

AIDE MEMOIRE
L2968 (VIE): LOW CARBON AGRICULTURE SUPPORT PROJECT

Project Completion Review Mission
Viet Nam, 9-20 April 2021

I. INTRODUCTION

1. On 12 December 2012, the Asian Development Bank (ADB) approved a loan in the amount equivalent to SDR48,170,000 (US\$74 million equivalent) to the Socialist Republic of Viet Nam to implement the Low Carbon Agriculture Support Project (the project). The Loan Agreement was signed on 7 March 2013 and became effective on 5 June 2013 and closed on 30 June 2020.

2. The impact was less agriculture-related pollution, as measured by better water quality due to reduced impact of livestock waste effluence. The expected outcome was 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 achieve this outcome, original outputs were: (i) expanded use of livestock waste management infrastructure; (ii) credit line for biogas value chains (BVC); (iii) enhanced CSAWMP technology transfer; and (iv) effective project management.

3. Project implementation was carried out by an executing agency (EA) - the Ministry of Agriculture and Rural Development (MARD) that allocated responsibility to its Agricultural Projects Management Board (APMB) and subservient Central Project Management Unit (CPMU) and 12 implementing agencies (IAs) comprising 10 participating provincial people's committees (Bac Giang, Ben Tre, Binh Dinh, Ha Tinh, Lao Cai, Nam Dinh, Phu Tho, Soc Trang, Son La, and Tien Giang) and two financial intermediaries (FIs) being Viet Nam Bank for Agriculture and Rural Development (VBARD) and Co-operative of Viet Nam (Co-op Bank).

4. The project completion review mission¹ (the Mission) was conducted from 9 to 20 April 2021. The kick-off meeting in Ha Noi on 9 April 2021 was attended by representatives of MARD, APMB, CPMU and FIs, after which the Mission visited Soc Trang, Ben Tre, Lao Cai, Bac Giang and Nam Dinh provinces and MARD's National Fertilizer Testing Center and Center for Informatics and Statistics. The Mission met representatives of the EA and 12 IAs to: (i) assess the adequacy of preparation, design, implementation arrangements and due diligence, including how problems were identified and handled, whether they were foreseen as potential risks at appraisal, and the adequacy of the solutions adopted during implementation; (ii) evaluate relevance and adequacy of project design at appraisal and at completion, effectiveness in achieving outcomes and attribution to the project by assessing achievements of output targets, efficiency in delivering outputs, and sustainability of achieving output and outcome targets; (iii) evaluate initial operations of project outputs, their benefits, and the likelihood of sustainability of benefits considering current trends in the agriculture sector, legal and regulatory mechanisms, and operations and maintenance practices; (iv) evaluate the performance of the project stakeholders, including the borrower, EA and ADB; and (v) recommend any other steps that the borrower and EA need to take to ensure the project's sustainable operations.

5. This Aide Memoire summarizes the findings of the Mission and agreements reached for the project finalization, which were discussed at a wrap-up meeting on 7 May 2021 in Ha

¹ The Mission comprised Vu Ngoc Chau, Senior Project Officer (ANR)/Mission Leader, Truong Thi Minh Hue, Project Analyst, Pham Quang Phuc (Sr. Environment Officer), Nguyen Thanh Giang (Sr. Gender Officer), Kevin Rutter (International Evaluation Specialist) and Tran Viet Dzong (National Evaluation Specialist). Dinh Kieu Oanh (Social Development Officer) and Le Thi Quynh Trang (Associate Financial Management Officer) provided the inputs on their respective areas.

Noi. The agreements recorded in this Aide Memoire are subject to the approval of higher authorities of ADB and the government. The list of key persons met is attached as Appendix 1.

II. MAIN FINDINGS AND ISSUES

A. Overall Project Implementation

6. The project was physically completed on 30 June 2020. The winding-up period expired on 30 October 2020. Financial closure is pending awaiting the last withdrawal application (\$140,979 for Bac Giang PPMU).

Output 1: Expanded Use of Livestock Waste Management Infrastructure

7. As of 30 June 2020, achievements were as follows: (i) 62,248 SBPs,² 83 MBPs³ and two LBPs⁴ were constructed of which 6,581 (10.6%) biogas plants were constructed for ethnic minority households; (ii) the incentives for carbon market development (ICMD) funds were deposited in 62,333 beneficiary accounts; (iii) 117,447 SBP operators (52.7% being women), 566 masons (5.1% being women), 1,281 technicians (23.4% being women), 30 engineers (16.7% being women) and 18 contractors were trained. In total the Project has delivered 2,211 training courses; and (iv) 47,640 biogas plants have been recorded in the biogas plant database.

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

8. The two FIs provided 457 sub-loans in five of the 10 project provinces with a total loan amount of \$0.744 million. On 17 December 2018, the government requested cancellation of \$30 million allocated to this output that ADB approved on 19 December 2018. Both FIs, (VBARD and Co-opBank) refunded the unused advance account balances to ADB.

Output 3: Enhanced CSAWMP Technology Transfer

9. Seven research package contracts expired on 30 June 2020. Three of the seven achieved intended research targets (packages 27, 29 and 42). The remaining packages (25, 26, 28 and 43) failed to deliver expected outputs. The cumulative disbursement of research packages was 50.6% of contract award amounts. Disbursement under package 43 was zero against 40% physical completion. CPMU explained that the consultant failed to submit supporting documentation for payment. Twelve demonstration packages (including five replication packages) were completed. The cumulative disbursement of demonstration packages was 99.9% of the awarded amount.

Output 4: Effective Project Management

10. CPMU and 10 PPMUs were established in second quarter of 2013 and were fully staffed. 57 out of 124 staffs (equivalent to 45.97%) of the CPMU and PPMUs were 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. LIC contract was extended lately (more than 10 months since ADB issued NOL) until 30 June 2020, however, insufficient technical support was provided as CPMU could not mobilize LIC's experts to support reviewing and monitoring research packages, and prepare PCR, GAP, and Social Safeguards final reports as required

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.

by ADB and Government. This leads to delaying completion of the project activities by the loan closing date.

11. **Summary of project procurement.** The project comprised 19 consulting services packages (including research packages) at a total cost of \$7.82 million and 25 packages for the procurement of goods for a total cost of \$6.93 million. All packages were awarded.

12. **Summary of Project Financing.** For the ADB loan, the cumulative contract award and disbursement were \$32.953 million and \$30.49 million equivalent to 88% and 81% respectively, of the net loan amount of \$37.441 million. For counterpart funds (according to the draft Borrower project completion report), the cumulative disbursement of counterpart funds was \$3.08 million (equivalent to 85% of the total requirements of \$3.611 million). For FIs' counterpart funds, the cumulative disbursement of 2 FIs' counterpart funds was \$0.20 million.

B. Financial Management

13. Both FIs submitted final audited project financial statements for the period 1 January to 30 June 2019 in a timely manner that were accepted and disclosed by ADB in 2020. The FIs' audited entity financial statements for FY2019 were submitted in a timely manner, reviewed by ADB with no further follow-up required.

14. The CPMU submitted its audited project financial statements covering the period 1 January 2019 to 30 June 2020 on 27 October 2020. This submission was rejected following ADB's review due to the ambiguity of the qualified opinion on the use of funds and incomplete project expenditures, that did not reconcile with ADB records (as discussed during the meeting organized by ADB with CPMU and the auditors on 27 November 2020). The auditors and CPMU confirmed that revised final audited project financial statements would be submitted to ADB by 30 June 2021.⁵ The CPMU also committed to resolve the remaining management letter issues identified by the auditors before the final submission to ensure smooth project closing.

15. The financial management risks identified during project preparation and mentioned in the PAM were adequately addressed and mitigated during project implementation.

C. Environment Management

16. The Mission noted the first IEE for Binh Dinh MBP was submitted by CPMU, endorsed by ADB and uploaded to ADB's website, however, the subsequent MBP IEEs that were endorsed by CPMU have not submitted to ADB for endorsement. Similarly, report on environment impacts resulting from project closure has not been submitted to ADB for review and uploading. The semi-annual environment monitoring report for January to June 2020 was submitted lately on 12 April 2021. Seven semi-annual environment monitoring reports were prepared (to cover the construction phase from June 2016 to Dec 2019) and submitted by CPMU and uploaded on ADB website.

17. During site visits to SBPs and MBPs in Soc Trang and Ben Tre provinces, the Mission found that, in general, the project contributed to reducing surplus livestock manure through biogas plants and manure separators for use as fertilizer. Consequently, pollution and poor sanitation from livestock waste in rural areas have been improved. Biogas operations and maintenance training were provided by the CPMU to support sustainable and safe operations of SBPs and MBPs. The PPMUs reported no accidents relating to ignition in biogas plant operations. However, the Mission noted some issues concerning non-compliance with the

⁵ The CPMU's original deadline for submission was 31 December 2020, that was extended by six months due to COVID-19 pandemic following ADB's letter to all ADB-funded projects in Viet Nam on 17 April 2020.

design and operation of SBPs and MBPs that contribute to incremental pollution and poor sanitation effluent disposal including (i) water saving measures in cleaning pigsty floor had not been adopted causing ineffective manure digestion in the biogas plant. The manure supply exceeds the digester capacity and overflowed to environment, (ii) few farmers treated water from the environmental tanks in segmented chambers to compost carbon rich materials such as paper, wood chips, garden waste, etc. resulting in the discharge of polluted water from biogas, and (iii) wastewater ponds have been used for wastewater treatment after MBPs, but no design standards nor operation manuals were prepared and no monitoring of effectiveness of waste water treatment was undertaken.

D. Resettlement and Ethnic Minority Development Plan Implementation

18. The project was classified as category C for involuntary resettlement and category C for indigenous peoples. The project had positive impacts on ethnic minority (EM) people and communities. During the implementation, all activities for EMs specified in the ethnic minority development plans (EMDP) have been integrated in all project activities – the same as for Kinh people. The monitoring system on EMDP implementation was established with safeguard officers appointed in the CPMU and each PPMU to coordinate and supervise EMDP implementation. Semi-annual monitoring reports on EMDP implementation were prepared during implementation. These reports were uploaded on ADB website. At the time of the Mission, the report on EMDP completion was under CPMU revision.

E. Gender Action Plan Implementation

19. The project is categorized as effective gender mainstreaming and a gender action plan (GAP) prepared and modified after the MTR. The original GAP had 19 actions including 13 quantitative performance targets. There were 12 indicators related to gender in the DMF in which 10 corresponded to GAP targets. At project completion, there were seven actions and 13 targets in the GAP and DMF, of which all seven actions were completed, 11 out of 13 targets were achieved and two targets were not. Key GAP achievements included (i) 305 women out of 1,332 (22.9%) technical staff, engineers and contractors participated in training courses on biogas management and technical issues for technical workers (compared to a target of 20%); (ii) 62,018 women among 117,447 participants (52.8%) were trained in the utilization of biogas technology and operation and maintenance (the target being 50%); (iii) All 457 (100%) households receiving credit (through joint husband-wife accounts (target was 50%); (iv) 13,410 (50.5%) women among 26,538 farmers participating in CSAWMP (target being 50%); (v) 578 women among 1,739 extension staff and researchers trained in CSAWMP technology (33.2% against a target of 30%); (vi) 127 women among 366 participants (34.7%) participated in training courses on O&M of research equipment (the target being 30%); and (vii) 56 women among 129 CPMU and PPMU staff (43.4%) were trained in aspects of project management (the target being 30%). The project developed a sex-disaggregated monitoring and evaluation database of all project activities. The GAP monitoring results were regularly updated and attached to project quarterly progress reports.

F. Compliance with Loan Covenants

20. The Mission found 46 of 47 loan covenants complied with. One loan covenant (covenant 38) regarding implementation of the GAP was partially complied with due to the proportion of women participating in project training and dissemination events. Details for the status of compliance with all loan covenants are given in Appendix 2.

G. Borrower's PCR Preparation

21. Preparation of the Borrower's project completion report was initially included in the terms of reference for the loan implementation consultants yet their contract was terminated prior to the completion of this task. As a result, APMB recruited an additional consultant using

counterpart funds to prepare the report. CPMU is in the process of reviewing the uncompleted and lately submitted report and already recognizes a number of errors in the information provided in the submitted draft.

H. Other Findings

22. The Mission identified the following issues that require follow-up actions:

- The ***decline in pig numbers*** country-wide is due to the outbreak of African Swine Fever⁶ and low pig prices at the commencement of the outbreak. This has contributed to diminished demand for new digesters and ceased pig rearing operations where digesters have already been installed – as many as 10% of installed digesters in some locations.
- ***Biogas Plant Database.*** As of the mission date, 47,640 biogas plants (76.43%) financed by the project were recorded in the national biogas plant (BP) database. However, only 14,187 of the recorded BPs (22.85%) provided sufficient data to qualify for participation in the carbon market (0% in Bac Giang and Tien Giang, 4% in Soc Trang, 6% in Ha Tinh and 8% in Son La). Many BPs records do not have geographic coordinates to identify their precise locations. Several provinces, such as Son La, Nam Dinh, and Bac Giang reported software issues that prevented records from being entered and PPMU staff were unable to complete data entry to the system. Some provinces were reluctant to complete the database due to lack of funds as GPS equipment was provided late in the project that necessitated return visits to earlier installations.
- ***Research Packages.*** Despite a 1-year extension to the project closing date, four research packages (25, 26, 28 and 43) were not completed in accordance with executed contracts. As of 30 June 2020, three packages (25, 26 and 28) and package 43 had completed four of six reports (66.7%) and two of five reports (40%) required under the contracts, respectively.
- ***Asset Clearance.*** The Mission noted that all provinces had submitted outline proposals for the clearance of assets funded by project (including assets under the demonstration packages) and that the CPMU was amalgamating these for submission and consideration by the Ministry of Finance (MOF).
- ***Environment Monitoring Equipment.*** The project financed the purchase a range of laboratory equipment that has been delivered to provincial analytical laboratories of sub-departments of livestock production and animal health. The process of identification for the supplied equipment was completed only partly in consultation with the laboratory staff. As such, not all equipment has been made operational. In Soc Trang, much of the supplied equipment remains unpacked from the original delivery containers while others such as autoclaves have general application to laboratory operations. The Mission noted that consumables required for their continued operation would place additional pressure on provincial budget allocations as these laboratories are not capable of recovering fees for analytical work undertaken. While the PPMU staff are not able to operate the environment analysing equipment, the Sub-department of Livestock Production, Veterinary and Aquaculture are not provided with sufficient budget to implement the livestock environment monitoring functions.

⁶ The virus causes a hemorrhagic fever with high mortality rates in domestic pigs; some isolates can cause death of animals as quickly as a week after infection. Because of bio-security risks to visited pig producing and other livestock farms, some farmers requested limited access by team members to production areas during field visits.

III. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

23. The recommendations of the Mission and follow-up actions are as follows:

- **BP monitoring.** The Mission requested DARDs maintain the monitoring program of digester operations set during the implementation and provided appropriate support to ensure that, when pig and livestock production recommences, digester operations are returned to full operational status.
- **Biogas plant database.** DARDs, with support from CPMU to complete data entry for all BPs funded by the project to the national biogas plant database to ensure that they qualify to participate in the carbon market.
- **For the Research Packages.** The Mission requests that MARD further evaluates achievements of the packages 25, 26, 28 and 43 and allocate sufficient State budget to complete if the research results are useful and potential for replication.
- **Asset Clearance.** The Mission requested the proposal for asset clearance be finalized and submitted to MOF by 15 May 2021 so that (i) recipient farmers can exercise their decisions whether to purchase the demonstration equipment or remove the assets from farmers' properties for disposal by the appropriate method, (ii) other assets will be handled to and used effectively by the end users. The Mission requested the clearance of assets be completed by 30 June 2021.
- **Environment Monitoring Equipment.** MARD to request DARDs to hand over completely to relevant sub-departments (e.g. Sub-department of Livestock Production, Veterinary and Aquaculture) to ensure that equipment supplied under the project would be installed, utilized and maintained for their intended purpose – to facilitate environmental monitoring of gas emissions and waste material from the digesters. To strengthen environment pollution supervision in livestock activities and sustainable operation of environment monitoring equipment, the Mission propose MARD and the project provinces should institutionalize the function of environment monitoring in Sub-department of Livestock Production, Veterinary and Aquaculture under provincial DARDs. The equipment provided should be managed and used with in an established diagnostic laboratory that is funded by provincial budget allocations.
- The CPMU is requested to submit a revised APFS by 30 June 2021.
- **EMDP Implementation.** The Mission requested that CPMU will submit the revised report by 15 May 2021 for clearance and uploading.
- **Environment management implementation.** The Mission recommended that MARD standardize the design of effluent treatment in SBPs and MBPs to improve environment and sanitary conditions in rural area. Selected measures resulting from project financed research could be applied. DARDs should continue to provide awareness raising training to farmers for enhancing sanitation in livestock waste treatment. The Mission requested CPMU (i) to submit subsequent MBP IEEs that were endorsed by CPMU, (ii) its semi-annual environment monitoring report for January to June 2020, and (iii) report on environment impacts resulting from project closure and dismantling by 15 May 2021 to ADB for review and uploading.
- **Borrower PCR.** The CPMU is requested to finalize the Borrower PCR and resubmit to ADB by 30 April 2021.

24. **Schedule.** ADB will process the completion report for circulation to ADB Board as follows:

Deliverables	Estimated Submission
Completion of final draft PCR	15 May 2021
Draft PCR reviewed by VRM's PAU Head	30 May 2021
Interdepartmental circulation of draft PCR	10 June 2021
Circulation of draft PCR to the Government	1 July 2021
The Government comments provided by CPMU to ADB	15 July 2021
PCR submitted for approval of ADB	30 July 2021
Circulation of the PCR to ADB Board	10 August 2021

IV. ACKNOWLEDGMENT

25. 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 7 May 2021 by:



Vu Ngoc Chau
Mission Leader, VRM
Asian Development Bank

Attachments

Attachment 1 List of persons met
Attachment 2 Compliance of Loan Covenants