

Loan 2968-VIE: Low Carbon Agriculture Support Project

Aide Mémoire of the Review Mission

(9 – 26 September 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 original closing date was 30 June 2019. The loan closing date then was extended to 30 June 2020 on 28 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. A project review mission¹ (the Mission) was conducted from 9 to 26 September 2019. After the kick-off meeting with representative of MARD, APMB and CPMU in Ha Noi on 9 September 2019, the Mission visited Son La, Tien Giang and Ha Tinh provinces from 9 to 14 September 2019. The Mission met the representatives of EA and 12 IAs to (i) review overall project implementation progress; (ii) review implementation status of 18 follow-up actions agreed by the last review mission in March 2019; (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.

5. 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 26 September 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.

¹ The Mission comprised Vu Ngoc Chau, Senior project Officer (ANR)/Mission Leader, Dinh Kieu Oanh, Social Development Officer, Truong Thi Minh Hue, Project Analyst and Tran Thuy Hai, Consultant (Gender Specialist), Do Thi Huyen, Staff Consultant (Environmental Specialist). Le Thi Quynh Trang, Associate Financial Management Officer provided the inputs on financial management issues.

II. MAIN FINDINGS AND ISSUES

A. Overall Project Implementation Progress

6. The project is being rated “on track”. As of 31 August 2019, overall project implementation progress is estimated to be 70.8% based on weighted progress of project components (details are given in Appendix 2) against the ADB elapsed loan period of 89%. The overall cumulative spending of the project funds (including the ADB loan and counterpart funds) was \$29.116 million, which is equivalent to 68% of the total project funding requirements of \$41.141 million (details are given in Appendix 3).

7. For the ADB loan, the cumulative contract awards and disbursements were \$30.438 million and \$29.739 million, respectively, which are equivalent to 82.78% and 79.90% of the net loan amount of \$37.216 million. For 2019, the Project has awarded \$4.370 million and disbursed \$2.453 million against the annual projections of \$9.421 million and \$11.323 million for contract awards and disbursements, respectively.

8. For the counterpart funds, the cumulative disbursement of counterpart funds was \$2.487 million (equivalent to 62% of the total requirements of \$3.952 million).

B. Implementation Status of Agreed Follow-up Actions

9. There are 18 follow-up actions agreed by the last review mission in March 2019. At present, six (6) actions were implemented, eight (8) actions are being implemented and four (4) actions are not yet implemented. Among 13 partially, being and not yet implemented follow-up actions agreed by the review mission in September 2018, four (4) actions were implemented, five (5) actions are partly or not yet implemented due to the absence of LIC, and other four (4) actions are being implemented. Details are given in Appendix 4.

C. Implementation Progress by Project Component

Output 1: Expanded Use of Livestock Waste Management Infrastructure

10. **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.

11. **Progress.** As of 31 August 2019, the achievement are as follows: (i) 59,190 SBPs², 65 MBPs³ and 2 LBPs⁴ were constructed of which 6,076 (10.3%) biogas plants were constructed for ethnic minorities households; (ii) the ICMD funds were channeled to 57,902 accounts of beneficiaries. The progress on construction of biogas plants by the project province is given in Appendix 5; (iii) 113,156 SBP operators (including 58,738 or 51.9% are

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.

women), 566 masons (including 29 or 5.1% are women), 1,281 technicians (including 300 or 23.4% are women), 28 engineers (including 4 or 14.3% are women) and 18 contractors were trained. In total the Project has delivered 2,211 training courses. Details of the biogas plant training implemented by CPMU and PPMUs are given in Appendix 6; and (iv) 45,006 biogas plants financed under the Project have been recorded in the single national biogas plant database.

12. The outbreak of African Swine Fever (ASF) has spread to all 63 provinces and continuously contributed to the low demand for development of the biogas plans (BPs) in all project provinces. Binh Dinh and Son La provinces have proposed to reallocate unused amount from the component 1 to implement other activities under component 3. The Mission noted that the number of biogas plants have been constructed by Binh Dinh and Son La still below their target (9,022/11,000 and 3006/4004 respectively) and encourage all PPMUs to achieve the project targets that had been committed by the Government.

13. The mission visited several beneficiary households in Son La, Tien Giang and Ha Tinh provinces and noted that the BPs and constructed demonstrations have positive impact on both bio-physical environment and socio-economic conditions. The profiles of visited BPs and demonstration are given in Appendix 7.

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

14. **Revised Targets after MTR.** The key performance indicators for this component are: (i) 50% of credit lines will be under joint accounts and/or on behalf of women by June 2019; and (ii) At least 15,000 households raising livestock have accessed credits for BVC and other climate smart agriculture waste management investments from the participating Financial Intermediaries by June 2019.

15. **Progress.** 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 2019. Both FIs, VBARD and Co-opBank committed to refund the un-used amount of the advance loan funds to ADB by 30 June 2019. ADB sent the follow up letter to the VBARD and Co-opBank on 1 July 2019 to request the refund of unused advance account balances of \$1.437 million and \$1.329 million. Both FIs have made requests to MOF to refund those amounts to ADB but have not received feedback from MOF. As of 30 June 2019, the FIs provided 457 sub-loans to 5 out of 10 project provinces with total amount of \$0.744 million. The final implementation status of the credit lines is given in Appendix 8.

Output 3: Enhanced CSAWMP technology transfer

16. **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.

17. **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.

18. 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. The Mission was informed by the consultant of package No.29 (Research on the treatment of sludge sediment in shrimp farming) that the models from this package are highly successful and has been replicated by farmers. However, most of packages do not have sufficient time for implementation, therefore, a one-year extension was approved on 28 June 2019 to fulfill the research activities and allow application of the research packages' results after their completion. However, all research contracts have not extended by CPMU and throw the contractors into confusion. As of the mission time, the progress of several packages was about than 80%, however, the cumulative disbursement of research packages was only 28% against elapsed contracts period of 100%. The consultants of 7 research packages raised their profound concern on the required report templates and payment procedures guided by CPMU/APMB.

19. **CSAWMP Demonstrations.** The Mission visited four demonstration sites (one in Son La province, two in Tien Giang province and one in Ha Tinh province) and found that the demonstration activities were providing useful CSAWMP solutions. The demonstrations constructed have a positive impact not only on these households' bio-physical environment as well as their socio-economic conditions, but also the downstream environment. For instant, the installed demonstration in Ha Tinh province reduces significant amount of wastewater discharge to natural stream from a large pig farm effectively, and the wastewater from manure separation are good sources of fertilizer for nearby farms. The benefits will even higher if the Government adopts appropriate policies to enable organic fertilizers produced by the project demonstrations trade freely in the market. The profiles of visited demonstrations are given in Appendix 7 and the implementation status of each CSAWMP demonstration package is given in Appendix 10.

20. The project provinces keep asking for replication of 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). The Mission reconfirmed 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. The success of package No.29 is a model for other packages to replicate.

21. The Mission repeated that the loan implementation consultant (LIC) was unable to provide any support to the project implementation since January 2019 due to delay of the contract extension. The lack of LIC support can seriously influence the quality monitoring of the research packages and demonstrations. The Mission requires CPMU/MARD to extend the LIC contract by 1st October 2019 to fulfill the implementation of the project activities until the completion of the project completion report acceptable to the Government and ADB.

22. **CSAWMP Information System.** The contract of equipment package for the information system (package 22) is not completed due to issues of origin of goods. The CPMU is struggling to resolve the pending issues even though the contract expired since 26 June 2019.

23. **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 22,335 farmers (of which 10,855 or 48.6% are women), and 1,739 extension staff (of which 578 or 33.2% are women). In the last 6 months, 352 farmers and 305 extension staffs were trained in Phu Tho and Nam Dinh provinces. Details of the CSAWMP training implemented by CPMU and provinces are given in Appendix 11.

Output 4: Effective Project Management

24. **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.

25. **Progress.** CPMU and 10 PPMUs were established in second quarter of 2013 and are fully staffed. As of August 2019, 57 out of 124 staffs (equivalent to 45.97%) of the CPMU and PPMUs are women. The gender focal point was appointed since July 2016. PPMUs with sex-disaggregated and ethnicity data collected and reported is operating effectively in 7 provinces, except Son La, Nam Dinh, Soc Trang PPMUs and CPMU.

D. Project Procurement

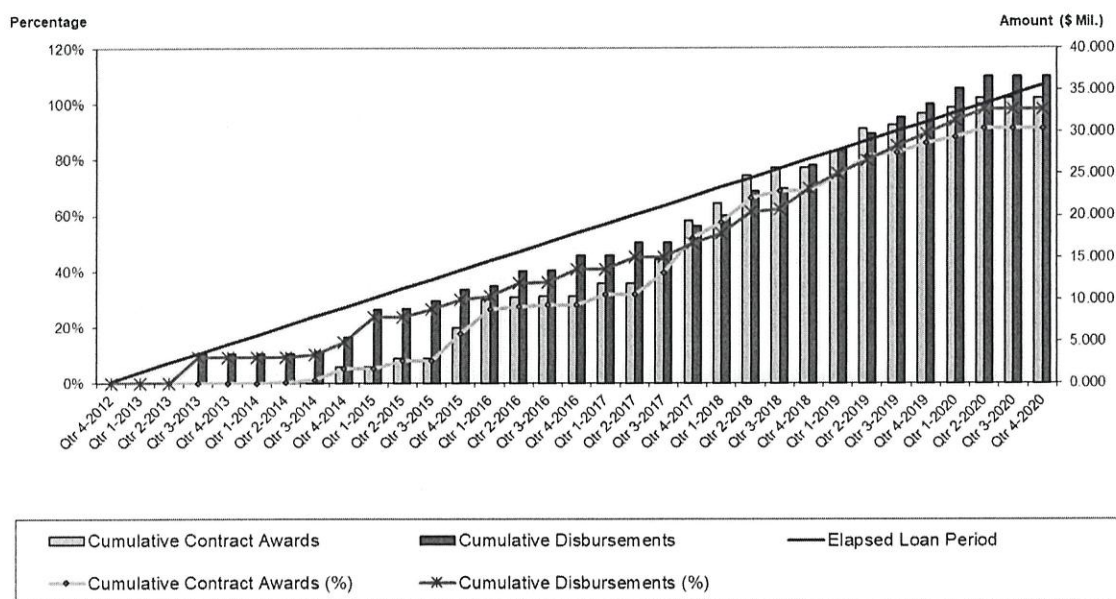
26. **Progress.** The procurement progress remained the same with the previous review mission. In total, the Project comprises 19 consulting services (including research packages) and 25 procurement of goods packages, all packages were awarded. A one-year extension was approved to compensate the long delay occurred to procurement and implementation of research packages.

E. Project Costs and Financing

27. **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 \$37.189 million (including \$2.163 million for the interest charge during implementation);
- (ii) For 2019, CPMU and PPMUs plan to award \$7.613 million and disburse \$13.241 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



28. **Counterpart Funds.** For 2019, the counterpart funding requirement is VND20.373 billion and it was allocated sufficiently to CPMU and PPMUs. As of 31 August 2019, VND6.377 billion was disbursed (equivalent to 31% of the requirement). Details are given in Appendix 14.

F. Compliance with Loan Covenants

29. 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.

G. Implementation of Environment Management

30. **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.

31. **Progress.** 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, 60,094 SBPs out of 65,000 target, 65 MBPs and 2 LBPs has been constructed contributing for reduction of manure and production of biogas for domestic use. The PPMUs monitored all MBPs and exceeded the target of 5% of SBPs (the percentage of BPs monitored in the range between 6% (in Binh Dinh province) and 37% (in Nam Dinh province)). In 2019, Tien Giang PPMU does not carry out monitoring/checkup of BPs in operation, although the percentage of monitored SBPs reached 22%. This could affect the BPs safety and effectiveness. The first half SEMR of 2019 was submitted in August 2019 and disclosed at ADB's website.

32. **Issues.** During site visits to the pig and cattle farms in Son La, Tien Giang and Ha Tinh, the Mission noted that there are some pending environmental issues, which were identified by the previous Mission such as:

- i. In Tien Giang and Ha Tinh provinces, the bio slurry from BPs was not used but discharges directly to the surrounding environment. Due to poor construction/operation, the composite biogas plant was floated by recent flood in Pho Chau, Huong Son district of Ha Tinh province. It would impact on the water and soil quality, spread diseases in the flood season.
- ii. In 2019, Tien Giang PPMU does not have any plan to monitor/checkup of BPs in operation, although the percentage of monitored SBPs reached 22%. It could affect safety and effectiveness of BPs operation.
- iii. Environmental monitoring equipment received by PPMUs is still not in use for environmental effect monitoring. Only Nam Dinh PPMU reported that the equipment has been used since 2018. In consequence, the environmental effect monitoring results have not integrated in the SEMRs to proof the environmental quality improvement by BPs and CSAWMP.
- iv. Pilot implementation of manure separation (package 32 and 33) in Son La, Tien Giang and Ha Tinh was quite successful, however, the organic fertilizer produced by farms still could not register for sale on the market. The Project could facilitate application results from research package 25 on organic fertilizer production, for adding value in livestock production, improving environmental sanitation and promoting organic farming. The pilot Biogas power generators in Binh Dinh and Tien Giang are still facing technical issues causing by ineffective biogas filter. The pending issue still unsolved to make the sustainable use of biogas, especially for large and medium size biogas plants.

H. Implementation of Social Safeguards

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

34. **Progress.** The overall implementation of social safeguards implementation has contributed to positive impacts on EMs through reducing pollution from agricultural waste by using CSAWMP. Up to the mission time, the project EMDP implementation is on track. However, some targets of the updated EMDP (such as 100% participating EM BP owners are shared on biogas value chain benefits through various communication activities; 100% SBPs for EMs are managed and assessed, supporting for carbon credit program...) remain partially achieved or under achieved. Comparing with the previous mission, the number of EMs households engaged with the project is insignificant, these targets have not got much the progress due to some difficulties of geographic/local customs. The updated EMDP monitoring table is given as Appendix 16.

35. **Monitoring reports:** The first semi-annual report (SEMR) of 2019 was submitted in August 2019 and being revised for disclosure at ADB's website. The Mission noted that in all semi-annual monitoring reports, CPMU needs to reflect the detailed progress of EMDP and have recommendations to ensure all targets of the updated EMDP will be achieved by the end of the project. The completion report on EMDP implementation will be prepared and submitted to ADB for review and upload before closing date of the project.

I. Implementation of GAP

36. **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.

37. **Overall implementation:** The project GAP implementation is on track. Of 6 activities, 6 activities (100%) are either completed or on track. Of 12 targets, 8 targets (66.7%) are either achieved or on track, and 4 targets (33.3%) are either partially achieved or under achieved. The updated GAP monitoring table is given as Appendix 17.

38. **Output 1:** 304 women out of 1,327 technical staffs, engineers and contractors participated in training courses on biogas management and technical issues for technical workers (22.9%, higher than target of 20%); (ii) 58,738 women among 113,156 participants received training on utilization of biogas technology and operation and maintenance (51.9%, higher than target of 50%);

39. **Output 2:** All 457 households received credit of sub-loans under the joint accounts of husband-wife.

40. **Output 3:** (i) 578 (33.2%) women among 1,739 extension staffs trained on CSAWMP technology and 152 (37.8%) female farmers among 402 farmers trained in the research and demonstration packages (target: 30%); (ii) and 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 (33%, achieved the target of 30%).

41. **Output 4:** (i) CPMU and PPMUs have appointed gender focal points to be responsible for GAP implementation and reporting; (ii) 56 of 129 staffs 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%).

42. **Issues:** (i) The rate of female participation in the training courses on construction of SBP and MBP-LBP for workers is lower than project target (6% and 2.4%, compare to the target of 7% and 15% for SBP and MBP-LBP, respectively), because the availability of female workers in this field is small, therefore it is difficult to meet the project training target for the women participation; (ii) 10,855 women among 22,335 farmers participated in the

CSAWMP (48.6%, lower than the target of 50%); (iii) only 12.3% of dissemination and consultation events took place involving women-only groups (112 of 911 events) while the target is 30% and the sex-disaggregated data on the CPMU, Nam Dinh and Soc Trang provinces' participants in these events is not available; (iv) except for Son La province, the sex-disaggregated data on the participants participated in the training courses under the demonstration packages is not available.

J. Implementation of Financial Management Assessment Action Plans

43. 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 from the previous mission as in Appendix 18. Furthermore, CPMU, FIs and six PPMUs (Ben Tre, Binh Dinh, Phu Tho, Tien Giang, Nam Dinh and Bac Giang) attended the disbursement and financial management training funded by ADB in Ho Chi Minh city in July 2019. The 2018 audited financial statements (APFSs) of FIs were submitted to ADB a month after deadline and the corrected 2018 APFS of CoopBank is pending to ADB by 4 October 2019.

III. FOLLOW-UP ACTIONS

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

- CPMU to obtain endorsement of MARD (if required) and extend all uncompleted contracts (packages 23, 25-29, 31, 42-43 and LIC) that required the loan extension. If the contracts have not been extended by 15 October 2019 (3.5 months after approval of loan extension), CPMU should process contract termination and liquidation;
- To ensure the completion of research activities (if the contracts are extended), MARD, CPMU and ADB to hold regular meeting with research packages consultant every 3 months to update progress and timely resolve any issues/shortcomings. The first meeting will be held in mid-December 2019.
- CPMU to resolve the pending issues of package 22 immediately to complete the package 23 by 31 December 2019;
- MARD support FIs to refund the unused advance account balances to ADB immediately;
- CPMU support PPMUs to prepare detail and appropriate implementation plan until the extended loan closing date to archive the project expected outputs and outcomes;
- CPMU to facilitate registration for the organic fertilizer products of the demonstrations enabling trading activities and improving value chain of CSAWMP activities;
- The completed demonstration/research models that rated "satisfactorily" by assigned authority may be replicated with no more than one model of each type in each project province, provided that the contract must be awarded by 1 January 2020 and completed by 30 June 2020. Any activity that extends to after the loan closing date should be financed by counterpart funds, which will be confirmed by an official letter of MARD (for CPMU) and PPCs (for PPMUs) sent to ADB prior to contract awards;
- CPMU and FIs are required to submit APFS within 6 months of the year-end date;
- CoopBank to submit the corrected 2018 APFS to ADB by 4 October 2019;

- **Regarding implementation of the environment management:** (i) PPMUs with support of trained technician and masons to solve overloading capacity of SBPs, installation of sedimentation tank and promotion using bio slurry for fertilizers; and improving quality of SBPs construction/operation in the flood-prone areas; (ii) PPMUs, especially Tien Giang PPMU continue carrying out technical monitoring/checkup of all LBPs/MBPs in operation and some SBPs in operation, to ensure safety and effectiveness of BPs; (iii) CPMU to support PPMUs in environment effect monitoring, using project's environmental monitoring equipment, and integrating analytical results in the Semi-annual Environmental Monitoring Report July-December 2019, which is in due by 31 January 2020; and (iv) CPMU and the consultants of research packages to continue and speed up studies and pilot activities in application CSAWMP, improving knowledge management for replication and expansion use of CSAWMP, i.e. package 26 for proper use of biogas from MBPs and LBPs in power generator; and package 25 on organic fertilizer production from manure separating systems;
- **Regarding implementation of the social safeguards:** CPMU and CPMU continue to implement four (4) being implemented actions that agreed from the previous mission;
- **Regarding implementation of GAP:** (i) PPMUs continue to cooperate with Women Union (WU) and Farmer Union to conduct training courses on CSAWMP for farmers and conduct more dissemination events with women only group to ensure by the end of project, these targets will be achieved; (ii) CPMU, Nam Dinh and Soc Trang provinces need to update the sex-disaggregated data on the participants in dissemination events; and (iii) PPMUs need to update the sex-disaggregated data on the participants in the training courses under the demonstration packages and report ADB in the next progress report;
- CPMU/PPMUs to complete the other follow-up actions agreed by the last mission that have not yet been implemented, partially implemented and being implemented. Details are given in Appendix 4; and
- The next review mission of ADB to be fielded in March 2020.

IV. ACKNOWLEDGMENT

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

Signed in Ha Noi on 27 September 2019 by:



Vu Ngoc Chau
Mission Leader, VRM
Asian Development Bank

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Overall Project Physical Progress

(As of 31/8/2019)

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	52,100	6.1%	47,624	91	5.6%
2	Strengthening the monitoring capacity of relevant agencies to hand over and monitor the constructed biogas plant	42,440	5.0%	40,057	94	4.7%
3	Monitoring the disbursement of funds paid to Eligible Beneficiaries as a financial incentive to carry out Eligible Subprojects	209,628	24.5%	188,169	90	22.0%
4	Capacity building in designing, constructing, operating and monitoring biogas plants	23,790	2.8%	19,499	82	2.3%
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	FLs to provide credit lines to Eligible Beneficiaries to finance Biogas Value Chain Infrastructure and other climate smart agriculture waste management investments which satisfy the Subproject Eligibility Criteria	29,183	3.4%	29,183	100.00	3.4%
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	103,759	12.1%	32,772	31.58	3.8%
8	Developing livestock waste management models for agricultural production and greenhouse gas emission reductions	111,590	13.0%	66,882	60	7.8%
9	Capacity building of researchers, extension staff and farmers including vocational training program, training packages and study tours on CSAWMP	21,890	2.6%	21,009	96	2.5%
10	Establish an information system (e-library, map sets on agro-ecological zones and distance learning system) to disseminate awareness and knowledge CSAWMP	23,150	2.7%	14,970	65	1.8%

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	32,138	3.8%		-	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	13.6%	87,562	75	10.2%
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	87,363	10.2%	47,627	55	5.6%
Total		855,353	100%	597,591	940	69.9%

Overall Disbursement Ratios

(As of 31/8/2019)

No.	CPMU/ Province	Project Funds Required (VND mil.)			Actual Disbursements (VND mil.)			
		ADB Loan	Counterpart Funds	Total	ADB Loan	Counterpart Funds	Total	%
*	CPMU	271,219	32,525	303,744	149,229	20,470	169,699	56%
1	Binh Dinh	58,829	6,005	64,834	50,753	3,257	54,010	83%
2	Bac Giang	78,446	4,855	83,301	57,415	2,555	59,970	72%
3	Ben Tre	33,806	3,168	36,974	28,319	1,488	29,807	81%
4	Ha Tinh	39,563	8,475	48,038	31,466	4,649	36,115	75%
5	Lao Cai	33,996	3,841	37,837	27,032	2,614	29,646	78%
6	Nam Dinh	62,506	5,129	67,635	47,518	3,129	50,647	75%
7	Phu Tho	73,565	5,157	78,722	65,852	3,057	68,909	88%
8	Soc Trang	28,179	3,939	32,118	20,274	2,389	22,663	71%
9	Son La	24,803	5,703	30,506	20,581	2,570	23,151	76%
10	Tien Giang	27,859	2,850	30,709	22,307	1,486	23,793	77%
11	VBARD	6,530	1,152	7,682	6,530	1,152	7,682	100%
12	Co-opbank	18,276	3,225	21,501	18,276	3,225	21,501	100%
*	IDC	51,115	-	51,115	11,629	-	11,629	23%
Total in VND mil.		808,690	86,024	894,714	557,179	52,041	609,220	68%

Total in USD mil.	37.189	3.952	41.141	26.629	2.487	29.116	68%
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Implementation Status of the Agreed Follow-up Actions

(As of 30/8/2019)

No	Agreed Actions	Implementation Status
1	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	Implemented MOF submitted official request on 27/6/2019 and ADB approved on 28/6/2019
2	CPMU to submit the overall reallocation of the project funds to MARD for approval by 31 March 2019, considering the ADB loan shortfall amount of \$0.166 million	Implemented
3	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	Implemented From 28/2-30/6/2019 PPMUs have held 14 training classes for masons and 13 training classes for technicians
4	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	Being implemented Research results have been submitted to DSTE (MARD) for approval prior replication
5	APMB/CPMU to extend the contract of LIC by 31 March 2019 to support the implementation of the project activities	Not yet implemented APMB has not submitted TOR and cost estimate for the remaining of LIC contract to ICD of MARD for endorsement
6	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)	Implemented Sent viva document no 1228/DANN-LCASP
7	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	Being implemented FIs submitted refund application to MOF (Agri-Bank: No.5477/NHNN-ĐCTC dated 28/6/2019, and Coop-Bank: 972/CV-NHHT dated 05/7/2019) for approval.
Environmental Safeguard Recommendations		

No	Agreed Actions	Implementation Status
8	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;	Being implemented (there is no LIC to support speed up researches and pilot activities in application CSAWMP)
9	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	Not yet implemented
10	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	Not yet implemented
Social Safeguard Recommendations		
11	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	Being implemented From February 28 to August 30, 2019, in 6 ethnic minority provinces, there are Lao Cai and Binh Dinh which held 12 Conferences and propaganda workshops with a total of 669 participants, including 76 people from ethnic minorities, accounting for 11.4%.
12	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	Being implemented 28/3-30/8/2019, PPMUs have organized training courses on CSAWMP for female EMs (additional 3 people)
13	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	Being implemented Through PPMU's EM staff, quarterly CPMU urges PPMUs on integrating EM into project activities to ensure that project targets are achieved at the end of the project.
GAP Recommendations		
14	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	Being implemented 28/3-30/8/2019, PPMUs have organized training courses on

No	Agreed Actions	Implementation Status
	project, these targets will be achieved	CSAWMP for farmers increase 352 people
15	PPMUs conduct more dissemination events with women only group through the WU meetings to inform the project activities and CSAWMP	Being implemented 28/3-30/8/2019, 175 women have trained courses on CSAWMP
16	CPMU to request contractors of Packages 26 and 27 to report the research results related to gender issues in the next progress report	Implemented Sent viva document No 853/DANN-LCASP dated 6.6.2919
17	CPMU to prepare a report on GAP PCR based on the ADB template (<i>in the case the project is not extended</i>)	Not yet implemented
<i>Other follow-up actions agreed by the mission in September 2018 that are not yet implemented, partially implemented and being implemented.</i>		
18.1	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. LIC contract is not extended yet, then the environment consultant has not mobilized
18.2	CPMU to work with the environment consultant of LIC to guide and plan of using biogas produced by MBPs/LBPs, avoiding release gas into the atmosphere by November 2018	Not yet implemented. Pilot activities (Package 26) are implemented in Nam Dinh and Binh Dinh provinces
18.3	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
18.4	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
18.5	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 LIC contract is not extended yet, then the environment consultant has not mobilized
18.6	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.

No	Agreed Actions	Implementation Status
18.7	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
18.8	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	Implemented as the percentage of female participants in the training courses on MBPs and LBPs was only 14.3%, lower than target of 15%.
18.9	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	Implemented , only 11.4% of dissemination events involved women-groups, lower than target 30%.
Review mission		
19	The next review mission of ADB to be fielded in September 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 31 August 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	2,483	1,149	0	4	0	3,636	6.1%	1,924	3.3%	3,413
2	Son La	2,128	878	0	0	0	3,006	5.1%	1,688	2.9%	2,810
3	Phu Tho	10,000	835	4	0	0	10,839	18.3%	431	0.7%	10,499
4	Bac Giang	7,460	1,365	0	25	0	8,850	15.0%	880	1.5%	8,848
5	Nam Dinh	4,894	656	0	7	2	5,559	9.4%	0	0.0%	5,542
6	Ha Tinh	5,276	0	6	2	0	5,284	8.9%	0	0.0%	5,247
7	Binh Dinh	8,368	647	0	7	0	9,022	15.2%	5	0.0%	8,819
8	Tien Giang	2,785	1,124	0	2	0	3,911	6.6%	0	0.0%	3,718
9	Ben Tre	5,527	293	0	3	0	5,823	9.8%	1	0.0%	5,755
10	Soc Trang	2,826	429	0	5	0	3,260	5.5%	1,147	1.9%	3,251
	Total	51,747	7,376	10	55	2	59,190	100%	6,076	10.3%	57,902

Biogas Plant Training

(As of 31 August 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	8,903	4,693	49	4	27	7	0	0	0
2	Son La	3,001	1,069	29	0	75	11	0	0	0
3	Phu Tho	19,915	10,945	70	12	127	45	0	0	0
4	Bac Giang	17,687	8,737	19	1	43	11	0	0	0
5	Nam Dinh	11,618	6,422	0	0	70	13	0	0	0
6	Ha Tinh	13,082	8,189	126	3	56	14	0	0	0
7	Binh Dinh	9,285	4,327	28	0	53	8	0	0	0
8	Tien Giang	7,820	5,394	34	0	25	4	0	0	0
9	Ben Tre	15,360	6,523	28	5	22	3	0	0	0
10	Soc Trang	6,485	2,439	57	1	73	2	0	0	0
Total		113,156	58,738	566	29	1,281	300	28	4	18
Percentage			51.9%		5.1%		23.4%		14.3%	

Information about models that ADB organization visited September 2019

I. SƠN LA PROVINCE

1. Model of manure separator in a cow farm.

Farm: Nguyen Thach Loi

Address: Sub-Area 67, Farm Town, Moc Chau District, Son La Province

Description of farm operations:

- Total farm area of 10ha
- + Breeding barn area 5000 m².
- + The area of the factory that installs the separator and storage equipment is 400m²
- + Area of growing grass and maize for cattle is more than 9ha.
- The farm is invested in a large scale with a cost of up to VND 30 billion. With the raising scale of 200 heads, the current number of herds has reached the maximum. The number of calves born is 20% (10% male calves and 10% female calves). The number of bull calves is discarded for restaurants and the number of heifers that are cared for replaces the number of cows that are discarded after the milk harvest (due to old age, the disease needs to be removed). The number of livestock to supplement replaces the amount of waste that is balanced according to the number of calves born.

Due to the large number of herds, the feed needed for the herd is 1,500 tons / year so with an area of 9ha planting grass and maize for animal feed, the farm needs to buy 1,000 tons or more corn/ year.

- Milk harvest 2 times/day, about 40 - 45 tons of milk a month with current price of VND 12,000/liter.

- Being supported by the LCASP project, the farm has invested VND 500 million in the factory to set up a fertilizer separator system (including 1 manure separator purchased to use during the time of waiting for the project's support) and composting area of 400m². In order to participate in the project, the farm has invested in constructing a HDPE biogas plant to take full advantage of the excess to contribute to reducing environmental pollution and fully utilizing gas. Currently, the farm is ordering a biogas generator to serve the process of boiling water to harvest milk.

- + HDPE biogas plant with a volume of 500m³.

- + Environment tank with an area of 1600m³ to irrigate the whole area of grass planting of the farm.

- To use the system of machinery, the farm uses a 3-phase grid of electricity to use milk harvest and run a separator to consume 10 million VND per month with an average cost of VND 1,500/kw.

- With the amount of animal waste, the farm uses a machine every 2 days. The amount of compost is on average 100 tons/month. The amount of fertilizer sold in the market is from 1,800-2,000 VND/kg. However, due to the state's strict management of the brand and the environment, the farm manure is not marketed legally but used only for the farm and shared to surrounding gardens.

Pics



2. Small-scale biogas plants with criteria of women and ethnic groups participating in operation training.

Farmer: Dang Thi Van

Address: Ban Suoi khem, Phieng Luong commune, Moc Chau district, Son La province

- With a total area > 2 ha

+ Breeding area 250m²

+ Tea area > 1 ha.

+ Area of growing orange 0.5 ha

+ 1 sao of rice cultivation area (360m²)

Description of animal husbandry activities:

- Breeding cattle with 100 pigs and 5 sows. Currently, there are 4 pigs and 30 piglets with weight of 30kg / pig

- Due to small-scale animal husbandry and the use of local pig breeds, 1-year breeding is only 2 litters and semi-scattered according to the needs of the surrounding people, so the weight of pigs does not reach the maximum.

- Total average income reached 150 million / year:

- + Harvesting tea 100 million / year.
- + Harvesting fruits and raising pigs reaches VND 50 million / year.

- With the support of the LCASP project with a small-scale biogas plan, the family has effectively used the model of intergrating among breeding with biogas system and wastewater to irrigate crops.

+ Farmers have invested in breeding facilities and biogas plants with the amount of 250 million VND, including biogas biogas plant with a volume of 12.1 m³ and environment tank with 2 compartments filters with a volume of 39 m³ is used to irrigate the area of tea and oranges.

+ In addition, the farmer also has a composting pit with a volume of 2m³ used to fertilize oranges and share for his son's next grapefruit garden.

- Thanks to the biogas plant supported by the Project, the family has fully utilized the gas to avoid environmental pollution, minimizing the amount of firewood that no longer cuts down the forest. The volume of waste water is collected neatly for irrigation purposes, saving fertilizer costs.

Pics



II. TIEN GIANG PROVINCE

1. Model of farm-scale biogas generator:

Farm: Nguyen Van Luc

Address: Xuan Dong commune, Cho Gao district

- Type of cattle: 1,000 pigs and 300 sows

Description of farm operation: engine power of 40 KW

- Thanks to the investment of LCASP project through the support of the model "using a farm scale biogas generator" which has brought about great results:

Solving the excess gas, most of the electricity generated from biogas generators is used to run pumps, water heaters, lighting for animal husbandry, heating cattle and domestic electricity, helping to increase Additional income for homeowners through monthly electricity savings.

Pics



2. Models of using separator to treat animal wastes as raw material for farm-based organic fertilizer production.

* Farm: Nguyen Thi Phuong

Address: Long Bình Điền Commune, Chợ Gao district

- Type of cattle: 2,000 pigs.

Separation efficiency 2 days / time, 25 bags / time x 23kg / bag

* Farm of Mr. Tran Van Sang

Address: Xã Thạnh Mỹ, Tân Phước district

- Type of cattle: Pork with scale of 2,400 heads.

Split performance 2 days / time, 30 bags / time x 23kg / bag

The model contributes greatly to reducing environmental pollution, changing the behavior and awareness of farmers, initially contributing to addressing the demand for fertilizers on the spot, used to fertilize fruit trees and increase income.

Pics



3. Small-scale biogas plants

* Household: Le Thi Ngoc Thuy

Address: My Hoa Hamlet, My Phong Commune, My Tho City

- Type of cattle: 20 cows milk cow.

* Household: Doan Thi Hien

Address: My Hoa Hamlet, My Phong Commune, My Tho City

- Type of cattle: 8 beef cattle.

Contributing to minimize environmental pollution in livestock, providing fuel for cooking, dividing gas for surrounding households, avoiding discharging excess gas to the environment, wastewater discharged after biogas as a source of irrigation water for planting grass, contributing to increased family income.

III. HA TINH PROVINCE

1. Small-scale biogas plants

1.1. Small-scale biogas plant of Mr. Kieu Minh Tan:

Address: Block 10, Pho Chau town, Huong Son district, Ha Tinh province

Description of construction activities:

- + Type of construction: Composite, built within the farm land
- + Building code LCASP / HT-HS / 090814-CPS: 9m3-0068
- + The volume of 9m3 treating 20 pigs' waste is the best norm; Currently the family raises 16 pigs.
- + Total area of breeding facilities and Biogs tanks 150m2
- + Estimating the benefit after building a biogas-closing pit in a year of about 10 million VND

- + Activities of biogas plants with benefits
 - Providing fuel for family activities
 - Waste water after biogas tank is used for watering industrial crops and agricultural plants
 - Solving of environmental pollution in 90% of households
 - Save labor for women and children in the family
- + Investing in a biogas digester and making sub-basement tanks around the project is about VND 17,500,000

Thanks to the investment of the LCASP project, through the support of the biogas plant and the guidance technician, it has brought great benefits to the households participating in the project.

1.2. Small-scale biogas plant of Mr. Nguyen Tien Le:

Address: Block 13, Phố Châu town, Hương Sơn district, Hà Tĩnh province

Description of construction activities:

- + Type of construction: Composite, built within the farm land
- + Building code LCASP / HT-HS / 270518-CPS: 9m3: 0570
- + The volume of 9m3 treating 20 pigs' waste is the best norm; Currently the family raises 07 pigs and sows
- + Total area of breeding facilities and Biogs tank 135m2
- + Estimated benefits after installing a biogas closing cellar in a family's year is about VND 8 million

- + Activities of biogas tanks with benefits
 - Providing fuel for families
 - Wastewater for industrial and long-term agricultural crops
 - Solving environmental pollution about 95%
 - Lighting electric lamps by biogas plants
 - Saving labor for women
- + Investing in a biogas digester and making sub-basement tanks around the project is about VND 17,000,000

Thanks to the investment of the LCASP Ha Tinh project, through the support of the biogas tank project and the guidance technician, it has brought great efficiency to the households participating in the project.

Pics



2. Demonstration model of Package 45

Model name: "Supply of utilisation system for treatment of biogas digested effluent demonstration as the fertiliser of the crops for Ha Tinh ".

Site: Phố Tây, Sơn Tây commune, Hương Sơn district, Hà Tĩnh province.

Objectives: Using bioslurry after the biogas plant of pork farms to maintain 2,400 watering areas for rubber, tea and orange and grapefruit trees of households Afforestation in Son Tay commune, Huong Son district, Ha Tinh. Enhance the added value in the high-value livestock, crop and forestry production chains through the application of water-saving irrigation to difficult mountainous terrain.

Irrigation design scale:

a. Irrigation scale of the model: Using bioslurry after biogas plant to irrigate 45ha of industrial and fruit trees, of which: 28ha of rubber, tea and 17ha of orange, grapefruit trees. Groups of beneficiary households from the irrigation model include:

- Mr. Tran Viet Hung: 13 ha of orange, grapefruit and 03 ha of rubber and tea;
- Tran Phi Nga: 4 hectares of orange and grapefruit trees;
- Nguyen Thi Ha: 17 hectares of rubber trees;
- Ho Xuan Vinh: 6 hectares of rubber trees;
- Nguyen Trong Dong: 2 ha of rubber trees.

b. Main technical design solutions:

- Centralized system of water supply for animal husbandry and farming farms of Pho Tay cooperative group, Son Tay commune, including 02 pipelines supplying water to reservoirs and direct irrigation.

- The first 2 routes is fitted with 02 high pressure pumps, water is taken from the biogas drainage tank (available tank), horizontal axis pumps, open impellers Pentax CM40-250B, capacity of 11 kw, voltage using 380V (3 phase current), Pump flow reaches 9-42 m³ / h .; water flow meter, air release valve, disc filter, water pressure gauge, Ventury2 stool, HDPE plastic tank holding 200L (liter), garbage can.

- Irrigation water supply system, including 04 Pentax CAB200 pumps using 220V (1-phase current), horizontal shaft, open impeller, capacity of 1.5kw.

- Specifications of 02 main water supply pipelines:

- + Route 1: Total length of HDPE D63 pipe is 2,670m, length of HDPE D20 is 30,000m, supply water for 03ha of rubber directly and transfer water to 04 reinforced concrete water tanks to irrigate 13ha. orange, grapefruit;

- + Route 2: Total length of HDPE D63 pipe is 3,830m, length of HDPE D20 pipe is 12,500m, watering 25ha of rubber and 04ha of orange and grapefruit.

- Main pipeline carries water from water sources to reservoirs and from reservoirs to irrigation areas with HDPE D63 pipes, branch routes to irrigation areas with HDPE D20 pipes.

- Form of irrigation: For area of fruit trees with oranges and grapefruit: Use local sprinkler irrigation at the root; For rubber and tea areas: Using free-watering at the root and people watering freely.

Contract implementation time: 30 days from the date of signing the contract.

- Starting date: June 18, 2019.

- Date of contract completion: July 17, 2019

- Date of completion and handover for use: July 17, 2019

Pics



Implementation Status of Credit Lines

(As of 31/8/2019)

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	31	31	39	39	100%
4	Bac Giang	83	83	119	119	202	202	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	252	252	205	205	457	457	100%

CSAWMP Researches
(As of 30 August 2019)

Pack age No.	Package name	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
25	Research on organic fertilizer production from livestock waste and bio slurry by value chain	26,787	10,715 (40%)	Contract No. 291217 / LCASP-HDTV25 dated December 29, 2017 Implementation time: 18 months (until the end of June 30, 2019) Contract extension has not been approved by Gov 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. According to the Consultant's report, the Package has registered the organic fertilizer products of the LCASP by Decision No. 1933 / QD-BVTV-PB dated February 25, 2019 and Decision No. 1951/QD-BVTV-PB dated 13/3/2019, creating a legal basis for the transfer and trade of products from agricultural waste
26	Research on biogas technology improvement and effective biogas utilization by value chain	22,097	8,839 (40%)	Contract No. 291217 / LCASP-HDTV26 dated December 29, 2017 Contract performance period: 18 months (until the end of June 30, 2019) Contract extension has not been approved by Gov Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan approved. The Consultant is completing the researches and preparing the research result reports.
27	Research on the water-saving pig farming technology	13,326	3,998 (30%)	Contract No. 090517 / LCASP-HDTV27 dated May 31, 2018 Contract performance period: 13 months (until the end of June 30, 2019) Contract extension has not been approved by Gov

Package No.	Package name	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
				Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan approved; The Consultant completed the researches and submitted the research result report. APMB submitted the research result report to DSTE for approval. DTSE is reviewing and establishing the Science Committee.
28	Research on effective utilization of crop waste by value chain	20,925	1,046 (5%)	Contract No. 310518 / LCASP-HDTV28 dated May 31, 2018 Implementation time: 13 months (until the end of June 30, 2019) Contract extension has not been approved by Gov Inception report approved; Technology review report approved; The Consultant is completing the researches and preparing the research result reports.
29	Research on the treatment of sludge sediment in shrimp farming	15,314	4,594 (30%)	Contract No. 310518 / LCASP-HDTV29 dated May 31, 2018 Contract performance period: 13 months (until the end of June 30, 2019) Contract extension has not been approved by Gov Inception report approved; Technology review report approved; Report on updated and detailed pilot site management plan approved. The Consultant is completing the researches and preparing the research result reports.
42	Piloting technology for special designed organo-mineral fertilizers production from livestock waste and Bio-slurry for key crops in Vietnam	3,997	0	Contract No. 031218 / LCASP-HDTV42 signed on December 3, 2018, the time for contract performance is 7 months (ending June 30, 2019) Contract extension has not been approved by Gov Inception report approved; Technology review report approved. The Consultant completed the researches and prepared the research result report. The report submitted to APMB for approval.

Package No.	Package name	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
43	Establishing comprehensive system of production and supply of microbial product for organic fertilizer production from agricultural waste and bio-slurry	3,096	0	<p>Contract No. 280119 / LCASP-HDTV43 dated January 28, 2019</p> <p>Contract performance period: 5.5 months (until the end of June 30, 2019)</p> <p>Contract extension has not been approved by Gov</p> <p>Inception report approved; Technology review report submitted the first draft. The consultant is revising as CPMU's comments</p>
	Total	105,542	29,192 (28%)	

CSAWMP Demonstrations

(As of 30 August 2019)

Package No.	Package name	Provinces	Cost (million VND)	Disbursed (million VND)	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	Cost: 27,492 Lot 1: Bắc Giang: Contract value: 7,117 Lot 2: Bến Tre: Contract value: 4,983 Lot 3: Bình Định: Contract value: 3,957 Lot 4: Phú Thọ Contract value: 11,435	Lot 1: Bắc Giang: Disbursed: 100%; Lot 2: Bến Tre: Disbursed: 100%. Lot 3: Bình Định: Disbursed: 100%; Lot 4: Phú Thọ Disbursed: 100%;	Lot 1: Bắc Giang: Contract No.01/LCASP_02, date 11 July 2017; Completion date: 11 July 2018 8 systems. Lot 2: Bến Tre: Contract No.60/HD-LCASP, date 21 July 2017; Completion date: 21 July 2018; Extension by: 31/3/2019 5 systems. Lot 3: Bình Định: Contract No.001/HDKT-LCASP_04, date 18 July 2017; Completion date: 18 July 2018; Extension by: 19/9/2018 4 systems. Lot 4: Phú Thọ Contract No.1028.17/LCASP.PT-YGC, date 18 July 2017; Completion date: 18 July 2018; Extension by: 30/12/2018 13 systems. 30 separator systems have been installed and transferred to the farmers and it is in good working order
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	Cost: 19,760 Lot 1: Hà Tĩnh: Contract value: 2,277 Lot 2: Nam Định: Contract value: 6,274 Lot 3: Sóc Trăng: Contract value: 1,427 Lot 4: Sơn La Contract value: 4,785 Lot 5: Tiền Giang Contract value: 4,996	Lot 1: Hà Tĩnh: Disbursed: 80%; The payment documents of the rest are in PPMU. Lot 2: Nam Định: Disbursed: 100%; Lot 3: Sóc Trăng: Disbursed: 50%. The payment documents of the rest are in Treasury Office Lot 4: Sơn La Disbursed: 100%; Lot 5: Tiền Giang Disbursed: 100%;	Lot 1: Hà Tĩnh: Contract No.01/2017/MHTD33-LCASP/HT, date 26 October 2017; Completion date 26 October 2018; Extension by: 30/12/2018 2 systems. Lot 2: Nam Định: Contract No.75/HĐKT, date 28 October 2017; Completion date 28 October 2018; 7 systems. Lot 3: Sóc Trăng: Contract No.03/ST/HĐ/LCASP, date 06 November 2017; Completion date 06 November 2018; Extension by:30/5/2019 1 system. Lot 4: Sơn La: Contract No.27102017, date 27 October 2017; Completion date 27 October 2018; 5 systems. Lot 5: Tiền Giang: Contract No.15/HĐ2017, date 07 November 2017; Completion date 07 November 2018;

Package No.	Package name	Provinces	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
					Extension by:31/12/2018 5 systems 20 separator systems have been installed and transferred to the farmers and it is in good working order
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	Cost: 10,248 Lot 1: Binh Dinh: Contract value: 2,382 Lot 2: Ha Tinh: Contract value: 1,874 Lot 3: Nam Dinh: Contract value: 3,650 Lot 4: Sóc Trăng Contract value: 2,342	Lot 1: Binh Dinh : Disbursed: 85%; The payment documents of the rest are in PPMU. Lot 2: Hà Tĩnh: Disbursed: 100%; Lot 3: Nam Định: Disbursed: 100%; Lot 4: Sóc Trăng Disbursed: 100%;	Lot 1: Binh Dinh: Contract No. 004/HĐKT-LCASP04, date 22 May 2018; Completion date 22 May 2019; Extension by: 22/6/2019 1 system. Lot 2: Hà Tĩnh: Contract No.01/2018/MHTD34-LCASP/HT, date 24 April 2018; Completion date 28 April 2019; Extension by: 30/12/2018 1 system. Lot 3: Nam Định: Contract No.46/BQLDALCASP, date 20 April 2018; Completion date 20 April 2019 2 systems. Lot 4: Sóc Trăng: Contract No.06/ST/HĐ-LCASP, date 10 May 2018; Completion date 10 May 2019 1 system. 5 systems have been installed and transferred to the farmers and it is in good working order
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	Cost: 4,413 Lot 1: Bắc Giang: Contract value: 2,802 Lot 3: Binh Dinh: Contract value: 1,611	Lot 1: Bắc Giang: Disbursed: 100%; Lot 3: Binh Dinh: Disbursed: 100%;	Lot 1: Bắc Giang: Contract No.54/HĐKT, ate 08 June 2018; Completion date 08 June 2019 2 systems. Lot 3: Binh Dinh: Contract No.005/HĐKT-LCASP04, date 01 June 2018; Completion date 01 June 2019 1 systems. 02 mobilized separator systems have been installed and transferred to the farmers and it is in good working order
36	Supply of biogas generator system for demonstration	Binh Dinh, Ha Tinh, Lao Cai, Soc Trang and Tien Giang	Cost: 6,272 Lot 1: Binh Dinh: Contract value: 1,446 Lot 3: Lào Cai: Contract value: 2,896 Lot 4: Sóc Trăng:	Lot 1: Binh Dinh Disbursed: 100%; Lot 3: Lào Cai: Disbursed: 100%; Lot 4: Sóc Trăng:	Lot 1: Binh Dinh: Contract No.002/HĐKT-LCASP-04, date 17 November 2017; Completion date 17 November 2018 1 system. Lot 3: Lào Cai: Contract No. 002/LCASP-06, date 09

Package No.	Package name	Provinces	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
			Contract value: 761 Lot 5: Tiền Giang Contract value: 1,169	Disbursed: 100%; Lot 5: Tiền Giang Disbursed: 100%;	November 2017; Completion date 09 November 2018; Extension by: 31/1/2019 21 systems. Lot 4: Sóc Trăng: Contract No.04/ST/HĐ/LCASP, date 06 November 2017; Completion date 06 November 2018; Extension by: 31/3/2019 1 system. Lot 5: Tiền Giang: Contract No.16/HDD2017, date 07 November 2017; Completion date 07 November 2018; Extension by: 31/12/2018 2 systems. 25 generator systems have been installed and transferred to the farmers and it is in good working order
37	Supply of utilization system for treatment of biogas digested effluent demonstration as the fertilizer of the crops	Soc Trang and Binh Dinh	Cost: 4,124 Lot 1: Bình Định: Contract value: 1,993 Lot 2: Sóc Trăng: Contract value: 2,131	Lot 1: Bình Định: Disbursed: 80%; Contract accepted. The contractor is finalizing documents asking for the last payment. Lot 2: Sóc Trăng: Disbursed: 80%; Contract accepted. The contractor is finalizing documents asking for the last payment.	Lot 1: Bình Định: Contract No.003/HĐKT-LCASP-04, date 28 February 2018; Completion date 28 February 2019. Extension by: 31/5/2019 71 households Lot 2: Sóc Trăng: Contract No.05/ST/HD-LCASP, date 24 February 2018; Completion date 24 February 2019; Extension by: 31/5/2019 25 households 96 households have been installed the irrigation systems which are all working well.
38	Supply of utilization system for treatment of cattle dung as the feedstock for red worm raising demonstration	Soc Trang	334	Contract accepted. The contractor is finalizing documents asking for the last payment.	Contract No.01/2018/HĐDVKH-ITED date 31 May 2018; Completion date 31 May 2019 4 households have been transferred the technology for rearing worms with cow dung and are doing well.
44	Supplying comprehensive waste management	Bac Giang	1,965	Disbursed: 100%;	Contract No.003/HĐKT-LCASP-04, date 28 February 2018; Completion date 28 February 2019. 1 system has been installed and transferred to the

Package No.	Package name	Provinces	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
	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				farmers and it is in good working order
45	Supply of utilisation system for treatment of biogas digested effluent demonstration as the fertiliser of the crops for Ha Tinh	Ha Tinh	2,059	Advanced payment: 40%.	Contract No.587/2019/HĐHH/LCASP/MHTD45, date 17 June 2019; Completion date 17 July 2019. Completely installed, performing technical acceptance.
47	Supply of farm scale biogas generator system for demonstration of Bac Giang province	Bac Giang	1,988	Disbursed 70%. Contract accepted and liquidated. PPMU is finalizing documents for the rest of disbursement.	Contract No.19/HĐKT, date 14 May 2019; Completion date before 30 June 2019; Extension by: 23/8/2019 2 generator systems have been installed and transferred to 2 farmer and both are in good working order.
48	Supply of utilization system for treatment of biogas digested effluent demonstration as the fertilizer of the crops for Bac Giang	Bac Giang	1,980	Disbursed 70%. Contract accepted and liquidated. PPMU is finalizing documents for the rest of disbursement.	Contract No.20/HĐKT, date 14 May 2019; Completion date before 30 June 2019; Extension by: 23/8/2019 1 generator system and 1 irrigation system have been installed and transferred to farmer and both are in good working order.

Package No.	Package name	Provinces	Cost (million VND)	Disbursed (million VND)	Procurement/Implementation Status
49	Supply of utilization system for treatment of pig waste as the feedstock for red worm raising demonstration for Bac Giang province	Bac Giang	1,972	Disbursed 63%. Contract accepted and liquidated. PPMU is finalizing documents for the rest of disbursement.	Contract No. 21/HDKT, date 15 May 2019; Completion date before 30 June 2019; Extension by: 23/8/2019 01 household has been transferred the technology of raising earthworms by pig manure after separating and doing well.

CSAWMP Training
(As of 31 August 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	3,641	1,947	305	165
4	Bac Giang	3,630	2,054	67	31
5	Nam Dinh	4,576	2,204	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		22,335	10,855	1,739	578
Percentage			48.6%		33.2%

Overall Projected Contract Award Schedule for ADB Loan

No.	CPMU/ Province	ADB Loan Required (VND mil.)	Cum. Con. Awards as of 31/8/2019					Ratio %
				2019		2020		
				Sep	Q IV	Q I	Q II	
*	CPMU	271,219	263,085	340	5,777	1,625	392	97%
1	Binh Dinh	58,829	54,432	1,020	1,008	1,597	772	93%
2	Bac Giang	78,446	64,401	399	2,000	5,823	5,823	82%
3	Ben Tre	33,806	28,319	1,907	2,485	0	1,095	84%
4	Ha Tinh	39,563	31,466	970	5,900	0	1,227	80%
5	Lao Cai	33,996	30,956	452	1,260	1,000	328	91%
6	Nam Dinh	62,506	47,518	2,200	5,118	4,100	3,570	76%
7	Phu Tho	73,565	67,852	1,903	3,064	0	746	92%
8	Soc Trang	28,179	23,944	1,128	968	2,139	0	85%
9	Son La	24,803	20,586	1,183	278	1,423	1,333	83%
10	Tien Giang	27,859	26,048	271	285	1,124	131	93%
11	VBARD	6,530	6,530	0	0	0	0	100%
12	Co-opbank	18,276	18,276	0	0	0	0	100%
Total in VND mil.		757,575	683,411	11,773	28,143	18,831	15,417	90%
Total in USD mil.		35.026	31.830	0.507	1.213	0.812	0.664	90%

Overall Projected Disbursement Schedule for ADB Loan

No.	CPMU/Province	ADB Loan Required (VND mil.)	Cumulative Disburs. As of 31/8/2019					Ratio %
				2019		2020		
				Sep	Q IV	Q I	Q II	
*	CPMU	271,219	149,229	17,832	73,534	30,096	528	55%
1	Binh Dinh	58,829	50,753	4,579	1,128	1,597	772	86%
2	Bac Giang	78,446	57,415	6,806	579	0	13,646	73%
3	Ben Tre	33,806	28,319	812	3,580	0	1,095	84%
4	Ha Tinh	39,563	31,466	970	5,900	0	1,227	80%
5	Lao Cai	33,996	27,032	3,318	2,318	1,000	328	80%
6	Nam Dinh	62,506	47,518	2,200	5,118	4,100	3,570	76%
7	Phu Tho	73,565	65,852	1,903	5,064	0	746	90%
8	Soc Trang	28,179	20,274	4,415	1,351	2,139	0	72%
9	Son La	24,803	20,581	1,281	181	1,427	1,333	83%
10	Tien Giang	27,859	22,307	3,187	565	1,118	682	80%
11	VBARD	6,530	6,530	0	0	0	0	100%
12	Co-opbank	18,276	18,276	0	0	0	0	100%
Total in VND mil.		757,576	545,551	47,303	99,318	41,477	23,927	72%
Total in USD mil.		35.026	25.888	2.039	4.280	1.788	1.031	72%

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				2021		
				Jan-Aug	Sep	Q IV	Q I	Q II	Q III	Q IV	Q I	Q II	
*	CPMU	32,525	20,470	2,850	1,230	2,920	1,735	1,320	1,000	1,000			63%
1	Binh Dinh	6,005	3,257	590	200	410	450	450	348	300			54%
2	Bac Giang	4,855	2,555	616	64	221	349	350	350	350			53%
3	Ben Tre	3,168	1,488	30	220	545	0	485	100	100	100	100	47%
4	Ha Tinh	8,475	4,649	390	500	1,000	500	500	500	436			55%
5	Lao Cai	3,841	2,614	256	135	136	250	250	100	100			68%
6	Nam Dinh	5,129	3,129	500	250	250	250	250	250	250			61%
7	Phu Tho	5,157	3,057	200	100	200	200	300	200	200	350	350	59%
8	Soc Trang	3,939	2,389	288	65	117	270	270	270	270			61%
9	Son La	5,703	2,570	453	315	315	300	300	275	275	450	450	45%
10	Tien Giang	2,850	1,486	204	140	139	220	220	220	221			52%
11	VBARD	1,152	1,152	0	0	0	0	0	0	0			100%
12	Co-opbank	3,225	3,225	0	0	0	0	0	0	0			100%
Total VND		86,024	52,041	6,377	3,219	6,253	4,524	4,695	3,613	3,502	900	900	60%
Total USD		3.952	2.487	0.275	0.139	0.269	0.195	0.202	0.156	0.151	0.039	0.039	60%

CP requirement in 2019

20,373 31%

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	<p>The Borrower shall ensure that the gender action plan prepared for the Project and agreed with ADB is fully implemented in a timely manner and that adequate resources are allocated for this purpose. The gender action plan for the Project ensures that (i) at least 20% of those who are trained in biogas management and technical issues are women; (ii) at least 20% of those who are trained and certified as masons for the construction of small Biogas Plants are women and at least 80% of these women shall find employment; (iii) at least 50% of those trained on utilization of biogas technology and operation and maintenance are women; (iv) at least 50% of those who are trained on farm management and waste management on farms are women; (v) at least 30% of employees trained in medium Biogas Plants and large Biogas Plants are women; (vi) at least 50% of recipients of Subloans from FIs will be registered under husband-wife joint accounts or on behalf of women; (vii) at least 50% of official registration of all purchased biogas units and plants under the Project will be under husband-wife joint accounts or on behalf of women; (viii) 30% of research topics undertaken under Part 3 of paragraph 2 of Schedule 1 to the Loan Agreement relate to gender issues associated with Biogas Plants; (ix) at least 40% of those selected as champions of smart-agriculture in research and dissemination of CSAWMP technology are women; (x) training materials of CSAWMP technology and methodology of dissemination will be women-friendly and at least 50% of dissemination events and consultations will involve women-only groups; (xi) a sex-disaggregated and ethnic minority data base is established as part of the Project's project performance and monitoring system established by the CPMU; (xii) 30% of staff in the CPMU and PPMUs are women and that the CPMU and each PPMU has a gender focal point; and (xiii) gender indicators are included in the overall monitoring and evaluation framework for the Project.</p>	<p>(i) Being complied with (ii) Partially complied with (iii) Being complied with (iv) Partially complied with (v) Partially complied with (vi) Complied with (vii) Complied with (viii) Complied with (ix) Partially complied with (x) Partially 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>	<p>Being complied with</p>	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>	<p>Being complied with</p>	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>	<p>Being complied with</p>	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 1 September 2019)

Investment Activities	Targets by the end of the project	Stakeholders	Progress (accumulated to 30/8/2019)	Notes
Livestock Waste Management				
Biogas plant value chain management and sustainability				
Organize to potentially share BP value chain benefits from BP owners to EMs	100% participating EM BP owners are shared on biogas value chain benefits through various communication activities.	CPMU, PPMUs in close coordination with relevant organizations, and EM groups	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.	Not achieved Out of 6,076, 4,380 EMs participating EM BP owners are shared on biogas value chain benefits, account for 72%
Construction of SBPs for EMs	By the end of the project, number of SBPs for participating EMs in sample provinces (Lao Cai, Son La, Phu Tho, Bac Giang, Binh Dinh, Soc Trang) counts for 5% of the total SBPs.		As of 31 Aug 2019: Considering the 6 provinces with EMs only, there are 38,568 small biogas plants constructed, of which 6,076 for ethnic minority households (accounting for 16% in 06 selected provinces). In the 10 provinces, Project has built 59,257 small biogas plants, including 6,076 plants for ethnic minority households (accounting for 10,1% of total number of small biogas plants in 10 project provinces (Ben Tre has 01 ethnic household).	Achieved
Monitor BP value chain management within EMs	100% SBPs for EMs are provided technical assistance and monitored by		As of 30/8/2019 , all 6,076 SBPs in 6 provinces with EMs are receiving the supervision and technical assistance from the project in terms of BVC management.	Achieved

	PPMUs and/or CPMU.																			
Map EM statistic in sample provinces, their livelihoods and potential links to BP value chains.	By the end of the project, Map EM statistic in sample provinces (Lao Cai, Son La, Phu Tho, Bac Giang, Binh Dinh, Soc Trang), their livelihoods and potential links to BP value chains established and updated periodically.		<p><u>By end of 1 Sep 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"> <thead> <tr> <th>Provinces</th> <th>Number of EM</th> </tr> </thead> <tbody> <tr> <td>Lào Cai</td> <td>2,192</td> </tr> <tr> <td>Sơn La</td> <td>2,231</td> </tr> <tr> <td>Phú Thọ</td> <td>8,899</td> </tr> <tr> <td>Bắc Giang</td> <td>4,643</td> </tr> <tr> <td>Bình Định</td> <td>5,283</td> </tr> <tr> <td>Sóc Trăng</td> <td>2,670</td> </tr> <tr> <td>Total</td> <td>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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Assess resources and constraints for EMs to construct BPs	Assessment results of resources and constraints for EMs to construct BPs conducted and updated		<p>Assessment during implementation phase has been initially done through the consultation with provinces in November 2016.</p> <p>Second assessment in May 2017: LIC has drafted assessment forms. CPMU has sent letters to EM provinces and received the feedbacks from some provinces.</p> <p>Assess resources and constraints for EMs to construct BPs has been conducted by LIC during the training course on Gender and EM in Thai Nguyen for staffs from 4 provinces.</p>	Achieved																
Train EMs to manage their livestock and wastes	100% SBP ethnic households trained on Biogas value chains sustainability including		<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>	Achieved																

	management of their livestock and wastes			
Assess surplus of gas, electricity, bio-slurry for EMs	Regular assessment conducted and updated in the Annual Monitoring Report on EMDP		Being implemented	
Manage gas, electricity	100% participant EMs are trained and guided on management of gas, electricity and organic fertilizers		As of 30/8/2019 , 6,075 EMs participant EMs are trained and guided on management of gas, electricity and organic fertilizers	Achieved
Carbon market access				
Assess EM driven investments that may link carbon emission	100% SBPs for EMs are managed and assessed, supporting for carbon credit program	CPMU, National Biogas Program, MARD	As of 30/8/2019 , 5,072/6,075 SBPs for EMs can link carbon emission	Not achieved (Account for 83.5%)
Train EMs on CSAWMP linked to carbon markets	100% SBP ethnic households are trained on CSAWMP linked to carbon markets		As of 30 Aug-2019 : 3,874/6,075 EMs are trained on CSAWMP linked to carbon markets	Not achieved (account for 64%)
Facilitate EM access to FIs				
Facilitate EM access to FIs	10% households who have access to credit is EMs	PPMU in close coordination with FIs	As of 30 Aug 2019 , cumulative number of households who have access to credit is 457, including 92 EM households accounting for 20,1%.	Achieved
Assess FIs which are suitable for EM to access the credit	Additional FIs are assessed to be suitable for providing the credit to EMs		As of 30 Aug 2019 , Social policy bank was proposed as an additional FI for project however the negotiation process has not been achieved yet	Not achieved
CSAWMP Technology				

Transfer				
Ensure EM areas included in agro- climatic mapping system	A map of EM areas included in agro-climatic mapping system established and updated periodically on a quarterly basis.	CPMU, PPMUs in close coordination with relevant organizations, and EM groups	As of 30 Aug 2019 , The map had been developed and completed under the Package 19. EM areas included in agro-climatic mapping has been updated periodically according to the latest statistics	
Disseminate CSAWMP knowledge explored from E-libraries to improve EM skill and knowledge.	By the end of the project, an E-library system established to update and disseminate CSAWMP to improve EM skill and knowledge		As of 30 Aug 2019 , Package 22 has installed hardware devices to develop electronic library systems (but not yet accepted). Consultant (package 23) is carrying out procedures to transfer administration and software to the Center for Informatics and Statistics. Because the electronic library system is incomplete, it has not been operated to update and disseminate CSAWMP to improve EM knowledge and skills	
Ensure organic fertilizers are used in EM areas	100% participating EMs equipped a know- how of organic fertilizer production from bio-slurry and organic fertilizer use			
Disseminate CSAWMP skills and knowledge to EM, BP owners and other farmers in EM areas.	10% farmers trained on CSAWMP skills and knowledge to EM		As of 30 Aug 2019 , Project has provided training to 22,335 farmers on CASWMP, including 3,688 EM people (16.5%)	Achieved
Encourage at least 30% of CSAWMP promotion participants among EMs are women.	At least 30% of CSAWMP promotion participants among EMs are women.		As of 30 Aug 2019 , Project has provided training on CASWMP, including 3,688 EM people (out of 22,155 farmers), in which there are 1281 women EMs (counting for 35%).	Achieved
Ensure that researchers and extension workers trained to properly monitor	10% researchers and extension workers trained to properly monitor and		As of 30 Aug 2019 , Project has provided training to 1,434 extension staff in the 10 project provinces (318 extension staff in the six EM targeted provinces) to	Achieved

and document CSAWMP progress in EMs.	document CSAWMP progress are EMs		properly monitor and document CSAWMP progress, including 189 EM staff (13%)	
Project Management				
Establish indicators to target EMs in the province	Indicators updated	CPMU, PPMUs in close coordination with relevant organizations, and EM groups	Gender and Ethnic Minority Consultant will perform this task.	
Ensure social safeguard staff include support for EMs in their work plan	Social safeguard staff appointed and support for EMs in their work plan		<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>	

UPDATED GENDER ACTION PLAN (GAP) MONITORING TABLE

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

Date of update: 16 September 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, engineer, contractors in biogas management and technical issues. Among 1,327 participants, of which 304 female participants (22.9%).				
			Total	Women		% Women
		CPMU	756	186		24.6
		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	53	8		12.9
		Tien Giang	25	4		16.0
		Ben Tre	22	3		13.6
		Soc Trang	73	2		2.7
		Total	1,327	304		22.9

Project Outputs	Proposed targets / Actions	Progress				Issues / Challenge
	2• T2. At least 50% of trainees on biogas use will be women.	• On-going/Achieved: The project conducted centralized trainings and trainings at home on biogas use for 113,156 participants including 58,738 female participants (51.9%) ¹ .				
		Provinces	Total	Women	% Women	
		Lao Cai	8,903	4,693	52.7	
		Son La	3,001	1,069	35.6	
		Phu Tho	19,915	10,945	56	
		Bac Giang	17,687	8,737	49.4	
		Nam Dinh	11,618	6,422	55.3	
		Ha Tinh	13,082	8,189	62.6	
		Binh Dinh	9,285	4,327	46.6	
		Tien Giang	7,820	5,394	69	
		Ben Tre	15,360	6,523	42.5	
		Soc Trang	6,485	2,439	37.6	
		Total	113,156	58,738	51.9	

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. <i>(Adjusted 7% in MTR mission)</i></p>	<p>• On-going/ partially achieved: PPMUs conducted training courses on construction of small Biogas Plants with 440 participants including 26 women (6%).</p> <table border="1" data-bbox="777 347 1469 746"> <thead> <tr> <th>CPMU/ PPMU</th> <th>Total</th> <th>Women</th> <th>% Women</th> </tr> </thead> <tbody> <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>28</td><td>5</td><td>17.9</td></tr> <tr><td>Soc Trang</td><td>57</td><td>1</td><td>1.8</td></tr> <tr><td>Total</td><td>440</td><td>26</td><td>6</td></tr> </tbody> </table>	CPMU/ PPMU	Total	Women	% Women	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	28	5	17.9	Soc Trang	57	1	1.8	Total	440	26	6	<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. Ha Tinh needs separate the participants in the training on SBP and MBPs construction</p>
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	<p>4• T4. At least 30% of trained employees in MBPs and LBPs are women. <i>(Adjusted 15% in MTR mission)</i></p>	<p>• On-going/ Under achieved: CPMU conducted training courses on construction of MBPs and LBPs for 126 workers including 3 women (2.4%)</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 participation</p>																																																
<p>2.Credit lines for biogas value chains</p>	<p>5. T5. At least 50% of credit recipients will be registered under husband-wife joint accounts or on behalf of women.</p>	<p>• On-going/achieved: There are 457 credit recipients and 100% of credit recipients are registered under husband-wife joint accounts or on behalf of women.</p> <table border="1" data-bbox="777 1118 1563 1374"> <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>39</td><td>39</td><td>100</td></tr> <tr><td>Bac Giang</td><td>202</td><td>202</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>457</td><td>457</td><td>100</td></tr> </tbody> </table>	PPMU	Total	Husband-wife or women	% Husband-wife or women	Lao Cai	127	127	100	Phu Thọ	39	39	100	Bac Giang	202	202	100	Binh Dinh	71	71	100	Tien Giang	18	18	100	Total	457	457	100	<p>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.</p>																				
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Project Outputs	Proposed targets / Actions	Progress	Issues / Challenge																												
	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 457 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>39</td> <td>39</td> <td>100</td> </tr> <tr> <td>Bac Giang</td> <td>202</td> <td>202</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>457</td> <td>457</td> <td>100</td> </tr> </tbody> </table>	PPMU	Total	Husband-wife or women	% Husband-wife or women	Lao Cai	127	127	100	Phu Thọ	39	39	100	Bac Giang	202	202	100	Binh Dinh	71	71	100	Tien Giang	18	18	100	Total	457	457	100	.
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3.Enhanced CSAWMP technology transfer	7• A1. Gender sensitive research strategy prepared.	<p>• Achieved:</p> <p>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</p>																													
	8. A2. Training materials of CSAWMP technology and methodology of dissemination are women friendly (avoiding gender stereo types and using appropriate illustrations).	<p>• Achieved:</p> <p>The training materials of CSAWMP technology using pictures and appropriate illustrations, so women can easily understand and apply into practice⁴.</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>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).</p> <p><i>Adjusted 20% in MTP</i></p>	<p>On-going/under achieved: 911 dissemination meetings and workshops have been organized including 112 meetings and workshops are for women-only group (12.3 %). Total of participants is 35,319 participants including 16,917 women (47.9 %).</p>	<p>CPMU, Nam Dinh and Soc Trang PMUs need to update the sex-disaggregated data on participants participated in in the dissemination events.</p>
	<p>10• T8. 30% of research project topics (21 project research topics) relate to gender issues/ dimensions of biogas plants such as improved cooking stove, improved or household water heating system, women friendly post-harvest processing tools/ equipment that use biogas fuel.</p>	<p>On-going/ Achieved In the 7 CSAWMP researches have been awarded (Package 25-29 and 42-43), there are 2 researches related to gender issues. (Package 26 and package 27)⁵: These researches have designed activities related to gender issues. 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; 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>	

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 22,335 farmers including 10,855 women (48.6%).</p> <table border="1" data-bbox="779 316 1592 724"> <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>3,641</td><td>1,947</td><td>53.5</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>4,576</td><td>2,204</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>22,335</td><td>10,855</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	3,641	1,947	53.5	Bac Giang	3,630	2,054	56.58	Nam Dinh	4,576	2,204	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	22,335	10,855	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). ⇒ 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. <i>Adjusted 30% in MTR mission</i></p>	<p>On-going/Achieved: 2,141 participants including 730 women (34.1%) participated in the trainings on CSAWMP technology for extension staff and for farmers in research and demonstration packages. In which : (i) 1,739 extension staff including 578 women (33.2%);(ii) 402 farmers including 152 female farmers (37.8%).</p> <table border="1" data-bbox="779 887 1704 1299"> <thead> <tr> <th>CPMU/ PPMU</th> <th>Total of Extension staff</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>41.0</td></tr> <tr><td>Son La</td><td>212</td><td>77</td><td>36.3</td></tr> <tr><td>Phu Tho</td><td>305</td><td>165</td><td>54.1</td></tr> <tr><td>Bac Giang</td><td>67</td><td>31</td><td>46.3</td></tr> <tr><td>Nam Dinh</td><td>100</td><td>50</td><td>50.0</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>21.2</td></tr> <tr><td>Tien Giang</td><td>0</td><td>0</td><td>0.0</td></tr> <tr><td>Ben Tre</td><td>322</td><td>60</td><td>18.6</td></tr> <tr><td>Soc Trang</td><td>0</td><td>0</td><td>0.0</td></tr> <tr><td>Total</td><td>1,739</td><td>578</td><td>33.2</td></tr> </tbody> </table>	CPMU/ PPMU	Total of Extension staff	Women	% Women	CPMU	274	82	29.9	Lao Cai	39	16	41.0	Son La	212	77	36.3	Phu Tho	305	165	54.1	Bac Giang	67	31	46.3	Nam Dinh	100	50	50.0	Ha Tinh	33	15	45.5	Binh Dinh	387	82	21.2	Tien Giang	0	0	0.0	Ben Tre	322	60	18.6	Soc Trang	0	0	0.0	Total	1,739	578	33.2	
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Project Outputs	Proposed targets / Actions	Progress	Issues / Challenge
	13• A3. Ensure legal (e.g., employment contract) and remuneration support for champions.	<ul style="list-style-type: none"> • On-going/Achieved: All extension staffs participated in ToT training courses have been supported per diem and delivered the certificate. 	
	14. T11. 30% of personnel in participating institutions trained in O&M of research equipment are women.	<ul style="list-style-type: none"> • 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%) . 	
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 30 Aug. 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 *(as of 31 August 2019)*

FM RMM (FMA action plans) details/ description		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	Jul-19	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	November 2013	Financial management guidelines
Accounting software, with 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	Aug-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.	Quarter 2/2019	