



Technical Assistance Report

Project Number: 48409-005
Transaction Technical Assistance (TRTA)
December 2018

The Republic of the Union of Myanmar: Impact Evaluation of the Climate-Friendly Agribusiness Value Chains Sector Project (Financed by the Global Agriculture and Food Security Program)

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Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ADS	–	Agriculture Development Strategy
CFAVC		Climate-Friendly Agribusiness Value Chains
CDZ	–	central dry zone
CSA	–	climate-smart agriculture
DOA	–	Department of Agriculture
GAFSP	–	Global Agriculture and Food Security Program
GAP	–	Good Agricultural Practices
IPA	–	Innovations for Poverty Action
MOALI	–	Ministry of Agriculture, Livestock and Irrigation
TA	–	technical assistance
TASF	–	Technical Assistance Special Fund
TRTA	–	transaction technical assistance

NOTE

- (i) In this report, “\$” refers to United States dollars.

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 48409-005	
Project Name	Impact Evaluation of the Climate-Friendly Agribusiness Value Chains Sector Project	Department/Division	ERCD/EREA
Nature of Activity	Capacity Development	Executing Agency	Ministry of Agriculture, Livestock and Irrigation
Modality	Regular		
Country	Republic of the Union of Myanmar		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Agriculture, natural resources and rural development	Agricultural policy, institutional and capacity development		0.20
		Total	0.20
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low
Environmentally sustainable growth (ESG)	Natural resources conservation		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional systems and political economy	Some gender elements (SGE)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas Knowledge sharing activities Pilot-testing innovation and learning		
Partnerships (PAR)	Implementation International finance institutions (IFI) Official cofinancing United Nations organization		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Rural	High
Household Targeting	Yes		
SDG Targeting	Yes		
SDG Goals	SDG1, SDG2		
6. Risk Categorization	Low		
7. Safeguard Categorization	Safeguard Policy Statement does not apply		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		0.20	
Transaction technical assistance: Technical Assistance Special Fund		0.20	
Cofinancing		0.99	
Global Agriculture and Food Security Program (Full ADB Administration)		0.99	
Counterpart		0.00	
None		0.00	
Total		1.19	
Currency of ADB Financing: USD			

I. THE ONGOING PROJECT

1. The Myanmar: Climate-Friendly Agribusiness Value Chains (CFAVC) Sector Project supports fulfilling the government's Agriculture Development Strategy for 2018–2023 and the National Export Strategy for 2015-2019 by boosting competitiveness in value chains for rice, beans, pulses, and oilseeds in the Magway, Mandalay, and Sagaing regions in the central dry zone (CDZ). The Project increases climate resilience for critical rural infrastructure, promotes quality and safety testing capacity, strengthens technical and institutional capacity for climate-smart agriculture (CSA), and creates an enabling policy environment for climate-friendly agribusinesses. The Project, which is executed by the Ministry of Agriculture, Livestock, and Irrigation (MOALI), has the following Outputs:

- i) **Output 1: Critical agribusiness value chain infrastructure improved and made climate-resilient.** Key activities include (i) upgrading infrastructure (irrigation, farm roads, buildings, farm machinery, post-harvest equipment, seed testing equipment, and agrometeorological stations) in 10 Department of Agriculture (DOA) seed farms for producing improved climate-resilient seed of rice, beans, pulses, and oilseeds; (ii) rehabilitating tertiary canals and community reservoirs, and constructing shallow tube wells (with some linked to drip and sprinkler technologies) to bring an 13,000 hectares under irrigation for up to 35,000 households; (iii) rehabilitating farm roads for improved connectivity to markets and farm mechanization; and (iv) upgrading safety and quality testing equipment in public regulatory laboratories and providing rapid food safety testing kits to DOA and the private sector.
- ii) **Output 2: Climate-smart agriculture and agribusiness promoted.** Key activities include (i) deploying climate-resilient varieties of rice, beans, pulses, and oilseeds; (ii) strengthening capacity of seed growers, agri-dealers, and government staff regarding good agriculture practices (GAP), CSA, certified seed production, and farm mechanization, and of agribusinesses regarding business plan development, good manufacturing practices, value addition, and improvement of food quality and safety; and (iii) facilitating access to inputs (seeds, quality agrochemicals), farm mechanization services, and off-farm rural livelihood opportunities by establishing an agricultural digital finance service for at least 35,000 smallholders.
- iii) **Output 3: Enabling environment for climate-friendly agribusiness enhanced.** Key activities include (i) establishing an agribusiness policy cell within MOALI's Department of Planning for research and policy advice; (ii) raising awareness and capacity of financial institutions to support climate-friendly agribusinesses; (iii) enhancing weather, market, and credit information networks; and (iv) improving delivery of land administration services in townships by building capacity in participatory land management.

2. The \$64.92 million CFAVC Project is supported by \$40.50 million of concessional ordinary capital resources lending from the Asian Development Bank (ADB), a \$22.00 million grant from the Global Agriculture and Food Security Program (GAFSP), \$1.43 million from the government, and \$0.99 million from project beneficiaries. The Project is complemented by \$5.00 million of GAFSP funded technical assistance administered by the Food and Agriculture Organization of the United Nations for extension of farm technologies/practices, promotion of nutrition behavioral change; and capacity building for monitoring and process evaluation. The Project was approved by the ADB Board of Directors on 9 October 2018, and loan and grant agreements were signed on 6 November 2018.

II. THE TECHNICAL ASSISTANCE

A. Justification

3. Although Myanmar is heavily dependent on agriculture, there is little empirical evidence available on the effectiveness of agricultural interventions in the country. Official agricultural statistics, even on primary agricultural products, such as rice, differ strongly from independent external estimates, and microdata on agriculture are limited¹. The studies available on agricultural production patterns and practices generally focus on favorable environments, such as the Ayerwaddy delta, so that knowledge gaps are particularly pronounced on less favorable environments, such as the CDZ. In 2017, the first modern household agricultural survey was conducted in the CDZ, but it also has important limitations for use in causal analysis². This creates considerable uncertainty about the most appropriate agricultural interventions to promote.

4. More broadly, Myanmar has limited exposure to modern tools for evidence-based policymaking, such as impact evaluation studies and randomized controlled trials³. To date, no randomized controlled trial has been published for interventions in the country outside of the health sector⁴. This means that introduction of modern “gold standard” evaluation tools has considerable potential to help reform how policies are conceived and evaluated.

5. The proposed technical assistance ⁵(TA) will embed a rigorous randomized controlled trial approach to impact evaluation within the CFAVC Project, so as to establish an empirical basis for learning and Project improvement over time. More specifically, it will involve identifying up to four key priority interventions for testing within the CFAVC Project. Those interventions will be those for which the CFAVC Project Management Unit and other key stakeholders have greatest need for information about effects and assumptions and for which established understanding is most limited. The TA will define a pipeline randomization⁶ approach to the sequencing of those interventions, so as to allow rigorous quantification of their effects. To provide data for analysis, surveys of at least 5,000 households in at least 240 villages will be conducted at baseline, midline and CFAVC Project completion, complemented by village surveys. In addition to providing evidence on the effects of interventions on outcomes of interest, the collected data will be utilized to diagnose target agricultural systems and constraints, so as to better inform CFAVC Project implementation. Impact evaluation is a specialized field of applied research, and the CFAVC Project Executing Agency (MOALI) has little experience in this area. For this reason,

¹ Raitzer, D, L.C.Y. Wong, and J. Samson. 2015. Myanmar's Agriculture Sector: Unlocking the Potential for Inclusive Growth. Asian Development Bank Economics Working Paper Series No. 470.

² In 2017, the Rural Economy and Agriculture in the Dry Zone (READZ) survey of 958 crop producing households was undertaken in 4 townships under U.S. Agency for International Development and Livelihood Improvement and Food Security Trust Fund support. The survey offers important descriptive information about production situations, but as a single cross-section in a relatively concentrated area, in which sampling was not designed with respect to variation in exposure to any specific intervention, does not offer much potential for causal analysis.

³ Randomized controlled trials, when implemented correctly, allow for unbiased estimation of intervention effects. They involve introducing randomized variation in the sequencing or placement of interventions, so that effects can be estimated in a similar manner to experiments in the natural sciences. They are increasingly used in both the private and public sector to understand and compare intervention effectiveness.

⁴ Based on a search of the impact evaluation repository of the International Initiative on Impact Evaluation (3ie): <http://www.3ieimpact.org/en/evidence/impact-evaluations/impact-evaluation-repository/>

⁵ The TA first appeared in the business opportunities section of ADB's website on 13 December 2018.

⁶ Pipeline randomization draws on the fact that projects usually do not have capacity to provide interventions to all eligible populations immediately. The approach randomizes which units (villages and households) receive specific interventions first, with those that receive interventions later serving as a control population initially.

administration of impact evaluation on the CFAVC Project is most appropriately handled by the Asian Development Bank (ADB) under TA.

B. Outputs and Activities

6. The TA is structured into four Outputs, which will be based on background research, followed by three rounds of field surveys. The Outputs will be delivered sequentially.

7. **Output 1: Project Theory of Change and Evaluation Design Refined.** After consulting extensively with CFAVC Project stakeholders and relevant development partners, the TA will provide a clarified, detailed theory of change for the CFAVC Project within which key impact channels and associated assumptions will be identified. Those assumptions will be further reviewed against available evidence from Southeast and South Asia and will be discussed in a consultation workshop to identify key interventions for evaluation. The tentative expectation is that evaluated interventions will include irrigation, digital finance, agricultural advisory services, and targeted nutrition interventions, but this focus is subject to further investigation and discussions. For focal interventions, an appropriate and feasible impact evaluation design will be agreed with the CFAVC Project Management Unit (within MOALI), ADB, and GAFSP, along with an associated data collection strategy.

8. **Output 2: Project Target Population Characteristics Analyzed.** Once a data collection strategy is agreed, a baseline survey will be conducted via computer assisted personal interviews by a team of field enumerators in 2019. This baseline survey will provide data on household demographics and employment, living standards and income, gender relations, assets, access to services, facility presence, social capital, vulnerability and coping strategies, nutrition, land endowments (including GPS demarcation), cultivation practices, marketing, livestock, value chain integration, and other own-account production. The data will be analyzed in a report that both documents data collection and provides information needed by the CFAVC Project to help inform implementation.

9. **Output 3: Shorter-Term Impacts⁷ Evaluated.** Villages and households surveyed in 2019 will be revisited in 2021 during the midline survey. Based on these data, estimates of the short run effects of interventions of interest on a range of indices will be estimated, including land use, agricultural production, agricultural marketing, income, poverty, consumption, food security, decision making, and psychometric and social capital indices. Estimates of effects on individual household members will be disaggregated by gender. These short run indices will be used to help refine assumptions and priorities for the second half of CFAVC Project implementation and will inform the CFAVC Project mid-term review.

10. **Output 4: Longer-Term Impacts Evaluated.** Based on data from the end line survey in 2023, midline survey, and baseline survey, estimates of the long-term of interventions of interest on a range of indices will be estimated, including land use, agricultural production, agricultural marketing, income, poverty, consumption, food security, decision making, and psychometric and social capital indices. Any additional indices that are identified as of interest during CFAVC Project implementation will also be included. Estimates of effects on individual household members will be disaggregated by gender. These long run indices will inform the CFAVC Project Completion

⁷ "Impact" here refers to causal effects, as used in impact evaluation literature, which may pertain to any type of variable affected by the intervention of interest. This differs from the definition of "impacts" used in logical frameworks, such as ADB's Design and Monitoring Framework, which pertain to end goals of a project, program, or policy.

Report and will be used to help refine assumptions and priorities for potential project(s) implemented after the CFAVC Project is completed.

C. Cost and Financing

11. The TA is estimated to cost \$1,194,937, of which (i) \$200,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF 6) and (ii) \$994,937 will be financed on a grant basis by GAFSP and administered by ADB. The key expenditure items are listed in Appendix 1.

12. The government will provide counterpart support in the form of staff time for participation in workshops and coordination to ensure implementation of any agreed random assignment of interventions.

D. Implementation Arrangements

13. ADB, through the Economic Research and Regional Cooperation Department, will administer the TA and will select, supervise and evaluate consultants. The implementation arrangements are summarized in Table 1.

Table 1: Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	February 2019 – February 2024		
Executing agency	Ministry of Agriculture, Livestock, and Irrigation		
Consultants	To be selected and engaged by ADB		
	Firm: Single Source Selection	International consultants (67.6 person-months) National consultants (42.0 person-months)	\$994,937
	Individual consultant selection	National consultants (24.0 person-months)	\$80,000
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time). The disbursement arrangements will involve cost-sharing of ADB and GAFSP funds.		
Asset turnover upon TA completion	Assets purchased under the transaction TA will be handed over to the Ministry of Agriculture, Livestock and Irrigation.		

Source: Asian Development Bank estimates

14. **Consulting services.** ADB will engage consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.⁸

15. The TA will use single source selection for contracting of Innovations for Poverty Action (IPA) to conduct the study under GAFSP cofinancing. As noted earlier in this Report, there is little experience with impact evaluation in Myanmar, and, as far as ADB is aware, there are no other agencies/firms implementing large randomized controlled trials in the country outside of the health

⁸ Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 2).

sector⁹. IPA is the only international nongovernmental organization dedicated to randomized impact evaluation with presence in the country, and country presence will be essential to ensure that randomized assignment is continually understood and implemented. With a global portfolio of over 300 ongoing randomized controlled trials, the organization is uniquely experienced for this task. IPA will be contracted for a team of 6 international consultants (67.6 person months) and 2 national consultants (42.0 person months) intermittently over a period of 60 months.

16. Funds from TASF-6 will be used for supplemental individual consultant selection, consisting of three national consultants (24.0 person months), recruited on an intermittent basis (over a period of 60 months). Workshops will be organized at key stages of the TA. All consultant and firm contracts will be output based contracts. Equipment, training, workshops and surveys will be procured or organized by ADB or by the consultants in accordance with ADB Procurement Policy (2017, as amended from time to time) and Staff Instructions on ADB Administered Consulting Services and/or Staff Instructions on Procurement of Goods, Works and Nonconsulting Services.

17. **Cofinancier requirements.** GAFSP requires a brief annual update on expenditure and progress to be communicated as part of reporting on the overall grant cofinancing.

III. THE PRESIDENT'S DECISION

18. The President, acting under the authority delegated by the Board, has approved (i) ADB administering a portion of technical assistance not exceeding the equivalent of \$994,937 to be financed on a grant basis by the Global Agriculture and Food Security Program, and (ii) ADB providing the balance not exceeding the equivalent of \$200,000 on a grant basis to The Republic of the Union of Myanmar for Impact Evaluation of the Climate-Friendly Agribusiness Value Chains Sector Project, and hereby reports this action to the Board.

⁹ For example, the Registry for International Development Impact Evaluations (<http://ridie.3ieimpact.org>) has no entries for other agencies in Myanmar.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
A. Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. National consultants	80.00
b. Out-of-pocket expenditures	
i. International and local travel	10.00
2. Printed external publications	5.00
3. Studies and surveys	30.00
4. Seminars and workshops ^b	50.00
5. Miscellaneous administration and support costs ^c	5.00
6. Contingencies	20.00
Subtotal (A)	200.00
B. Global Agriculture and Food Security Program^d	
1. Consultants	
a. Remuneration and per diem	342.87
i. International consultants	281.68
ii. National consultants	61.19
b. Out-of-pocket expenditures	474.66
i. International and local travel	31.59
ii. Office space rental and related facilities	17.53
iii. Goods (rental and/or purchase) ^e	32.82
iv. Surveys	372.12
v. Miscellaneous administration and support costs	5.68
vi. Others ^f	14.93
vii. Indirect Costs ^g	177.41
Subtotal (B)	994.94
Total	1,194.94

Note: The technical assistance (TA) is estimated to cost \$1,194.94, of which contributions from the Asian Development Bank and the Global Agriculture and Food Security Program are presented in the table above. The government will provide counterpart support in the form of staff time for participation in workshops and coordination to ensure implementation of any agreed random assignment of interventions. The value of government contribution is estimated to account for 4.2% of the total TA cost.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF 6).

^b Includes travel of resource persons, travel of Asian Development Bank staff as resource persons, participant travel cost, per diem, and other related costs.

^c Includes other miscellaneous costs, such as translation, communications, printing and supplies.

^d Administered by the Asian Development Bank.

^e Covers rentals and/or purchase of supplies for data collection for field enumerators and field research staff (this includes field and office supplies, computers/laptops, software and tablets for field surveys). Goods purchased under the TRTA will be handed over to the Ministry of Agriculture, Livestock and Irrigation upon TA completion.

^f Includes costs for translation of the survey instruments to local language(s), processing of approvals and permits, non-survey communications, work permits and participation in training.

^g Reflects the 21.7% overhead rate charged by Innovations for Poverty Action on other cost items.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=48409-005-TARreport>

1. Terms of Reference for Consultants
2. Approved Report and Recommendation of the President

Supplementary Documents

3. Approved Request for Waiver for Deviation of para. 2 from Staff Instruction on Business Processes for Transaction Technical Assistance