Public Disclosure Authorized

Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 16-Jul-2024 | Report No: PIDDC00487

BASIC INFORMATION

A. Basic Project Data

Project Beneficiary(ies)	Operation ID	Operation Name	
China, Indonesia, Lao People's Democratic Republic, Philippines, Viet Nam, Viet Nam	P504625	Low Methane Agricultural Transformation in East Asia	
Region	Estimated Appraisal Date	Estimated Approval Date	Practice Area (Lead)
EAST ASIA AND PACIFIC	04-Nov-2024	12-Dec-2024	Agriculture and Food
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing (IPF)	The Socialist Republic of VietNam	MARD	

Proposed Development Objective(s)

The proposed project development objective is to support the generation and monetization of high integrity emission reduction credits along Vietnam's 1Mha Project.

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	No
Is this project Private Capital Enabling (PCE)?	No

SUMMARY

Total Operation Cost	**40.00**
Total Financing	**40.00**
Financing Gap	**0.00**

DETAILS

Non-World Bank Group Financing

Trust Funds	40.00
Transformative Carbon Asset Facility Tranche A	40.00

Environmental and Social Risk Classification	Concept Review Decision
Substantial	The review did authorize the preparation to continue

N*ote: This PID is generated for the LOMAT MPA and the "Viet Nam: Transformative Carbon Asset Facility (TCAF) One-Million Hectare High Quality Low-Carbon Rice in the Mekong Delta Program", as one of the Phase 1 projects proposed under LOMAT MPA*

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A. Introduction and Context

Country Context

The agri-food system in the East Asia and Pacific (EAP) region is important to the economy and livelihoods of the poor. Agriculture contributes to roughly 14% of the region's gross domestic product (GDP). However, despite the relatively advanced economic structure of many upper middle-income countries in the region, agriculture transformation has been slow as it still provides 35% of employment (ranging from 10% in Malaysia, 23% in China, and 70% in Lao PDR). Smallholders still dominate the sector, making up on average over 60% of all farms, a majority of which are engaged in rice cultivation.

Rice dominates the agriculture sector in most EAP countries. Rice is a food staple for nearly 690 million southeast Asians. It accounts for a significant portion of harvested land in the region – e.g., 75% in Cambodia and 60% in Viet Nam - and is the largest consumer of water in the agricultural sector. It is cultivated by over a hundred million farmers, most of whom are smallholders, occupying not more than two hectares of land each.

Agriculture is on an environmentally unsustainable path, with high emissions of methane and nitrous oxide gases, among other greenhouse gases (GHGs). The agriculture sector is responsible for close to one third of global GHG emissions, and one-third of agriculture's emissions comes from methane. The EAP region's agrifood system accounts for the largest share of global methane and other GHG emissions of any region of the world. The region accounts for about 29% of total global GHG emissions from agrifood systems (Table 1). The agrifood system is responsible for about 24% of the region's total GHG emissions. China and Indonesia's agrifood systems are among the top ten highest emitters globally in terms of absolute emissions. China's GHG emission contributions are dominated by enteric fermentation from livestock and rice cultivation. Indonesia, Myanmar, Cambodia, and Malaysia's emissions are dominated by forest land conversion, followed by rice production, while Vietnam, Thailand, and the Philippines' emissions are dominated by rice production.

Rice production in EAP has the highest methane emission intensity in the world. Globally, flooded rice paddy fields account for about 16% of global agricultural methane emissions. Methane emissions from rice cultivation are highest in southeast Asia at about 10 Mt/year, followed by South Asia (8 Mt/year), and China (8Mt/year). The largest emitting countries in EAP by absolute emissions are China, Indonesia, Thailand, Philippines, Viet Nam, and Myanmar. Rice contributes 43% of the total national agricultural GHG emissions on average, with highest shares in Vietnam (50%), Thailand (65%), and

Philippines (68%). The intensity of methane emissions from rice in EAP are considerably higher than other major rice producing countries, and are the highest in Philippines, Thailand, Indonesia and Myanmar.

Rice cultivation suffers from structural constraints. Rice is mostly grown under irrigated conditions. The irrigated rice area currently occupies about 56 percent of the total rice area and contributes 76 percent of the total production, with the largest areas being found in China, Indonesia, Viet Nam. Philippines and Thailand. Yet, many irrigation systems and their farmers are locked into a low-level production and service equilibrium. Many of the canal irrigation systems are characterized by a build-neglect-rebuild vicious cycle, in which investments in operation and maintenance are inadequate, irrigation services unreliable and the willingness of farmers to pay for services low.

As a result, a large proportion of small farmers are "trapped" in low-returns rice production. In the past two decades, rice yields in various countries have decelerated, stagnated, or even declined. A combination of low adoption of improved seeds and technologies, poor agronomic practices, and deteriorating soil health (partly from continuous mono-cropping among other unsustainable practices) has led to substantial yield gaps, ranging from between 51% to 60% in Cambodia, Myanmar, Philippines, and Thailand to between 37% to 39% in Indonesia and Viet Nam. Farmers' incomes remain very low, often below the poverty line. Average daily earnings of rice farmers in EAP vary between US$2 to US$6 per day. Myanmar farmers, for instance, earn US$1.8-2.5/day. As such, smallholder (rice) farmers constitute a disproportionate share of the bottom 40% of the income distribution (e.g., in Malaysia rice farmers are poor and food insecure, with the vast majority (over 90%) falling in the bottom 40% income category). In contrast, non-rice production systems generate higher revenues and employment and are associated with lower poverty levels.
Overall, an agricultural and water sector transformation is urgently needed. The growth model of agriculture must be revamped to drastically reduce its methane and other emissions and its water use, increase efficiency of resource use and profitability of smallholder farming, and enhance resilience to climate change. Given the dominance of rice in the use of agricultural resources as well as in public policies and expenditures, it is imperative that agricultural and water sector transformation be spearheaded by rice sector reforms, which must include market-led diversification.

To address these challenges, the proposed Multiphase Programmatic Approach (MPA) "Low-Methane Agricultural Transformation in East Asia" (LOMAT), is currently under preparation to assist countries of the East Asia region to take transformative actions to build a resilient, low emissions, inclusive agricultural sector. The MPA provides an overall umbrella framework for participating countries to help align their goals and priorities with the common elements of the program design. Support is envisaged to be provided under the following five pillars: (i) improved agronomy; (ii) climate resilient irrigation; (iii) supporting value addition and market-diversification; (iv) mobilizing climate finance; and (v) strengthening policies and institutions. These MPA components provide a menu of options. Participating countries can focus on the investments they need, both with short-term interventions and longer-term measures. The "menu approach" provides flexibility to each participating country to select activities based on its priorities and complementarity with existing national programs and/or operations fund by the Bank or other technical and financial partners.

The MPA will emphasize a learning agenda that will encourage and enable participating countries and institutions to learn from each other and innovate in the formulation and implementation of relevant policies, programs, and projects. There is a rich diversity of initiatives, policies, and development experience across EAP economies. For instance, Vietnam provides relatively low levels of support to the agricultural sector and has a more competitive and export-oriented agricultural production system. It has been among the first movers regarding low-emissions, high-quality rice production. China is leading the way in, among other things, forward-looking investments in low-carbon and circular agriculture, including initiatives to improve soil health.

The MPA will help attract concessionary climate co-financing to enable the green and digital transformations. There is need – and opportunity – to attract finance flows aimed at reducing methane and other GHG emissions, enhancing sinks of greenhouse gases, and reducing vulnerability of, and increasing the resilience to climate change impacts. The MPA can play a catalytic role in this regard by enhancing country capacities, policies, and preparedness to access and manage climate finance, promoting metrics and tools to quantify emissions and building visibility and scale to attract more concessional and grant resources.

The "Viet Nam: Transformative Carbon Asset Facility (TCAF) One-Million Hectare High Quality Low-Carbon Rice in the Mekong Delta Program", is expected to be included as one of the Phase 1 projects proposed under the LOMAT MPA.
In Vietnam, the agriculture sector is the second-largest contributor of GHG emissions, at about 23 percent of total emissions in 2016. Over 80 percent of agriculture sector emissions, and almost half of national methane emissions, come from one single commodity – rice. The unconditional NDC target allocated to agriculture by 2030 has been increased from 6.8 MtCO2e in the 2020 NDC to 12.4 MtCO2e in the 2022 NDC, and the conditional NDC target for agriculture also has been increased from 25.8 MtCO2e to 38.5 MtCO2e in the 2022 NDC. It implies a total financing need of US$16 billion in the agriculture sector alone. Within Vietnam, the Mekong Delta (MKD) region is the center of rice production, contributing 50 percent of total rice production and 90% of rice exports.

Viet Nam's updated NDC (2022) raised Vietnam's commitment to an unconditional emissions reduction (ER) target of 15.8% by 2030 and a conditional ER target of 27.7%, compared to 9% and 27% in the 2020 NDC. Compared to the previous (2020) NDC, these targets imply an increase in unconditional ERs from 83.9 Mt CO2eq to 146.3 Mt CO2eq, and an increase in the number of conditional ERs from 250.7 Mt CO2eq to 257.4 Mt CO2eq. The 2022 NDC highlights that NDC implementation requires significant financial, technological, and human resources.

Sectoral and Institutional Context

The Government of Viet Nam has prioritized transforming the rice value chain into a high-quality and low-carbon production system to enhance the sector's sustainability and competitiveness. This aligns with recent government policies such as the National Green Growth Strategy for the period 2021-2030 - Vision to 2050, the Sustainable Agriculture and Rural Development Strategy for the 2021-2030 period - Vision to 2050, the Mekong Delta Regional Master Plan approved by the government in 2022, and the COP27 Nationally Determined Contribution (NDC), which aims to reduce GHG emissions by 9% using domestic resources and 27% with international support by 2030. Additionally, the Methane Pledge has been committed to reducing methane emissions by 30% by 2030.

Between 2015 and 2022, the Bank supported Vietnam in designing and implementing a project called the Vietnam Sustainable Agriculture Transformation Project (VnSAT). Inspired by the achievements of VnSAT, the Prime Minister instructed the Ministry of Agriculture and Rural Development (MARD) to design and implement a large-scale program to transform the rice value chain in MKD. The new program aims to revolutionize the MKD rice sector, elevating it to new heights of excellence as a high-quality and low-carbon sustainable value chain. Spanning the period from 2024 to 2030, this transformative program has been named as "One Million Hectares High Quality and Low-Carbon Rice in the Mekong Delta" (1M Ha Project hereafter), which was approved by the Prime Minister in late November 2023 and was announced at the COP28 in Dubai.

B. Relationship to CPF

The proposed Project is consistent with the World Bank Group's Vietnam Country Partnership Framework (CPF), discussed by the WBG Board on May 30, 2017. Specifically, it contributes to focus area 3 (Ensure Environmental Sustainability and Resilience) of the current CPF which highlights the importance of transforming agriculture through strengthening the sector's climate resilience. It is also aligned with the latest draft of the proposed CPF for FY 2023–27, especially two objectives under Higher Level Objective 1 (Climate resilience strengthened and sustainable growth attained), namely, objective 1: Strengthen climate resilience and promote sustainable growth of infrastructure, cities, and regions; and objective 3: Reinforce sue stainable management of natural resources.

C. Proposed Development Objective(s)

The Program Development Objective of the MPA is to reduce methane emissions, improve irrigation, enhance production ecosystems, and increase profitability of agriculture.

Consisted with the LOMAT MPA's objective, the objectives of "Viet Nam: Transformative Carbon Asset Facility (TCAF) One-Million Hectare High Quality Low-Carbon Rice in the Mekong Delta Program" (TCAF Program hereafter) are generation and monetization of high integrity emission reduction credits along Viet Nam's 1M Ha Program to support Viet Nam's net zero aspirational targets and addressing Viet Nam's climate investment needs through innovative financing.

Key Results (From PCN)

(i) Net methane and other GHG emissions per year (Tons of Co2 equivalent)
(ii) Farmers adopting improved agricultural technology and practices (of which # female)
(iii) Farmers with enhanced resilience to climate risks

D. Concept Description

The proposed TCAF Program project is fully embedded in a World Bank lending project (currently under development), provisionally titled "Infrastructure and Technology for Low-Carbon Rice in the Mekong Delta (MKD-ITLCR)". The proposed TCAF Program comprises of one component as summarized below:

Component 1: Result Based Climate and Carbon Finance transaction (RBC/CF) pilot of up to US$40 million which can act as a pilot transaction to incentivize the materialization and sustainable operation of 1M Ha Project, as well as to test Vietnam rice sector's carbon market related technical, institutional and policy infrastructure set up with technical assistance and capacity building from the World Bank.

The World Bank will conduct technical assistance (TA) and capacity-building activities to support Vietnam's rice sector readiness for generation and monetization of ERs by referring to Article 6 of Paris Agreement (A6) rules/procedures. The proposed A6 readiness will enable Vietnam, by extending the readiness from rice sector to others, to tap deep international climate and carbon finance support through market-based mechanisms.

As per the World Bank Guidance on "Emission Reduction Crediting Projects under Investment Project Financing" (June 2020), processing TCAF carbon finance operation as a standalone operation will follow the IPF process. TCAF Carbon contracts (i.e., Emission Reduction Purchase Agreement- ERPA and Mitigation Outcome Purchase Agreement-MOPA) will be negotiated and signed upon the conclusion of appraisal by the World Bank.

Legal Operational Policies

	Triggered?	
	Last approved	**Current**
Projects on International Waterways OP 7.50	No	
Projects in Disputed Area OP 7.60	No	

Summary of Screening of Environmental and Social Risks and Impacts

The project is expected to have positive direct and indirect social and environmental impacts. The project will comprise solely of result-based carbon payments and technical assistance activities which do not include any physical works. Hence, the potential direct adverse environmental impacts are minimal, and there are no significant adverse risks and issues which are complex, diverse, sensitive, and irreversible. Instead, the project intends to support achievement of long-term positive impacts to the environment particularly on reducing carbon emissions. In terms of environment, there is potential for downstream risks and impacts due to the TA to be provided and ESF requirements should be included when drafting TORs and TA outputs. In terms of social, distribution of carbon credits would be done in a transparent manner, support by full disclosure of project information. Stakeholder engagement plan and Benefit Sharing Plan should be prepared to ensure proper consultation with all stakeholders particularly low-income farmers and ethnic minorities.

Implementation of E&S instruments. TCAF will make results-based carbon finance payments against ERs generated from the areas fully complied with World Bank E&S requirements.

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APPROVAL

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