00		
		Phu Tho	14	6	42.86		
		Bac Giang	10	5	50.00		
		Nam Dinh	15	5	33.33		
		Ha Tinh	10	4	40.00		
		Binh Dinh	10	3	30.00		
		Tien Giang	7	4	57.14		
		Ben Tre	11	6	54.55		
		Soc Trang	13	4	30.77		
		Total	129	56	43.41		

UPDATES OF FINANCIAL MANAGEMENT RISK MITIGATION MEASURES

FM RMM (FMA action plans) details/ decription		Time Bound date	Due? (Yes/No)	Action Plan Completed? (Yes/No/NA)	Describe action taken	Date of last action plans monitoring (dd/mm/yyyy)	Details of BTOR, Minutes, etc. (Date or Document Reference)
Mitigation Action	Responsibility						
Provide trainings and written guidelines on ADB procedures	EA/ADB	During project implementation	Yes	Yes	Trainings in disbursement and FM provided by ADB	2018	Training roster
Prepare TORs that define duties, responsibilities, lines of supervision, and limits of authority for all officers, managers, and staff	EA	During project implementation	Yes	Yes	APMB's decision on duties, responsibilities, lines of supervision, and limits of authority for all officers, managers, and staff	Mar-19	
Prepare a project financial manual acceptable to ADB	EA	During project implementation	Yes	Yes	Financial management guidelines	11/2013	Financial management guidelines
Accounting software, w full chart of account, capable of generating reports identifying expenditures/disbursement categories, project components, and sources of funds.	EA	During project implementation	Yes	Yes	Checked by the independent auditors	2018	Accounting software follows Circular 107 and VAS (DTH software)
Controls in place for preparation and approval of transactions	EA	During project implementation	Yes	Yes	Financial management guidelines	Mar-19	Financial management guidelines
All accounting and supporting documents will be retained on a permanent basis w easy access	EA	During project implementation	Yes	Yes	Financial management guidelines	Mar-19	Financial management guidelines
Regular monitoring and internal audit functions to be built up to monitor transactions and documented in PAM	EA	During project implementation	Yes	Yes	Every year, the Finance Department of APMU organizes a monitoring and supervision of financial activities of CPMU and PPMU. In addition, in July or August, the Ministry of Agriculture and Rural Development will conduct the verification of the annual settlement of the project activities.	8/2018	