MYANMAR CARBON PROGRAM OF RICE-FIELD FOR GREENHOUSE GAS REDUCTION IN AREAS OF THE CENTRAL AND NORTHERN

Project title	Myanmar Carbon Program of Rice-Field for Greenhouse Gas Reduction in Areas of the Central and Northern
Project ID	*Verra Project ID*
Crediting period	01-Oct-2025 to 30-Sep-2032
Original date of issue	*For pipeline listing,* 03-Nov-2025 *For registration, DD-Month-YYYY is the date the project description was completed following the completion of the audit*
Most recent date of issue	03-Nov-2025
Version	1
VCS Standard Version	4.7
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1 PROJECT DETAILS

1.1 Summary Description of the Project

Rice cultivation is particularly susceptible to climate change, and rice cultivation is a major contributor to greenhouse gas (GHG) emissions, especially methane. In Myanmar, traditional rice farming practices, such as continuously flooding fields, lead to increased methane emissions. It is essential to reduce these emissions in order to protect the environment and develop more resilient agricultural systems.

This program introduces water-efficient farming methods for rice cultivation, including Alternate Wetting and Drying (AWD), Direct-Seeded Rice (DSR), and Aerobic Rice Cultivation. These techniques help reduce methane emissions by preventing waterlogged conditions and enhancing crop yields. Furthermore, the program encourages farmers to employ sustainable rice production practices such as conservation tillage, appropriate fertilizer use, and managing agricultural waste without burning.

To help farmers adopt sustainable agricultural practices, CPP Myat Min Agro Co., Ltd. will utilize FarmPro as facilitators and mentors, driving these practices among the targeted farmers. FarmPro is an integrated agricultural enterprise and comprehensive agricultural service provider in Myanmar, supporting farmers with inputs, mechanization, market access, and technical expertise. FarmPro will also provide other essential knowledge and services to support the entire rice cultivation cycle, including planting, pest control, fertilizer application, harvesting, grain purchasing, and irrigation support, such as digging tube wells. The FarmPro team will handle farmer recruitment, training, and monitoring to ensure farmers use improved water management practices to reduce GHG emissions. The project will focus on four clusters: Mandalay, Naypyitaw, Ayeyarwady, and Southern Shan, which are located in the northern and central regions of the country, where rice is the dominant crop. The training will cover essential topics, including water management to reduce methane emissions, proper fertilizer application, conservation tillage, and sustainable agricultural waste management practices that avoid burning.

The program aims to establish a more sustainable and eco-friendly agricultural system by equipping farmers with these essential techniques. Through these efforts, the program will reduce greenhouse gas (GHG) emissions and strengthen Myanmar's rice sector, ensuring a more prosperous and climate-resilient future for farmers and their communities.

- Annual average GHG emission reduction: 59,738 tCO_2e
- Total GHG emission reductions: 418,166 tCO_2e

1.2 Audit History

This draft document for pipeline listing, not validation yet.

For projects undergoing crediting period renewal, include the audit history of the project using the table below. For the project validation, state the validation date in the Period column. This table should include all monitoring periods, including the period of this report.

Audit type	Period	Program	Validation/verification body name	Number of years
Validation/ verification	*(DD-Month-YYYY--DD-Month-YYYY)*	*VCS*	*Validation/verification body name*	*One year*

1.3 Sectoral Scope and Project Type

Complete the table below with information relevant for AFOLU projects:

Sectoral scope	14. Agriculture, forestry and other land use (AFOLU)
AFOLU project category[1]	Agricultural Land Management (ALM)
Project activity type	Improved Management in Rice Production Systems (AWD, DSR, and aerobic rice cultivation), reduce agricultural inputs (fertilizer, fuel, liming), and reduce open burning in rice fields

1.4 Project Eligibility

1.4.1 General eligibility

Based on the VCS Standard v4.7 and methodology VM0051 v1.0, this project meets all eligibility criteria for inclusion under the VCS Program. The project falls within the Agricultural Land Management (ALM) category and is not listed in excluded under Table 2.1 of the VCS Standard as described below:

- The project activity falls within the ALM categories, the AFOLU eligible categories, and is not listed in Table 1 of VCS Standard v4.7. Therefore, it falls within the scope of the VCS program.

- The project activity includes project activities that are backed by VM0051, a method that was "approved under the VCS Program through the methodology development and review process".

- Project activity is eligible under the VCS Program since the activities improved rice cultivation practices that decrease net emissions of CH_4, N_2O, and/or CO_2 by implementing the improved irrigation management, including Alternate Wetting and Drying, Direct Seeded Rice, and Aerobic Cultivation.

[1] *See Appendix 1 of the* VCS Standard

- In accordance with section 3.8.2 of the VCS standard v4.7, the pipeline listing process has been initiated within 3 years of the project start date.

- In accordance with section 3.8.4, the project shall complete validation within five years of the project start date.

- As outlined in Section 1.15 of this document, the project complies with all and any relevant local, regional, and national laws, statutes, and regulatory frameworks.

- The project is not a fragmented component of a larger activity, and it remains below the small-scale capacity limit of 60,000 tCO_2e per year.

- All participating farmers have provided consent, and the project demonstrates clear legal right to implement and claim the resulting Verified Carbon Units (VCUs).

1.4.2 AFOLU project eligibility

Moreover, the project also falls under the Agricultural Land Management (ALM) category of AFOLU as per VCS Standard as described below:

- This project reduces CH4 emissions on rice paddy fields, which can be demonstrated as croplands, by adopting the AWD (Alternate Wetting and Drying), DSR (Direct Seeded Rice), and Aerobic Rice Cultivation methods instead of the continuous flooding method. Thus, the project can be categorized as an eligible ALM activity.

- According to map analyses, the project area has not undergone clearing of native ecosystems within the 10 years before the project's start date (1 October 2025).

- The project practices the AWD (Alternate Wetting and Drying), DSR (Direct Seeded Rice), and Aerobic Rice Cultivation methods on croplands, which have been demonstrated to reduce net GHG emissions by reducing CH_4 emissions. Thus, this project is an eligible ALM activity.

- Rice cultivation has continuously occurred in the target regions (Ayeyarwady, Bago, Yangon, Naypyitaw, Mandalay, Southern Shan), confirming eligibility as an ALM AFOUL project under the VCS Program.

1.4.3 Transfer project eligibility

This is not a transfer project.

1.5 Project Design

Indicate if the project has been designed as:

☐ Single location or installation

☒ Multiple locations or project activity instances (but not a grouped project)

☐ Grouped project

1.5.1 Grouped project design

The project is an example of a single project activity that was produced as a single project rather than as a group effort and took place in different places.

1.6 Project Proponent

Organization name	Charoen Pokphand Produce Co., Ltd.
Contact person	Dr. Sadudee Supanpai
Title	Project President
Address	C.P. Tower 2 (Fortune Town), 23rd Floor, Ratchadapisek Rd., Din Daeng, Bangkok, Thailand, 10400.
Telephone	+66814677999
Email	carboncredit@cppcrop.com

1.7 Other Entities Involved in the Project

Organization name	Charoen Pokphand Produce Co., Ltd.
Role in the project	Project Owner
Contact person	Mr. Worasit Sittivichai
Title	Chief Operating Officer
Address	C.P. Tower 2 (Fortune Town), 23rd Floor, Ratchadapisek Rd., Din Daeng, Bangkok, Thailand, 10400.
Telephone	+668 1450 2478
Email	worasit@cppcrop.com

Organization name	CPP Myat Min Agro Co., Ltd.
Role in the project	Project Developer
Contact person	Mr. Phanupong Khamlaeng
Title	Project Vice President

Address	No. 18B, Oak Pone Seik St., Quarter 8, Mayangone Tsp., Yangon, Myanmar.
Telephone	+95 9780358051
Email	PHANUPONG.KHA@cppcrop.com

Organization name	Rajamangala University of Technology Lanna (Lampang)
Role in the project	Consultant
Contact person	Assistance Professor Dr. Suraphon Chaiwongsar
Title	Project Consultant
Address	200, Moo 17, Phahonyothin Road, Phichai, Mueang Lampang District, Lampang 52000
Telephone	+66 860 511 151
Email	suraphon.c@rmutl.ac.th

1.8 Ownership

Participating farmers have signed Carbon Rights Agreements with Charoen Pokphand Produce Co., Ltd. granting exclusive ownership of all Carbon Credits, in compliance with VCS Standard Section 3.7.1. Upon successful implementation, the project will generate Verified Emission Reductions (VERs).

Through an Emission Reduction Rights Transfer Agreement, project beneficiaries legally transfer the rights to these reductions to Charoen Pokphand Produce Co., Ltd., ensuring full and uncontested ownership. The land ownership remains with the farmers, as verified by official government land records.

1.9 Project Start Date

Project start date	01/10/2025
Justification	According to the VCS Standard, the project start date is defined as the date when activities leading to GHG emission reductions or removals begin-such land preparation, planting, or changes in management practices.

	For this project, the start date corresponds to the time when the first farmer submits the cultivation plan, as part of the project's internal control system, indicating the intention to adopt improved water management practices, shift from continuous flooding to controlled irrigation, and initiate land preparation. This date marks the first recorded land preparation event, supported by the farmer's cultivation plan and farmer logbooks submitted as evidence.

1.10 Project Crediting Period

Crediting period	☒ *Seven years, twice renewable* ☐ *Ten years, fixed* ☐ *Other (state the selected crediting period and justify how it conforms with the VCS Program requirements)*
Start and end date of first or fixed crediting period	01/10/2025 to 30/09/2032

1.11 Project Scale and Estimated GHG Emission Reductions or Removals

Indicate the estimated annual GHG emission reductions/removals (ERRs) of the project:

☒ < 300,000 tCO2e/year (project)

☐ ≥ 300,000 tCO2e/year (large project)

Complete the table below for the first (if renewable) or fixed crediting period:

Calendar year of crediting period	Estimated GHG emission reductions or removals (tCO_2e)
01/10/2025 to 30/09/2026	59,738
01/10/2026 to 30/09/2027	59,738
01/10/2027 to 30/09/2028	59,738
01/10/2028 to 30/09/2029	59,738
01/10/2029 to 30/09/2030	59,738
01/10/2030 to 30/09/2031	59,738

01/10/2031 to 30/09/2032	59,738
Total estimated ERRs during the first or fixed crediting period	418,166
Total number of years	7
Average annual ERRs	59,738

1.12 Description of the Project Activity

The Myanmar Carbon Program of Rice-Field for Greenhouse Gas Reduction in Areas of the Central and Northern is an Agricultural Land Management (ALM) project activity under the AFOLU category of the VCS Program v4.7, applying the VM0051: Improved Management in Rice Production Systems (v1.0) methodology. The project is implemented and operated by CPP Myat Min Agro Co., Ltd. with technical support from FarmPro Myanmar, across the rice growing area of Mandalay, Naypyitaw, Ayeyarwady and Southern Shan, covering approximately 29,202 hectares of irrigated paddy land.

The project aims to reduce methane (CH_4) emissions generated from continuously flooded rice fields by introducing improved water management and sustainable cultivation practices. Methane emissions in conventional rice cultivation arise under anaerobic (waterlogged) soil conditions due to methanogenic microbial activity. To address this, the project promotes the following GHG mitigation measures:

1.12.1 Main Project Activities and Technologies Employed

Alternate Wetting and Drying (AWD):

Alternate Wetting and Drying (AWD) is a climate-smart irrigation practice for rice cultivation that replaces continuous flooding with deliberate cycles of wetting and drying. The method relies on installing a perforated tube, usually PVC pipe, into the field to monitor the subsurface water level. During rice tillering stage, farmers begin adjusting irrigation, allowing the water to drain until the water table falls 15 cm below the soil surface, but not deeper than 15 cm to prevent rice stress, then re-irrigating the field to a shallow depth of around 5 cm. This cycle is avoided during rice flowering stage, which water is crucial for the success of fertilization and embryo development, thereby preventing yield reduction. AWD typically reduces irrigation water use by 20–30% without reducing yields and, in some cases, may even improve productivity. The drying phases are crucial because they allow oxygen to enter the soil, creating aerobic conditions that suppress methane-producing microorganisms while also encouraging deeper root growth, which enhances plant resilience. Environmentally, AWD significantly lowers methane emissions from rice paddies,

a major source of greenhouse gases. However, successful adoption requires farmers to have access to reliable irrigation sources and proper drainage, along with training to avoid excessive drying that could harm yields. Overall, AWD is a practical, low-cost, and scalable water management approach that conserves water, sustains productivity, and contributes to climate change mitigation.

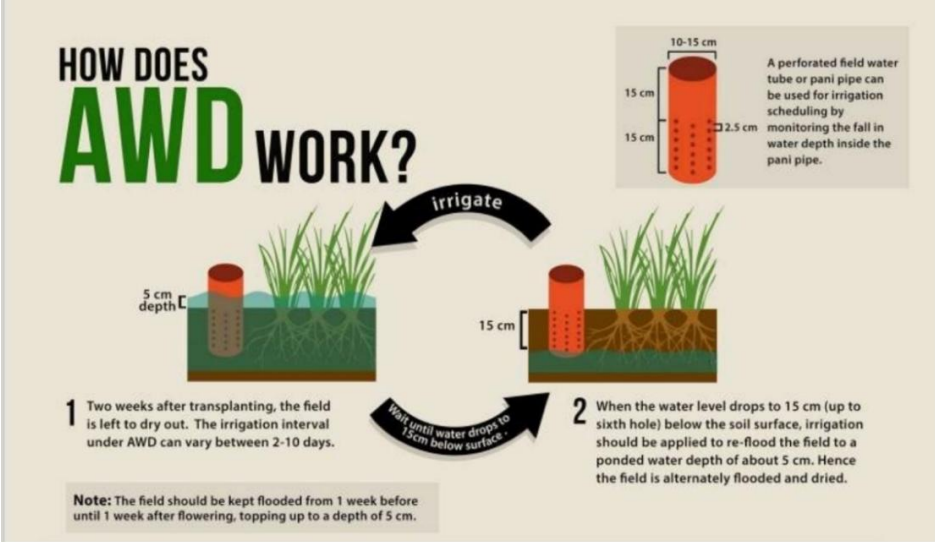

Figure 1: Working principle of AWD technique

SOURCE: *GHG mitigation in rice - alternate wetting and drying*. (n.d.). https://ghgmitigation.irri.org/mitigation-technologies/alternate-wetting-and-drying

Figure 2: Perforated PVC pipe for monitor the subsurface water level

Figure 3: Installing perforated PVC pipe into the field to monitor the subsurface water level

Direct Seeded Rice (DSR)

Direct Seeded Rice (DSR) is an alternative cultivation method in which rice seeds are sown directly into the main field, eliminating the need for nursery preparation, puddling, and manual transplanting. In this project, the dry seeding approach is emphasized, where seeds are planted into a dry and well-prepared field. One of the most significant advantages of DSR is its ability to drastically reduce irrigation demand. By avoiding continuous flooding, DSR lowers water use by an estimated 30–50% compared to conventional transplanted rice systems. This reduction in water use is particularly critical in regions facing increasing water scarcity and competition for water resources.

DSR has important implications for greenhouse gas emissions, particularly methane (CH_4). In traditional transplanted rice systems, flooded conditions create anaerobic environments that favor methanogenic microorganisms, which are responsible for methane production. In contrast, the aerobic soil environment under DSR suppresses methane

formation, resulting in significantly lower CH_4 emissions. This makes DSR a climate-smart practice with high potential for reducing the GHG of rice cultivation while maintaining or even improving productivity.

However, the absence of standing water in DSR also creates challenges, most notably the increased risk of weed infestation, since weeds are no longer suppressed by submergence. Farmers must adopt effective weed management strategies—such as herbicide use, crop rotation, or mechanical control—to ensure that the benefits of reduced water use and methane mitigation are not offset by yield losses.

Figure 4: Direct seeding methods in rice cultivation

Aerobic Rice Cultivation

Typically, aerobic rice cultivation involves maintaining rice fields under aerobic practices, where water is applied intermittently to keep the soil moist without flooding, thereby reducing methane emissions.

To implement aerobic rice cultivation effectively, farmers require access to controlled irrigation systems, such as borewells with motor pumps or reliable canal networks, along with adequate drainage facilities to avoid water stagnation. Land preparation involves proper leveling to ensure uniform moisture distribution and prevent waterlogging. Suitable aerobic rice varieties are introduced, and direct seeding or transplanting is practiced depending on local conditions.

The irrigation schedule begins after crop establishment, where water is applied only when soil moisture falls below the critical threshold to avoid drought stress. During the crop growth period, the soil is maintained under aerobic conditions by allowing natural drying cycles before re-irrigation. This method ensures that water remains available within the root zone while suppressing methanogenic bacteria in the anaerobic soil layers, thus significantly lowering methane emissions.

Figure 5: Rice seedlings grown under drip irrigation system in experimental plots, showing controlled water distribution and early-stage crop establishment.

1.12.2 Mechanism of Methane (CH_4) Reduction

By replacing continuous flooding with AWD, DSR, and aerobic rice cultivation, the project reduces the duration of anaerobic soil conditions responsible for methane production. The quantified reduction in CH_4 emissions is achieved through fewer waterlogged days and improved oxygen diffusion in the soil. Supporting measures such as avoided burning, efficient fertilizer use, and reduced fossil fuel consumption further decrease of other GHG emissions.

Emission reductions are monitored and calculated in accordance with VM0051 procedures, utilizing default regional emission factors for Southeast Asia and periodic farmer records verified through field inspections, which are integrated into the project's Internal Control System (ICS).

1.12.3 Sustainable Agricultural Practices

According to the applicability conditions of VM0051, the participating farmers are motivated to employ sustainable agricultural practices. The project aims to eliminate the open burning of rice straw and crop residues—a significant source of GHG emissions and PM2.5 pollution in Myanmar—by promoting sustainable residue management practices. Farmers are trained to adopt soil incorporation, composting, mulching, and livestock feed utilization, which enhances soil health, reduces chemical fertilizer use, and creates added value from residues. Farmers are also encouraged to reduce their use of agricultural inputs, such as fertilizers and fuel. They are educated and trained in site-specific nutrient management, enabling them to apply fertilizers based on crop needs, soil conditions, and seasonal timing. The project promotes the use of enhanced-efficiency fertilizers and split applications to minimize nitrogen losses and increase nutrient uptake efficiency. Conservation tillage, such as minimum or reduced tillage, is also promoted to lower fuel and CO_2 emissions in rice farming. To ensure the effective deployment of these practices, participants receive hands-on guidance and continuous support through FarmPro extension networks, farmer field schools, and demonstration plots. Farmers can then choose to implement any practices that are suitable and appropriate for their specific needs. Still, the outcome of the rice farming must follow the applicability conditions of VM0051.

1.12.4 Organizational Roles and Community Involvement

- Charoen Pokphand Produce Co., Ltd. acts as the Project Proponent, responsible for overall management, monitoring, and reporting under the VCS Program.
- CPP Myat Min Agro Co., Ltd (FarmPro Myanmar) serves as the implementing partner, providing training, farmer coordination, and technical assistance.
- Farmer groups under Carbon Rights Agreements, maintaining ownership of their farmland while transferring emission reduction rights to the project proponent.
- Local government agencies, such as the Department of Agriculture (DOA) and the Irrigation and Water Utilization Management Department (IWUMD), support the project through coordination, data sharing, technical support, and governance regulation.

Community participation is central to the project's success. Farmers receive continuous capacity building through field demonstrations, on-farm coaching, and seasonal follow-ups. The project also establishes "Smart Farmer Networks" led by trained farmer leaders who promote peer-to-peer learning and ensure consistent application of sustainable practices.

1.12.5 Jurisdictional Context

The project operates in the Ayeyarwady, Bago, Yangon, Naypyitaw, Mandalay, and Southern Shan Regions of Myanmar. These regions are not currently covered under any jurisdictional REDD+ program or other carbon credit program; therefore, there are no overlapping GHG accounting frameworks. The project aligns with Myanmar's Nationally Determined Contribution (NDC) and the country's national climate strategy to reduce agricultural emissions and enhance water efficiency.

1.13 Project Location

The project located in Myanmar, rice producing regions, divided into 4 cluster, which are Mandalay (Zone A), Naypyitaw (Zone B(1) and Zone B(2), Ayeyarwady (Zone C), and Southern Shan (Zone D) (Figure 6).

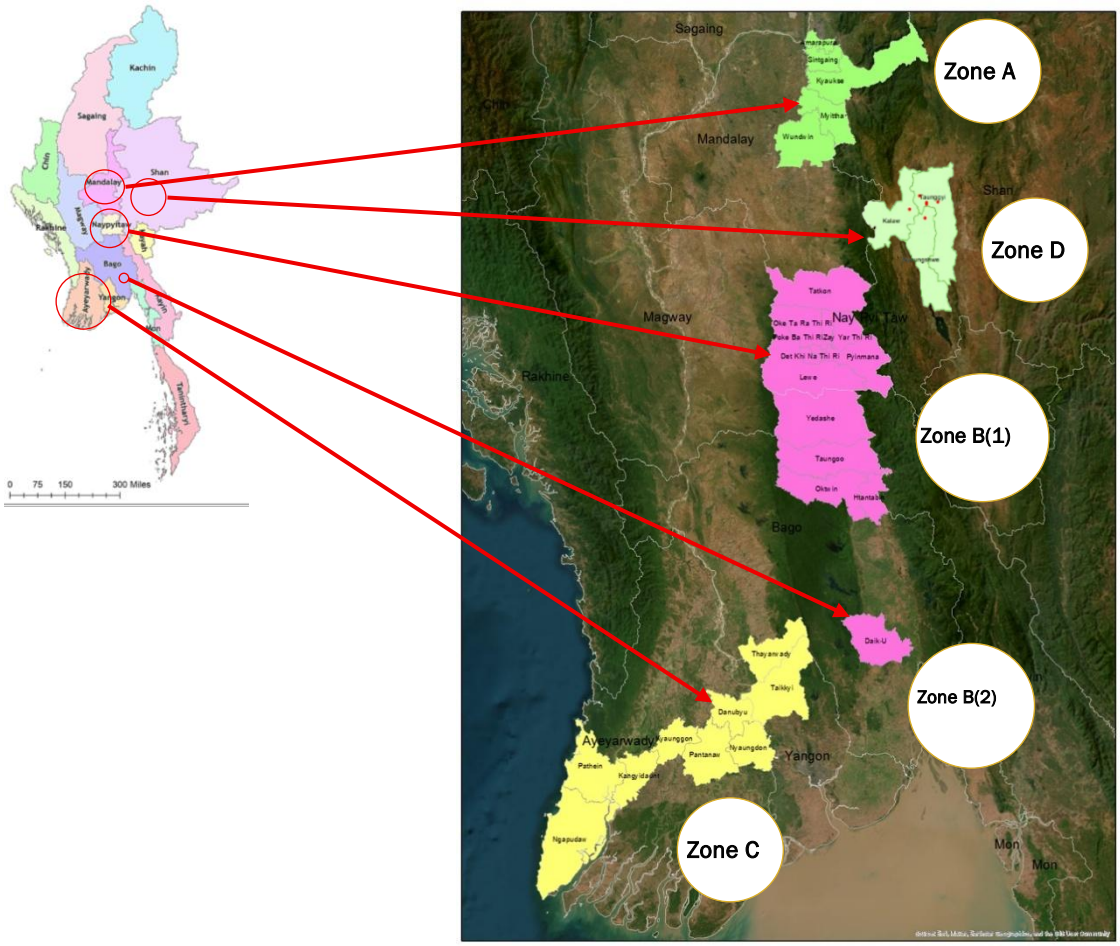

Figure 6: The Overview of the project area which is divided into 4 Zones (which are Zone A named as Mandalay Cluster, Zone B named as Naypyitaw Cluster, Zone C named as Ayeyarwady Cluster and Zone D named as Southern Shan)

Source: https://www.researchgate.net/figure/Map-of-Myanmar-showing-states-and-regions_fig1_339105755

Table 1 Project Boundary Coordinates (GPS Coordinates) for Each Zones

Zone	Branch	Latitude	Longitude
A	Wundwin	21.092466	96.028351
	Amarapura	21.904469	96.049607
	Sintgaing	21.733308	96.105994
	Myittha	21.426768	96.128980
	Kyaukse	21.609832	96.133964
B	Det Khi Na Thi Ri	19.662567	96.094354
	Poke Ba Thi Ri	19.896885	96.190777
	Zay Yar Thi Ri	19.881921	96.263581
	Za Bu Thi Ri	19.759091	96.119149
	Oke Ta Ra Thi Ri	19.824938	96.157235

	Tatkon	20.132374	96.200335
	Pyinmana	19.741836	96.200816
	Lewe	19.634804	96.110763
	Yedashe	19.158894	96.346497
	Taungoo	18.940065	96.434210
	Oaktwin	18.831345	96.410268
	Htantapin	18.842159	96.486168
	Dike-U	17.795513	96.670208
C	Taikkyi	17.317084	95.964703
	Pathein	16.775679	94.738094
	Ngapudaw	16.538368	94.693821
	Kyaunggon	17.100795	95.179919
	Kangyidaunt	16.935092	94.897652
	Pantanaw	16.98388	95.469972
	Nyaungdon	17.044166	95.640771
	Danubyu	17.2582403	95.593304
	Thayarwaddy	17.649774	95.777739
D	Taunggyi	20.789015	97.035903
	Heho	20.722755	96.821774
	Shwe Nyaung	20.763926	96.940138

*** (The exact coordinates of the site will be provided during project validation.)

1.14 Conditions Prior to Project Initiation

Prior to project initiation, rice cultivation in the project area followed traditional continuous flooding practices, where fields remained submerged throughout most of the growing season. These conditions created anaerobic soil environments that promoted the generation of methane (CH_4) through microbial activity. The project's intention was not to artificially increase greenhouse gas emissions but to reduce the existing emissions associated with conventional rice farming systems. The baseline scenario reflects these pre-project conditions and therefore remains consistent with the situation before project initiation (see Section 3.4, "Baseline Scenario"). Moreover, this project does not impact on the environmental conditions, including climate, hydrology, topography, soils, relevant historical conditions, types of vegetation, and ecosystems, as listed below.

Ecosystem Type: The project area consists of lowland irrigated agricultural ecosystems, primarily used for rice cultivation.

Current and Historical Land Use: The land has been continuously used for paddy rice farming for several decades, with records showing rice production since the 1970s. No conversion or clearing of native ecosystems has occurred within the past 10 years.

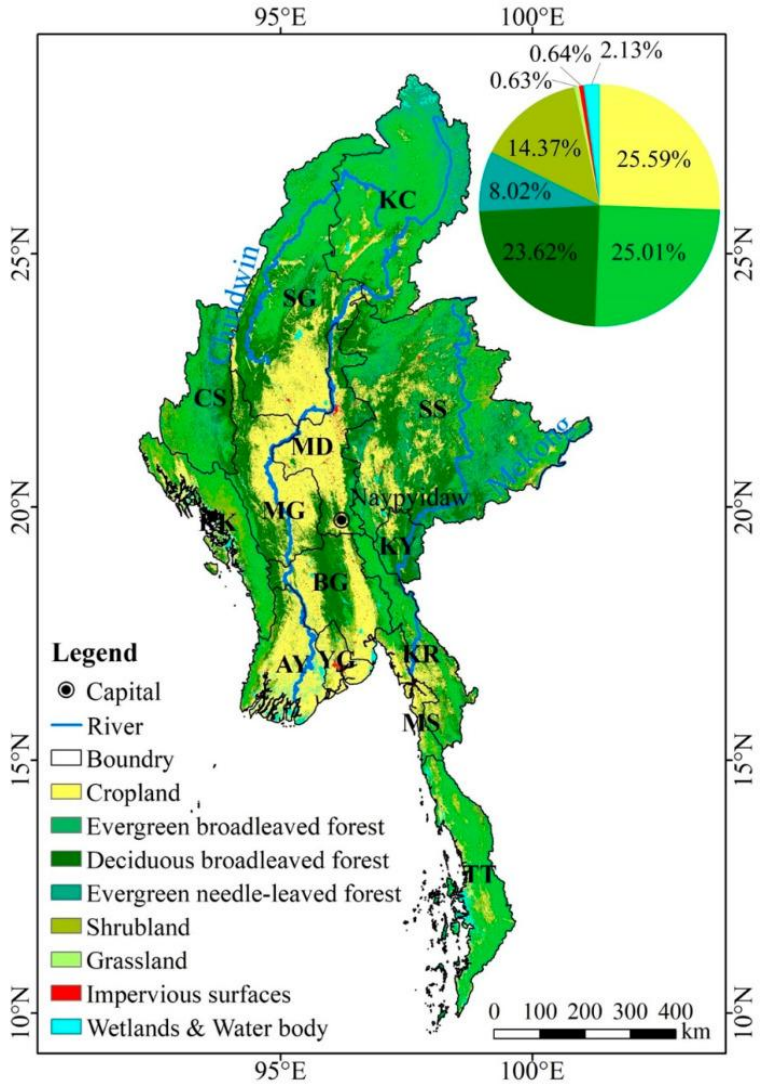

Figure 7: Land use change (LUC) map of Myanmar in 2020 (Wang et al., 2023)

Wang, Y., Hu, Y., Niu, X., Yan, H., & Zhen, L. (2023). Myanmar's Land Cover Change and Its Driving Factors during 2000-2020. *International journal of environmental research and public health*, *20*(3), 2409. https://doi.org/10.3390/ijerph20032409

Environmental Conditions: The project areas in Mandalay, Naypyitaw, Ayeyarwady, and Southern Shan Regions are characterized by a tropical monsoon climate, with annual rainfall ranging from 800 to 2,500 mm. The terrain is predominantly flat to gently sloping, with fertile alluvial soils that are suitable for irrigated rice cultivation. Irrigation systems are supplied by canals and reservoirs, supporting intensive double-cropping in some areas. Vegetation is mainly agricultural, dominated by rice and seasonal crops, with limited patches of grass or trees around field boundaries.

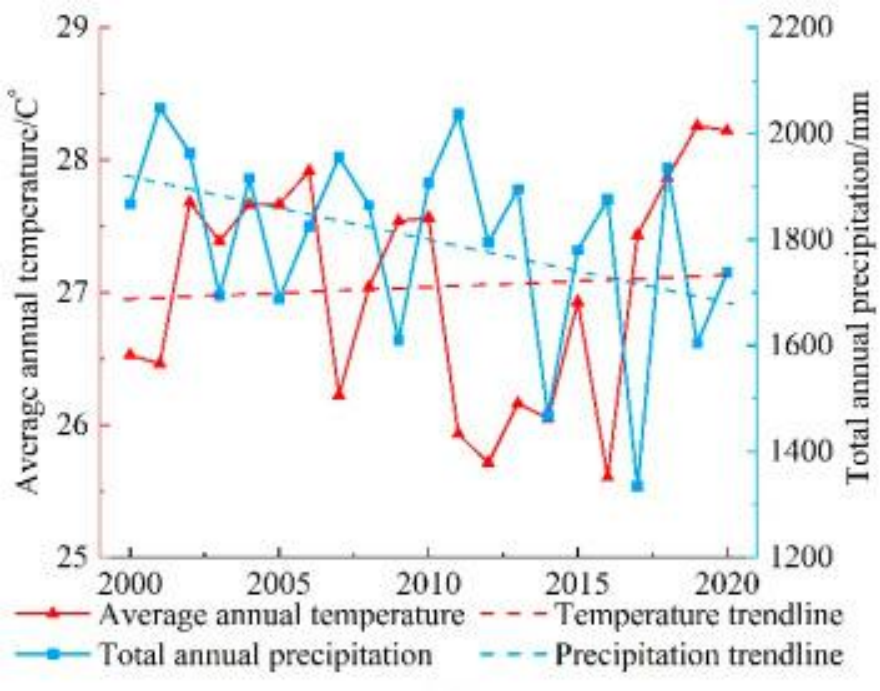

Figure 8: Climate factors status in Myanmar from 2000 t0 2020 (Wang et al., 2022)

Wang, Y., Hu, Y., Niu, X., Yan, H., & Zhen, L. (2022). Myanmar's Land Cover Change and Its Driving Factors during 2000-2020. *International Journal of Environmental Research and Public Health, 20*(3), 2409. https://doi.org/10.3390/ijerph20032409

1.15 Compliance with Laws, Statutes and Other Regulatory Frameworks

The project fully complies with all applicable local, regional, and national laws, statutes, and regulatory frameworks of the Republic of the Union of Myanmar. It operates within the legal framework governing agricultural practices, environmental protection, land use, and climate change mitigation. The relevant laws and regulations applicable to project activities are as follows:

- Environmental Conservation Law (Law no. 9/2012) – ensures that the project activities align with national environmental protection objectives, including the reduction of pollution and greenhouse gas emissions.
- Environmental Conservation Rules (Law no. 50/2014) – guides the project in implementing environmentally sound practices, including sustainable land and water management.
- Farmland Law (Law no. 11/2012) – confirms that participating farmers retain legal ownership of their agricultural lands, as verified through government-issued land use certificates (Form-7).

- Vacant, Fallow and Virgin Lands Management Law (Law no. 24/2018) – ensures that project lands are not located on or converted from vacant, fallow, or virgin lands and remain under active agricultural use.
- Conservation of Water Resources and River Law (Law no. 8/2006) – supports the project's activities related to efficient irrigation and water resource management under Alternate Wetting and Drying (AWD).

All project activities, including water management improvements, residue management, and farmer training, are conducted in compliance with these frameworks. The project also coordinates with relevant government bodies, including the Department of Agriculture (DOA) and the Environmental and Conservation Department (ECD), to ensure adherence to national agricultural and environmental policies.

1.16 Double Counting and Participation under Other GHG Programs

1.16.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

If yes, provide required evidence of no double issuance as outlined by the VCS Standard.

1.16.2 Registration in Other GHG Programs

Has the project registered under any other GHG programs?

☐ Yes ☒ No

If yes, provide the registration number and the date of project inactivity under the other GHG program.

Is the project active under the other program?

☐ Yes ☒ No

Project proponents, or their authorized representative, must attest that the project is no longer active in the other GHG program in the Registration Representation.

1.16.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

If yes, provide the program name(s), reason(s) and date for the rejection, justification of eligibility under the VCS Program, and any other relevant information.

1.17 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.17.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

If yes, provide all required evidence of no double claiming as outlined by the VCS Standard.

1.17.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

If yes, provide all required evidence of no double claiming as outlined by the VCS Standard.

1.17.3 Supply Chain (Scope 3) Emissions

Do the project activities specified in Section 1.12 affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

1.18 Sustainable Development Contributions

The project contributes to multiple Sustainable Development Goals (SDGs) by adopting sustainable agricultural practices and promoting inclusive community engagement. The following summarizes the project's contributions and associated monitoring approaches:

- **SDG 1 (No Poverty)**

The project helps reduce poverty among smallholder farmers by promoting low-cost, sustainable rice practices such as AWD, DSR, and aerobic rice, which lower input costs and increase yields. Farmers also receive a 10% discount on agricultural inputs, such as fertilizers and seeds, further reducing their expenses. Through the FarmPro network, farmers gain

training in sustainable agricultural practices and earn additional income from carbon credits trading, improving livelihoods and economic resilience in rural Myanmar.

- SDG 2 (Zero Hunger)

The project promotes sustainable agriculture by implementing adjusted water management practices, such as AWD, DSR, and aerobic rice cultivation, which are expected to improve crop yields compared to traditional continuous flooding methods. Yield improvements will be monitored through farmer questionnaires and reports submitted via local authorities, ensuring consistent and reliable data collection.

- SDG 3 (Good Health and Well Being)

Baseline data indicate that some farmers continue to practice open burning of crop residues. The project aims to achieve a 100% reduction in open burning among participating farmers. Awareness and training sessions will educate farmers on the health and environmental risks associated with burning and promote the adoption of safe, sustainable residue management practices to enhance local air quality.

- SDG 4 (Quality Education)

The project enhances the essential knowledge and technical capacity for participating farmers, project's employees, and FarmPro officers through structured training sessions on sustainable agriculture and carbon-smart farming. It will track the number of participants, disaggregated by gender, to ensure inclusiveness and equal access to educational opportunities for all farmers and the project's workers.

- SDG 6 (Clean Water and Sanitation)

As described in Section 1.12, the introduction of adjusted water management (AWD, DSR, and aerobic rice) is expected to reduce water use and increase overall efficiency. This directly supports Myanmar's water conservation goals by optimizing the use of limited freshwater resources in rice production.

- SDG 8 (Decent Work and Economic Growth)

The project creates local employment opportunities through field implementation, training, and monitoring activities. It will track 20,000 field labor hours generated from AWD, DSR, and aerobic rice cultivation, disaggregated by type of work (paid, unpaid, permanent, or occasional). This contributes to rural economic growth and improved livelihoods.

- SDG 12 (Responsible Consumption and Production)

At baseline, there were no formal capacity-building programs on sustainable farming or waste management. Through this project, at least 300 individuals, including farmers and

students, will receive training on sustainable consumption, climate change, and environmental stewardship at the Bawni Farm Training Center and demonstration farms, which serve as outdoor classrooms for practical learning.

- **SDG 13 (Climate Action)**

By adopting Alternate Wetting and Drying (AWD), Direct-Seeded Rice (DSR), and Aerobic Rice Cultivation, farmers will significantly reduce methane (CH_4) emissions from rice fields. Training and field support ensure consistent application of these methods, directly contributing to Myanmar's NDC targets under the Paris Agreement.

- **SDG 15 (Life on Land)**

The project promotes sustainable soil management by discouraging open burning and encouraging the use of organic amendments and compost. The number of farmers and total areas adopting these practices will be monitored through training records and field inspections, demonstrating tangible improvements in soil fertility and land restoration.

- **SDG 17 (Partnerships for the Goals)**

The project aims to strengthen local collaboration and international support by forming partnerships with a range of organizations. This indicator will be monitored by recording the number and diversity of organizations, both domestic and international, involved in the project, along with documentation of their specific roles.

Monitoring and Reporting

Sustainable development outcomes will be monitored through project databases, farmer logbooks, training records, and field surveys. Data on water savings, training participation, and methane reduction will be reviewed annually to ensure continuous progress. Reports will be shared with relevant government agencies and stakeholders to demonstrate alignment with Myanmar's national sustainability and climate objectives.

1.19 Additional Information Relevant to the Project

1.19.1 Leakage Management

The project will not introduce any new use of organic amendments, and biomass residues previously used for biochar production will remain excluded from project activities. Throughout implementation, rice yields will be continuously recorded and monitored for each cultivation season to ensure that no yield reduction occurs as a result of project interventions. Therefore, no leakage is expected from project activities. To maintain transparency and ensure the integrity of results, monitoring will specifically address potential leakage risks, including: (1) the introduction of organic amendments sourced from outside the project area that were not

historically applied, (2) any reduction in rice yields, and (3) diversion of biomass residues previously used for bioenergy applications in the baseline scenario.

1.19.2 Commercially Sensitive Information

This project description's public version does not omit any commercially sensitive material. This document contains all of the information pertaining to the establishment of the baseline scenario, the proof of additionality, and the estimating and tracking of GHG emission removals and reductions (including capital and operational expenses).

1.19.3 Further Information

As of right now, there is no new information that could influence project eligibility, GHG emission reductions, or the project's effect estimation. Any new information that becomes available will be incorporated into the draft PDD for verification.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Use the table below to describe the stakeholder identification process. Where the rows do not apply, provide justification in the cell in the table below.

Stakeholder Identification	Stakeholders were identified through a structured and inclusive consultation process involving baseline surveys, community meetings, and coordination with relevant local and regional authorities. The process ensured participation of all stakeholder groups directly or indirectly affected by the project. Identified stakeholders include local rice farmers (project participants), village administrators, representatives of the Department of Agriculture (DOA) and the Irrigation and Water Utilization Management Department (IWUMD), local non-governmental organizations (NGOs), women's associations, and private sector partners such as FarmPro and CPP. Invitations to consultation meetings were extended through formal letters, public announcements, and coordination with village leaders.

Legal or customary tenure/access rights	The project is implemented exclusively on legally registered agricultural lands. Each participating farmer holds a land-use certificate (called "Form-7" in Myanmar) issued under the Farmland Law (2012), confirming lawful ownership and use rights. For farmers who do not yet possess Form-7, the village head compiles a verified list of participants and submits it to the relevant Township Land Records Department and Department of Agriculture for review and approval, ensuring that all participating lands are formally recognized and authorized for agricultural use. The project area does not include indigenous territories, community forests, or lands subject to customary or collective tenure claims. Farmers voluntarily enroll all lands, and no displacement, conversion, or resettlement has occurred within or adjacent to the project boundary.
Stakeholder diversity and changes over time	The stakeholder groups represent a diverse cross-section of Myanmar's agricultural communities, including male and female smallholders, farmer leaders, local authorities, and private sector actors. Socioeconomic diversity is reflected in differences in farm size, income levels, and production capacities across the clusters. The project promotes inclusive participation, with particular emphasis on gender equity and youth involvement. Over time, stakeholder composition may expand as awareness and farmer participation increase through ongoing outreach and training activities.
Expected changes in well-being	Compared to the baseline scenario, stakeholders are expected to experience positive improvements in well-being due to enhanced agricultural productivity, reduced input costs, and increased resilience to climate variability. Farmers benefit from training in sustainable practices, participation in carbon-credit revenue sharing, and a 10% discount on agricultural inputs provided through project partners. Communities are also expected to benefit from improved air quality, reduced residue burning, and strengthened local capacity for sustainable resource management. No adverse social or economic impacts are anticipated.
Location of stakeholders	Stakeholders are located within the principal project clusters situated in Mandalay, Naypyitaw, Ayeyarwady, and Southern Shan Regions of Myanmar. These clusters encompass the primary rice-

	producing zones targeted for implementation. Local government agencies, academic institutions, and project partners are based in regional administrative centers and provide technical support, training, and oversight. No stakeholders outside the defined project area are expected to be negatively affected.
Location of resources	The project utilizes existing agricultural lands and irrigation infrastructure, including canals, drainage systems, and on-farm water management facilities, all of which are under lawful use by participating farmers and managed in coordination with local authorities. No protected areas, community forests, or ecologically sensitive zones fall within or adjacent to the project boundary. All resources are accessed and managed in compliance with national regulations and established local governance frameworks.

2.1.2 Stakeholder Consultation and Ongoing Communication

Use the table below to describe the process for and the outcomes from the stakeholder consultation conducted prior to project initiation.

Date of stakeholder consultation	8-9 November 2024
Stakeholder engagement process	Stakeholder consultations were conducted in a culturally appropriate and inclusive manner across the project's four clusters: Mandalay, Naypyitaw, Ayeyarwady, and Southern Shan. Invitations were issued more than 30 days in advance through village leaders, formal letters, and public announcements, ensuring that all relevant groups were informed and able to attend. Meetings were held in the Myanmar language to ensure accessibility, with special consideration for gender inclusion, encouraging participation from both male and female farmers. The process complied with Verra's AFOLU project guidelines and the Gold Standard Stakeholder Consultation and Engagement Requirements (v2.0). Outcomes and attendance were documented through signed participant lists, photographs, and meeting minutes collected by the FarmPro and Carbon Credit Program coordination teams.
Consultation outcome	Stakeholders expressed broad support and consent for the project's objectives and design. Discussions covered the expected benefits, including improved water management, reduced methane

	emissions, farmer training, and increased crop productivity. Potential risks, such as initial adjustment challenges during technology adoption, were reviewed and deemed minor and manageable. Stakeholders were informed of national environmental and labour regulations, as well as the VCS validation and verification process and the principles of Free, Prior and Informed Consent (FPIC). All participants acknowledged that participation in the project is voluntary and that land ownership remains with the farmers.
Ongoing communication	A system for continuous engagement and feedback has been established to maintain communication with stakeholders throughout implementation. FarmPro extension officers serve as focal points at the township level, supported by a grievance mechanism accessible via telephone, email, or in-person submission at local offices. Project updates and training information are shared through community meetings, village notice boards, and digital QR codes. Annual stakeholder review meetings will be conducted to present progress, collect feedback, and address any emerging issues.
Stakeholder input	All feedback from consultations was recorded and evaluated by the project proponent. Stakeholders provided positive feedback, highlighting environmental and livelihood benefits, and suggested expanding farmer participation and training coverage. Based on this input, the project design was refined to include wider farmer outreach and a 10% discount on agricultural inputs for all participating farmers. No major design changes were necessary, as the project already aligned with community expectations. All inputs and corresponding responses are documented in the Stakeholder Consultation Report (v2.0).

2.1.3 Free Prior and Informed Consent

Use the table below to describe the outcome of the FPIC process as part of the stakeholder consultation process.

Obtaining consent	The FPIC process was conducted in a transparent and participatory manner consistent with Verra's AFOLU requirements. Before implementation, stakeholder consultations were held across the Mandalay, Naypyitaw, and Ayeyarwady clusters to ensure that all farmers, village administrators, and local authorities were fully informed about the project's objectives, scope, and potential

	impacts. All sessions were conducted in the Myanmar language, using visual materials and printed documents to ensure clear understanding among participants. All farmers voluntarily consented to join the project after receiving complete information regarding their rights and responsibilities. The consent process covered two key aspects: • Land ownership and use rights: Each farmer retains full ownership and management rights over their agricultural land. Participation does not alter tenure status. For farmers who do not yet possess Form-7 land-use certificates, the village head compiles the verified participant list and submits it to the relevant Township Land Records Department and Department of Agriculture for endorsement, ensuring that all participating lands are formally recognized. • Carbon credit agreements: Each participating farmer signs a Carbon Rights Agreement transferring the rights to verified emission reductions to Charoen Pokphand Produce Co., Ltd., the project proponent. This establishes transparent benefit-sharing terms and clarifies all obligations related to the issuance of carbon credits. No disputes or conflicts were identified during the FPIC process. Participation is entirely voluntary, and the project has not influenced or exacerbated any pre-existing land or community issues.
Outcome of FPIC	The FPIC process garnered broad community support and secured formal consent from all participating farmers and local authorities. Stakeholders confirmed that the project will be implemented solely on existing agricultural lands and that no land conversion, resettlement, or physical displacement will occur. Participants demonstrated an understanding of the project's objectives, including reducing methane emissions, improving water-use efficiency, and enhancing livelihoods. They also acknowledged additional benefits such as capacity-building programs, local employment opportunities, and a 10 percent discount on agricultural inputs for registered farmers. The FPIC process ensures full compliance with Myanmar's national regulations and Verra's social and environmental safeguards, guaranteeing that: • No land has been encroached upon or converted

	• No individuals or communities have been relocated without consent • No physical or economic displacement has occurred Signed consent forms, attendance records, and meeting documentation are securely maintained by the project proponent and will be available for verification during the validation process.

2.1.4 Grievance Redress Procedure

Use the table below to describe the grievance redress procedures developed to resolve any conflicts which may arise between the project proponent and stakeholders.

Development process	The grievance redress mechanism (GRM) was developed in close consultation with local stakeholders to ensure that any concerns or disputes are handled promptly, transparently, and in a culturally appropriate manner. During the stakeholder consultation meetings held on 8-9 November 2024, all participants were informed of the process for submitting complaints or suggestions. The design follows Verra AFOLU Safeguard Requirements and reflects Myanmar's community-based conflict-resolution practices. The mechanism provides clear procedures for receiving, hearing, and resolving grievances within a reasonable time frame. Stakeholders may submit complaints verbally, in writing, or digitally through local FarmPro offices, village leaders, or designated grievance officers. Each complaint is recorded in a grievance log, acknowledged within seven (7) working days, and resolved within thirty (30) working days through investigation and corrective action. Complex cases may be extended with written justification provided to the complainant. The effectiveness and inclusiveness of the GRM are reviewed annually to ensure accessibility for all stakeholder groups, including women, youth, and vulnerable populations.
Grievance redress procedure	The formal grievance redress procedure includes the following steps: 1. Submission: Stakeholders may submit grievances via phone, email, written letter, or in person at the nearest FarmPro branch office. Contact information is shared during training sessions and displayed on village notice boards.

	2. Acknowledgement: The grievance officer logs each complaint and provides written or verbal acknowledgement within seven (7) working days. 3. Assessment and Resolution: A committee comprising representatives from CPP Myat Min Agro Co., Ltd., FarmPro Myanmar, and local authorities reviews the case, investigates the issue, and proposes a resolution within thirty (30) working days. 4. Feedback and Documentation: The final decision and corrective actions are communicated to the complainant, and all records are maintained in the Grievance Register for transparency. 5. Appeal: If the complainant remains unsatisfied, the case may be escalated to senior project management or referred to relevant government departments for independent mediation. All stakeholders are informed of this procedure through training, printed materials, and QR code access. The mechanism ensures that all grievances are handled respectfully, without discrimination or retaliation, and that community relations remain cooperative throughout project implementation.

2.1.5 Public Comments

Summarize any public comments submitted during the public comment period and any comments received after the public comment period. Demonstrate how due account was taken of all comments received. Include details on when the comments were received, and any updates to the project design or demonstrate the insignificance or irrelevance of comments.

Comments received	Actions taken
Having tractor issue for land preparation and wish to have tractor service.	The project developers recognized that additional activities were essential for farmers to effectively adopt the project's technology. These activities included land preparation, field improvement, and irrigation system enhancements. During the meeting, farmers were informed that FarmPro offers comprehensive services for rice cultivation, covering everything from planting to harvest. This includes training, equipment, machinery, and expert support. The project will address

	these needs, and one of the key benefits for participating farmers will be access to and assistance with these services, ensuring sustainable rice cultivation.
The wells were damaged by the flood, so they need to be redrilled.	The project developers recognized that additional activities were essential for farmers to effectively adopt the project's technology. These activities included land preparation, field improvement, and irrigation system enhancements. During the meeting, farmers were informed that FarmPro offers comprehensive services for rice cultivation, covering everything from planting to harvest. This includes training, equipment, machinery, and expert support. The project will address these needs, and one of the key benefits for participating farmers will be access to and assistance with these services, ensuring sustainable rice cultivation.
Farmers are very happy for the credit system with cash price for selling rice to reduce carbon emissions without burning it.	During the meeting, farmers were informed about the project's mechanism to achieve its goals, including the financing process and the utilization of carbon credits. This issue will also be addressed in the project.

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

Description	Details
Overview	The project proponent, by Carbon Program, Charoen Pokphand Produce Co., Ltd., implemented through its CPP Myat Min Agro Co., Ltd., with the FarmPro team, which has extensive experience in agricultural development and community engagement across Myanmar. The management team possesses a strong technical background in sustainable rice cultivation, carbon project management, and initiatives aimed at reducing GHG emissions.
Experience in Similar Projects	The FarmPro team has implemented multiple sustainable agriculture programs promoting Alternate Wetting and Drying

	(AWD), Direct Seeded Rice (DSR), and Aerobic Rice Cultivation. These programs introduced improved water management practices and improved fertilizer efficiency, directly aligning with the Verra methodology VM0051 (Improved Management in Rice Production Systems).
Community Engagement and Training	FarmPro has organized extensive stakeholder consultations and farmer-training sessions in the four project clusters—Mandalay, Naypyitaw, Ayeyarwady and Southern Shan—covering more than 29,000 hectares. Farmer leaders are selected and trained to act as focal points for peer-to-peer learning, feedback collection, and continuous capacity building within their communities.
Partnerships and Technical Support	To strengthen technical and scientific expertise, the project collaborates with Rajamangala University of Technology Lanna (RMUTL) in Thailand and the Department of Agriculture (DOA) in Myanmar. These partners offer advisory support in agronomy, water management, and data validation for monitoring and verification purposes. External experts are also engaged for digital MRV and GHG quantification training.
Capacity Building and Recruitment Strategy	The project integrates a structured recruitment and training plan for field staff and farmer representatives. Regular workshops build skills in sustainable agriculture, data recording, safety procedures, and gender-inclusive facilitation. Where gaps are identified, qualified consultants are hired to provide targeted capacity enhancement.
Environmental and Risk Management	The management team has conducted comprehensive Risk and Capacity Assessments. Risks related to natural disturbances, climate variation, and stakeholder welfare are continuously monitored, with mitigation measures incorporated into the operational plan.
Governance and Transparency	CPP Myat Min Agro Co., Ltd. maintains a clear governance structure supported by an Internal Control System (ICS) that ensures accountability and adherence to Verra's AFOLU Safeguard principles. The project applies an established Free, Prior, and Informed Consent (FPIC) process and a Grievance Redress Mechanism to protect stakeholder rights and resolve conflicts transparently.

The management team of CPP Myat Min Agro Co., Ltd., through its FarmPro, has demonstrated proven capacity to implement large-scale sustainable rice projects and to manage

environmental and social risks effectively. Its long-standing presence in Myanmar's agricultural sector ensures strong local networks, while partnerships with research institutions and government bodies provide scientific and technical backing. By combining field experience, institutional collaboration, and community participation, the project management ensures robust delivery of emission-reduction outcomes and long-term benefits to both stakeholders and the environment.

2.2.2 Risk Assessment

	Risks identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	Potential exposure of farmers to climate hazards such as droughts, floods, or heat stress during project implementation.	Training sessions on safe work practices and adaptive water management (AWD/DSR/Aerobic Cultivation) are conducted. Early warning communication and seasonal climate advisories are provided through FarmPro field officers.
Risks to stakeholder participation	Limited participation of vulnerable farmers due to lack of awareness or mobility constraints.	Continuous engagement through local farmer leaders ensures inclusion. Regular consultations, mobile communication, and feedback channels (hotline and QR feedback forms) are used to ensure accessibility.
Working conditions	Risk of unsafe field conditions during equipment operation, fertilizer handling, or monitoring activities.	Safety guidelines are integrated into training sessions. PPE (boots, gloves, masks) is provided to staff and participating farmers. Regular supervision ensures adherence to occupational safety standards.
Safety of women and girls	Risk of exclusion of women in training or decision-making processes due to cultural norms.	Gender-inclusive participation policy ensures equal access. Invitations explicitly encourage female participation, and female staff facilitate discussions to promote safe and comfortable environments.

Safety of minority and marginalized groups, including children	Potential marginalization of ethnic minority farmers or child labor risk during planting/harvest seasons.	Farmer contracts explicitly prohibit child labor. Awareness training promotes inclusion of minority communities. Monitoring ensures adherence to labor and inclusion standards.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Improper use or disposal of chemical fertilizers and agricultural waste could cause water or soil contamination.	Farmers are trained on correct fertilizer application rates and non-burn waste management. Promotion of organic alternatives and Integrated Nutrient Management (INM) reduces chemical dependency. Waste is managed via designated covered bins and safe disposal areas.

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

	Risks identified[2]	Mitigation or preventative measure(s) taken
Discrimination	Potential discrimination in recruitment or task assignment based on gender or ethnicity.	All project positions follow a transparent recruitment process based on qualifications and merit. The FarmPro HR policy strictly prohibits discrimination, ensuring equal opportunity and inclusive participation across ethnic and social groups.
Sexual harassment	Risk of inappropriate behavior in mixed-gender work environments during training or field activities.	A zero-tolerance policy on harassment is enforced. Awareness sessions and grievance mechanisms are in place, allowing anonymous reporting. Supervisors are trained to recognize and address misconduct promptly.

[2] The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

Equal pay for equal work	Potential wage disparity between male and female laborers or local contractors.	The project adheres to Myanmar labor law and ILO principles, ensuring equal pay for equal work. Periodic audits are conducted to verify wage fairness among all workers and third-party contractors.
Gender equity in labor and work	Risk of unequal participation or limited leadership roles for women in project implementation.	Women are actively encouraged to take part in decision-making roles as farmer leaders or field officers. Gender mainstreaming is incorporated in all training programs, and participation data are disaggregated by gender.
Forced labor	No risk identified.	All project contracts include voluntary participation clauses. Partner organizations and contractors are required to comply with Verra AFOLU safeguard standards and Myanmar labor regulations.
Child labor	Potential risk during planting or harvesting periods where family labor is customary.	A strict prohibition on child labor is included in all farmer and staff agreements. Awareness campaigns inform communities about legal working age and school attendance. Monitoring visits verify compliance.
Human trafficking	No risk identified.	Project activities are localized and community-based. Workers are hired directly through transparent procedures, with identity verification and contract documentation preventing any form of labor exploitation.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
Recognition of land tenure and customary rights: Potential misunderstanding regarding land-use rights among farmers, particularly in areas with informal or customary land tenure systems.	The project does not alter or transfer land ownership. Participation is voluntary and based on documented consent. Land-use rights are verified through local authorities and village leaders prior to implementation.
Rights of Indigenous Peoples (IPs) and Local Communities (LCs): No risk identified. The project areas are located in established agricultural zones and not within recognized indigenous or tribal territories.	Continuous verification with local administrative offices ensures that project sites do not overlap with indigenous lands. If new communities are identified during project expansion, Free, Prior, and Informed Consent (FPIC) will be conducted before engagement.
Free, Prior, and Informed Consent (FPIC): Risk of inadequate understanding of project activities among participating farmers and community members.	FPIC was conducted during stakeholder consultations, ensuring communities received full information on project objectives, benefits, and grievance mechanisms before participation. All meetings were documented with attendance lists and feedback summaries.
Respect for human rights and non-discrimination: Possible social exclusion of marginalized groups due to local socio-economic hierarchies.	The project adopts Verra's AFOLU safeguard principles and the UN Guiding Principles on Business and Human Rights. Community engagement is inclusive, ensuring participation of women, youth, and vulnerable groups.
Access to grievance mechanisms: Risk of delayed response to grievances or lack of awareness of complaint procedures.	A grievance redress procedure is established and communicated during consultations. Complaints can be submitted via local FarmPro officers, telephone, or QR code feedback forms, with response time targeted within 14 days.
Cultural heritage and traditional practices: No risk identified. Project activities do not affect local cultural or spiritual sites.	Site screening was conducted prior to implementation. Should any cultural or sacred areas be identified, project boundaries will be adjusted in consultation with local communities.

2.3.3 Indigenous Peoples and Cultural Heritage

Use the table below to identify and summarize any risks related to recognizing, respecting, and promoting the protection of the rights of IPs, LCs, and customary rights holders, and to preserving and protecting cultural heritage as part of project activities. Describe the commensurate mitigation or preventative measure(s) in place to prevent or mitigate the risk. Where no risk is identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.

Risks identified	Mitigation(s) or preventative measure taken
No risk identified. The project area is situated within existing agricultural zones and does not overlap with any recognized Indigenous territories or customary lands.	The project boundary was screened through local administrative records and community consultations. Should Indigenous or customary communities be identified in future expansion areas, Free, Prior, and Informed Consent (FPIC) will be obtained before any implementation.
No risk identified. Project activities occur only in active rice fields with no known cultural or spiritual heritage sites.	Site verification and stakeholder consultations confirmed no overlap with cultural or sacred areas. If any are identified, the project will adjust activities to ensure full protection and respect for cultural heritage.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified. The project operates solely on existing agricultural lands managed by registered farmers under recognized land-use arrangements. The project does not alter or transfer land ownership, and all activities are implemented voluntarily with the consent of landholders.	Land tenure verification was conducted through local authorities and community consultations before project initiation. All land-use agreements are documented and signed by both farmers and FarmPro representatives to ensure full transparency and consent.
No risk identified. The project does not restrict community access to farmland, water, or natural resources, and all	Participation in the project is voluntary and based on clear, written agreements. In the event of any land-related disputes or claims,

participating farmers retain full control over their land and production decisions.	the established grievance redress mechanism will be activated to ensure timely resolution in consultation with relevant local authorities.

2.3.5 Benefit Sharing

Process used to design the benefit sharing plan	The benefit-sharing plan was designed through a participatory consultation process involving farmer representatives, village leaders, and local authorities in each project cluster (Mandalay, Naypyitaw, Ayeyarwady, and Southern Shan). During the stakeholder consultation meetings, participants discussed proposed benefit structures, focusing on fair distribution of revenues from carbon credit sales and community development funds. Feedback collected during consultations was incorporated into the final benefit-sharing framework to ensure transparency and equity.
Summary of the benefit sharing plan	The benefit-sharing plan ensures that participating farmers directly receive financial and non-financial benefits generated through carbon credit revenues. Benefits are distributed proportionally based on verified land area and participation in project activities. In addition to monetary benefits, non-financial benefits include capacity-building programs, agricultural inputs, and community support initiatives. The plan was reviewed and validated by local farmer committees, and all participants were informed of their entitlements and responsibilities.
Approval and dissemination of benefit sharing plan	The final benefit-sharing plan was formally endorsed by FarmPro team and witnessed by other farmer members. The agreement was disseminated in both Myanmar and English languages to ensure accessibility and comprehension. Copies of the agreement are stored with FarmPro offices in each project cluster and made available upon request. Community awareness sessions were conducted to ensure that all stakeholders understand the terms and procedures of benefit allocation.

2.4 Ecosystem Health

	Risks identified	Mitigation or preventative measure(s) taken
Impacts on biodiversity and ecosystems	No risk identified. The project operates exclusively in existing cultivated rice fields and does not convert natural habitats or forested areas.	Field boundaries were verified through satellite imagery and local land-use maps to ensure no encroachment on natural ecosystems. The project promotes sustainable agricultural practices such as no-burning, integrated pest management, and reduced chemical fertilizer use, which enhance biodiversity in surrounding landscapes.
Soil degradation and soil erosion	Potential risk of soil nutrient loss due to improper water or fertilizer management.	The project applies Alternate Wetting and Drying (AWD) and Direct-Seeded Rice (DSR) techniques that improve soil structure, reduce compaction, and enhance organic matter retention. Regular training is provided to farmers on proper fertilizer application and residue management to maintain soil fertility and reduce erosion.
Water consumption and stress	Risk of increased irrigation water demand during prolonged dry periods.	AWD technology is implemented to optimize water use, reducing irrigation demand by approximately 25–30%. Farmers are trained in field-level water monitoring and scheduling, ensuring sustainable water consumption without affecting neighboring users or ecosystems.

2.4.1 Rare, Threatened, and Endangered Species

Is the project located in or adjacent to habitats for rare, threatened, or endangered species?

☐ Yes ☒ No

If yes, list such species and habitats in the table below and provide evidence that the project will not adversely impact these areas.

Species and habitat	*Demonstrate that the project will not adversely impact habitats and areas needed for habitat connectivity for rare, threatened, or endangered species.*
Areas needed for habitat connectivity	*Demonstrate that the project will not adversely impact areas needed for habitat connectivity.*

Use the table below to identify and summarize any risks related to habitats for rare, threatened, and endangered species, and for areas for habitat connectivity. Describe the commensurate mitigation or preventative measure(s) in place to prevent or mitigate the risk. Where no risk is identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species Areas for habitat connectivity		

2.4.2 Introduction of Species

N/A

2.4.3 Ecosystem Conversion

ARR, ALM, WRC or ACoGS projects shall provide evidence that the project area was not cleared or drained of existing natural ecosystems, unless such clearing took place at least 10 years prior, or the dominant land cover was invasive.

Use the table below to identify and summarize any risks related to ecosystem conversion. Describe the commensurate mitigation or preventative measure(s) in place to prevent or mitigate the risk. Where no risk is identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion		

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

Provide the title, reference and version number of the following information for the methodology(s), tools, and modules applied to the project (where applicable).

Type methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	VM0051	VM0051 Improved Management in Paddy Rice Production Systems	v1.0
Tool	VT0001	Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities	v3.0

3.2 Applicability of Methodology

The following table demonstrates and justifies how the project activity meets each of the applicability conditions of the methodology VM0051, v1.0.

VM0051	1. Projects implement improved irrigation management practices that result in CH_4 emission reductions from methanogenesis (i.e., "main project activities"), including at least one of the following: a) Single drainage and/or a shortened period of flooded condition b) Alternate wetting and drying (AWD) Use of direct seeded rice (DSR)	The project aims to shift irrigation practices on project plots from continuous flooding to intermittent flooding during the cultivation season by using Alternate Wetting and Drying (AWD), Direct Seeded Rice (DSR), and aerobic rice cultivation techniques, incorporating multiple drainage events to reduce CH_4 emission from methanogenesis

	2. Projects introducing or implementing quantitative adjustments (e.g., decrease in fertilizer application rate or fossil fuel use) exceed 5% of the pre-existing value calculated as the average value over the historical lookback period, developed for the baseline schedule of activities	The project is introducing quantitative adjustments in the volume of irrigated water, flooding duration, and water level through the implementation of water management practices compared to the historical lookback period.
VT0001	a) AFOLU activities the same or similar to the proposed project activity on the land within the proposed project boundary performed with or without being registered as the VCS AFOLU project shall not lead to violation of any applicable law even if the law is not enforced	The implementation of the project complies with local regulations and faces no prohibitions in accordance with Section 1.15.
	b) The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario. Project proponent(s) proposing new baseline methodologies shall ensure consistency between the determination of a baseline scenario and the determination of additionality of a project activity.	The project's baseline scenario is defined in alignment with the procedures outlined in the VM0051 methodology.

3.3 Project Boundary

According to the methods used, the rice fields when the water regime and cultivation technique are altered are included in the geographic border. All fields that alter the cultivation technique

within the framework of the project activity are included in the project boundary's spatial extent.

Source		Gas	Included?	Justification/Explanation
Baseline	Rice cultivation with Continuous flooding	CO_2	Yes	Resulted from fuel use as per the Methodology guidance
		CH_4	Yes	Major source of emissions
		N_2O	Yes	Resulted from fertilizer use as per the Methodology guidance
Project	Rice cultivation with Amended irrigation practices	CO_2	Yes	Resulted from fuel use as per the Methodology guidance
		CH_4	Yes	Major source of emissions
		N_2O	Yes	Resulted from fertilizer use as per the Methodology guidance

Provide a diagram or map of the project boundary, showing clearly the physical locations of the various installations or management activities taking place as part of the project activity based on the description provided in Section 1.12 (Description of the Project Activity) above.

For non-AFOLU projects, include in the diagram the equipment, systems and flows of mass and energy. Include the GHG emission sources identified in the project boundary.

For AFOLU projects, include in the diagram or map the locations of where the various measures are taking place, any reference areas and leakage belts.

3.4 Baseline Scenario

***** This section will be completed in draft PDD for validation.**

Identify and justify the baseline scenario, in accordance with the procedure set out in the applied methodology and any relevant tools. Where the procedure in the applied methodology involves several steps, describe how each step is applied and clearly document the outcome of each step.

Explain and justify key assumptions, rationale, and methodological choices. Provide all relevant references.

3.5 Additionality

***** This section will be completed in draft PDD for validation.**

Demonstrate and assess the additionality of the project, in accordance with the applied methodology and any relevant tools, taking into account the following additionality methods:

3.5.1 Regulatory Surplus

Is the project located in an UNFCCC Annex 1 or Non-Annex 1 country?

☐ Annex 1 country ☒ Non-Annex 1 country

Are the project activities mandated by any law, statute, or other regulatory framework?

☐ Yes ☒ No

If the project is located inside a Non-Annex 1 country and the project activities are mandated by a law, statute, or other regulatory framework, are such laws, statutes, or regulatory frameworks systematically enforced?

☐ Yes ☐ No

If no, describe which mandated laws, statutes, or other regulatory frameworks require project activities and provide evidence of systematic non-enforcement to demonstrate regulatory surplus.

3.5.2 Additionality Methods

***** This section will be completed in draft PDD for validation.**

- *Where a project method is applied to demonstrate additionality and the procedure in the applied methodology or tool involves several steps, describe how each step is applied and clearly document the outcome of each step. Indicate clearly the method selected to demonstrate additionality (e.g., investment analysis or barrier analysis in the case of the CDM Tool for the demonstration and assessment of additionality). Where barrier analysis, or equivalent, is used to demonstrate additionality, only include the most relevant barriers. Justify the credibility of the barriers with key facts and/or assumptions and the rationale. Provide all relevant references.*
- *Where a performance method is applied to demonstrate additionality, demonstrate that performance can be achieved to a level at least equivalent to the performance benchmark metric.*
- *Where the methodology applies an activity method for the demonstration of additionality, include a statement that notes that conformance with the positive list is demonstrated in the Applicability of Methodology section above.*
- *Provide sufficient information (including all relevant data and parameters, with sources) so that a reader can reproduce the additionality analysis and obtain the same results.*

3.6 Methodology Deviations

***** This section will be completed in draft PDD for validation.**

Describe and justify any methodology deviations applied, including any previous deviations. Include evidence to demonstrate the following:

- *The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.*
- *The deviation relates only to the criteria and procedures for monitoring or measurement and does not relate to any other part of the methodology.*

4 QUANTIFICATION OF ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

***** This section will be completed in draft PDD for validation.**

4.1 Baseline Emissions

Describe the procedure for quantification of baseline emissions and/or carbon stock changes in accordance with the applied methodology. Baseline emissions may be negative where carbon stock increases (sinks) exceed baseline emissions. Specify the reductions and removals separately where the applied methodology provides procedures and equations to do so. Include all relevant equations here and provide sufficient information to allow the reader to reproduce the calculations. Explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values). Include all calculations in the emission reduction and removal calculation spreadsheet.

4.2 Project Emissions

Describe the procedure for quantification of project emissions and/or carbon stock changes in accordance with the applied methodology. Project emissions may be negative where carbon stock increases (sinks) exceed project emissions. Specify the reductions and removals separately where the applied methodology provides procedures and equations to do so. Include all relevant equations here and provide sufficient information to allow the reader to reproduce the calculations. Explain and justify all relevant methodological choices (e.g., with

respect to selection of emission factors and default values). Include all calculations in the emission reduction and removal calculation spreadsheet.

4.3 Leakage Emissions

Describe the procedure for quantification of leakage emissions in accordance with the applied methodology. Specify the reductions and removals separately where the applied methodology provides procedures and equations to do so. Include all relevant equations here and provide sufficient information to allow the reader to reproduce the calculations. Explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values). Include all calculations in the emission reduction and removal calculation spreadsheet.

4.4 Estimated GHG Emission Reductions and Carbon Dioxide Removals

Describe the procedure for the quantification of estimated GHG emission reductions (reductions) and carbon dioxide removals (removals). Include all relevant equations.

For data and parameters monitored, use the estimated data/parameter values provided in Section 5.2 below. Document how each equation is applied in a manner that enables the reader to reproduce the calculations. Provide calculations for all key equations to allow the reader to reproduce the annual calculations for estimated reductions or removals. Specify the reductions and removals separately where the applied methodology provides procedures and equations to do so. Include all of the above in the emission reduction and removal calculation spreadsheet.

Complete the tables below by vintage period (calendar year). Note that the baseline or project emissions subtotals may be negative where sinks exceed emissions. Only specify the estimated VCUs for reductions and removals separately where the applied methodology provides procedures and equations to do so.

For projects that are not required to assess permanence risk, complete the table below for the project crediting period:

Vintage period	Estimated baseline emissions (tCO_2e)	Estimated project emissions (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated reduction VCUs (tCO_2e)	Estimated removal VCUs (tCO_2e)	Estimated total VCUs (tCO_2e)
DD-MMM-YYYY to 31-Dec-YYYY	*Example:* 50,000	*Example:* 20,000	*Example:* 10,000	*Example:* 10,000	*Example:* 10,000	*Example:* 20,000

01-Jan-YYYY to 31-Dec-YYYY						
01-Jan-YYYY to DD-MMM-YYYY						
Total						

For projects required to assess permanence risk:

i) Provide the requested information using the table below:

State the non-permanence risk rating (%)	*Example: 20%*
Has the non-permanence risk report been attached as either an appendix or a separate document?	☐ Yes ☐ No
For ARR and IFM projects with harvesting, state, in tCO2e, the Long-term Average (LTA). Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☐ No If no, provide justification.
State, in tCO_2e, the expected total GHG benefit to date. Is the number of GHG credits issued below the LTA?	☐ Yes ☐ No If no, provide justification.

ii) Complete the table below for the project crediting period. Note that the buffer pool allocation is split proportionally between the estimated reductions and removals. (For example, if a project is estimated to achieve 20,000 tCO_2e removals and 80,000 tCO_2e reductions and has a buffer contribution of 20%, or 20,000, the estimated removal VCUs would be 16,000 and reduction VCUs would be 64,000).

Vintage period	Estimated baseline emissions (tCO_2e)	Estimated project emissions (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated buffer pool allocation (tCO_2e)	Estimated reduction VCUs (tCO_2e)	Estimated removal VCUs (tCO_2e)	Estimated total VCU issuance (tCO_2e)
DD-MMM-YYYY to 31-Dec-YYYY	*Example: 50,000*	*Example: 20,000*	*Example: 10,000*	*Example: 4,000*	*Example: 8,000*	*Example: 8,000*	*Example: 16,000*

01-Jan-YYYY to 31-Dec-YYYY 01-Jan-YYYY to DD-MMM-YYYY	
Total	

5 MONITORING

***** This section will be completed in draft PDD for validation.**

5.1 Data and Parameters Available at Validation

Data / Parameter	$FFC_{bsl,i,j,t}$
Data unit	liters
Description	Consumption of fossil fuel type j for quantification unit i in year t in the baseline scenario
Source of data	See Box 1.
Value applied	See Box 1.
Justification of choice of data or description of measurement methods and procedures applied	Fossil fuel consumption may be monitored or the amount of fossil fuel combusted may be estimated using fuel efficiency (e.g., L/100 km, L/km, L/hour) of the vehicle and the appropriate unit of use for the selected fuel efficiency (e.g., km driven where efficiency is given in L/100 km).
Purpose of data	Calculation of baseline and project emissions
Comments	Fuel efficiency may be obtained from peer-reviewed studies or the most recent version of the IPCC guidelines (Volume 2, Chapter 3).

Data / Parameter	$M_{limestone,bsl,i,t}$ $M_{dolomite,bsl,i,t}$
Data unit	tonnes

Description	Amount of calcitic limestone (CaCO3) applied to quantification unit i in year t in the baseline scenario Amount of dolomite ($CaMg(CO_3)_2$) applied to quantification unit i in year t in the baseline scenario
Source of data	See Box 1.
Value applied	N/A
Justification of choice of data or description of measurement methods and procedures applied	All limestone and dolomite applied to soils should be included, even the proportion applied in mixture with fertilizers. Use of oxides (e.g., CaO) and hydroxides of lime for soil liming need not be included in the calculations to estimate CO_2 emissions from liming. As these materials do not contain inorganic carbon, CO_2 is not released following soil application; it is only produced during material manufacture.
Purpose of data	Calculation of baseline and project emissions
Comments	For all equations, the subscript bsl must be substituted by wp where the relevant values are being quantified for the monitoring period.

Data / Parameter	GWP_{CH_4}
Data unit	$CO_2e/t\ CH_4$
Description	Global warming potential for methane
Source of data	Most recent version of the VCS Standard
Value applied	See the most recent version of the VCS Standard.
Justification of choice of data or description of measurement methods and procedures applied	The VCS Standard provides the GWPs that must be used under the VCS Program.
Purpose of data	Calculation of baseline and project emissions
Comments	None

Data / Parameter	$EF_{bsl,c}$
Data unit	kg CH_4/ha/day

Description	Baseline methane emission factor for continuously flooded fields without organic amendments
Source of data	Most recent version of IPCC guidelines (Table 5.11, Chapter 5, Volume4)
Value applied	Value depends on the country in which the project area is located. See Table 5.11 in data source.
Justification of choice of data or description of measurement methods and procedures applied	See "Source of data".
Purpose of data	Calculation of baseline and project emissions
Comments	Default values are to be considered at a country-specific, regional, and global level, listed here in descending order of preference.

Data / Parameter	
Data unit	*Indicate the unit of measure*
Description	*Provide a brief description of the data/parameter*
Source of data	*Indicate the source(s) of data*
Value applied	*Provide the value applied*
Justification of choice of data or description of measurement methods and procedures applied	*Justify the choice of data source, providing references where applicable. Where values are based on measurement, include a description of the measurement methods and procedures applied (e.g., what standards or protocols have been followed), indicate the responsible person/entity that undertook the measurement, the date of the measurement and the measurement results. More detailed information may be provided in an appendix.*
Purpose of data	*Indicate one of the following:* • *Determination of baseline scenario (AFOLU projects only)* • *Calculation of baseline emissions* • *Calculation of project emissions* • *Calculation of leakage*
Comments	*Provide any additional comments*

5.2 Data and Parameters Monitored

Data / Parameter	Ai
Data unit	ha
Description	Area of quantification unit i
Source of data	Measurement of each quantification unit within the project area
Description of measurement methods and procedures to be applied	The quantification unit area is measured prior to verification.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	29,202
Monitoring equipment	Identify equipment used to monitor the data/parameter including type, accuracy class, and serial number of equipment, as appropriate.
QA/QC procedures to be applied	Delineation of the quantification unit area may be determined using a combination of geographic information system (GIS) coverages, ground survey data, remote imagery (satellite or aerial photographs), and other appropriate data. Any imagery or GIS datasets used must be geo-registered referencing corner points, landmarks, or other intersection points.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	Other units used to determine area (e.g., acres) must be converted to hectares.

Data / Parameter	$EF_{CO2,j}$
Data unit	t CO_2e/liter
Description	Emission factor for combustion of fossil fuel type j
Source of data	Most recent version of IPCC guidelines (Table 3.3.1 in Chapter 3, Volume 2)
Description of measurement methods and procedures to be applied	From IPCC (2019): • gasoline $EFCO_2$ = 0.002810 t CO_2e per liter • diesel $EFCO_2$ = 0.002886 t CO_2e per liter

Frequency of monitoring/recording	Source of data for emission factor must be monitored every five years and must be updated when more accurate data applicable to the project conditions become available.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	See "Source of data."
Purpose of data	Calculation of baseline and project emissions
Calculation method	*N/A*
Comments	Assumes four-stroke gasoline engine for gasoline combustion and default values for energy content of 44.3 GJ/t and 43.0 GJ/t for gasoline and diesel respectively (IPCC 2006).

Data / Parameter	EFlimestone EFdolomite
Data unit	t C/t limestone t C/t dolomite
Description	Emission factor for calcitic limestone (CaCO3) Emission factor for dolomite (CaMg(CO3)2)
Source of data	Most recent version of IPCC guidelines (Section 11.3, Chapter 11,Volume 4)
Description of measurement methods and procedures to be applied	IPCC (2019) values: • EFlimestone = 0.12 t C/t limestone • EFdolomite = 0.13 t C/t dolomite
Frequency of monitoring/recording	Source of data for emission factor must be monitored every five years and must be updated when more accurate data applicable to the project conditions become available.
Value applied	
Monitoring equipment	

QA/QC procedures to be applied	See "Source of data" and the guidance in Section 8.1.
Purpose of data	Indicate one of the following: • Calculation of baseline emissions • Calculation of project emissions • Calculation of leakage
Calculation method	N/A
Comments	None

Data / Parameter	$f(CH_{4_{soil_{bsl,i,t}}})$
Data unit	t CH_4/ha
Description	Modeled methane emissions from soil methanogenesis for quantification unit i in year t in the baseline scenario, calculated by modeling soil methane fluxes over the preceding year
Source of data	Modeled in the project area
Description of measurement methods and procedures to be applied	Modeled CH_4 emissions from soil methanogenesis in the baseline scenario are determined according to the following equation: $\mathrm{f}(CH_{4_{soil_{bsl,i,t}}}) = fCH4soil(Val\ A_{bsl,i,t}, Val\ B_{bsl,i,t}, \ldots.)$ Where: $\mathrm{f}(CH_{4_{soil_{bsl,i,t}}})$ = Modeled methane emissions from soil methanogenesis for quantification unit i in year t in the baseline scenario (t CH4/ha) $fCH4soil$ = Model predicting methane emissions from soil methanogenesis $Val\ A_{bsl,i,t}$ = Value of model input variable A for quantification unit i at time t in the baseline scenario (units unspecified) $Val\ B_{bsl,i,t}$ = Value of model input variable B for quantification unit i at time t in the baseline scenario (units unspecified)

	See Box 1 for sources of data and description of measurement methods and procedures to be applied to obtain values for model input variables.
Frequency of monitoring/recording	Monitoring must be conducted annually or prior to each verification event where verification occurs more frequently.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	See VMD0053.
Purpose of data	Indicate one of the following: • Calculation of baseline emissions • Calculation of project emissions • Calculation of leakage
Calculation method	Methods are specific to model used.
Comments	For all equations, the subscript bsl must be substituted by wp where the relevant values are being quantified for the monitoring period.

Data / Parameter	ROAa
Data unit	t/ha
Description	Application rate of organic amendment type a, in dry weight of straw and fresh weight for others
Source of data	Management records from project area
Description of measurement methods and procedures to be applied	See Box 1. In the baseline scenario, 5 t/ha of straw is assumed. This should be adjusted where material changes in biomass management occur in the project, such as increased biomass to soils.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	See Box 1.

Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	Lt
Data unit	days
Description	Cultivation period of rice in year t
Source of data	Farm management records In circumstances where climatic conditions result in a monitoring period's cultivation period lasting longer than the baseline cultivation period, project proponents may set the baseline cultivation period duration as the actual number of days in the cultivation period during the monitoring period.
Description of measurement methods and procedures to be applied	See Box 1. Each cultivation period commences at land preparation and continues until whichever comes later, harvest or post-season drainage.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	See Box 1.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	CFr
Data unit	fraction
Description	Combustion factor for rice straw expressed as proportion of pre-fire fuel biomass consumed
Source of data	Most recent version of IPCC guidelines (Table 2.6 in Chapter 2, Volume 4)
Description of measurement methods and procedures to be applied	IPCC (2019) value: 0.80
Frequency of monitoring/recording	Source of data for combustion factor must be monitored every five years and must be updated when more accurate data applicable to the project conditions become available.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	EFCH4
Data unit	g CH4/kg dry matter burned
Description	Methane emission factor for the burning of rice straw
Source of data	Most recent version of IPCC guidelines (Table 2.5 in Chapter 2, Volume4)
Description of measurement methods and procedures to be applied	IPCC (2019) value: 2.7

Frequency of monitoring/recording	Source of data for the emission factor must be monitored every five years and must be updated when more accurate data applicable to the project conditions become available.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	f(N2O_soilbsl,i,t)
Data unit	t N2O/ha
Description	Modeled nitrous oxide emissions from soil for quantification unit i in year t in the baseline scenario, calculated by modeling soil fluxes of nitrogen forms over the preceding year
Source of data	Modeled in the project area
Description of measurement methods and procedures to be applied	Modeled N2O emissions from soil in the baseline scenario are determined according to the following equation: $$\mathrm{f}\left(\mathrm{N2O}_{\mathrm{soil}_{\mathrm{bsl,i,t}}}\right) = \mathrm{fN2O}_{\mathrm{soil}}\left(\mathrm{Val\ A}_{\mathrm{bsl,i,t}}, \mathrm{Val\ B}_{\mathrm{bsl,i,t,\ldots}}\right)$$ Where: $\mathrm{f}\left(\mathrm{N2O}_{\mathrm{soil}_{\mathrm{bsl,i,t}}}\right)$ = Modeled nitrous oxide emissions from soil for quantification unit i in year t in the baseline scenario (t N2O/ha) $\mathrm{fN2O}_{\mathrm{soil}}$ = Model predicting nitrous oxide emissions from soils $\mathrm{Val\ A}_{\mathrm{bsl,i,t}}$ = Value of model input variable A for quantification unit i at time t in the baseline scenario (units unspecified)

	$Val\ B_{bsl,i,t}$ = Value of model input variable B for quantification unit i at time t in the baseline scenario (units unspecified) See Box 1 for sources of data and description of measurement methods and procedures to be applied to obtain values for model input variables.
Frequency of monitoring/recording	Monitoring must be conducted annually or prior to each verification event where verification occurs more frequently.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	See VMD0053.
Purpose of data	• Calculation of baseline and project emissions (QA1)
Calculation method	N/A
Comments	For all equations, the subscript bsl must be substituted by wp where the relevant values are being quantified for the monitoring period.

Data / Parameter	EFN
Data unit	(t N2O-N/t N applied)
Description	Emission factor for nitrous oxide emissions from nitrogen additions from synthetic fertilizers, organic amendments, and crop residues in flooded rice
Source of data	See Section 8.2.6 under Quantification Approach 3. Where no information source is available that is applicable to the project conditions, project proponents may derive emission factors following the guidance in Chapter 11, Section 11.2.1.1 and Chapter 2, Section2.2.2 in Volume 4 of IPCC (2019). Where project proponents justify a lack of sufficient activity data and project-specific information sources, an appropriate disaggregated Tier 1 value from Table 11.1, Chapter 11, Volume 4 in IPCC (2019) may be selected.
Description of measurement methods	See “Source of data.”

and procedures to be applied	
Frequency of monitoring/recording	Source of data for emission factor must be monitored every five years and must be updated when more accurate data applicable to the project conditions become available.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	SF
Data unit	dimensionless
Description	Synthetic nitrogen fertilizer type
Source of data	Determined in quantification unit i
Description of measurement methods and procedures to be applied	See Box 1. Synthetic fertilizer type is determined prior to verification.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	NCSF
Data unit	t N/t fertilizer
Description	Nitrogen content of synthetic fertilizer type SF
Source of data	See Box 1.
Description of measurement methods and procedures to be applied	N content is determined following the fertilizer manufacturer's specifications.
Frequency of monitoring/recording	Monitoring must be conducted each season. Parameter value must be updated when synthetic fertilizer product is changed or when new manufacturer specifications are issued.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	See "Source of data" and Quantification Approach 3 in Section 8.2.6.
Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	Mbsl,SF,i,t
Data unit	tonnes
Description	Mass of nitrogen-containing synthetic fertilizer type SF applied to quantification unit i in year t in the baseline scenario
Source of data	Management records from project area
Description of measurement methods and procedures to be applied	See Box 1.

Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	For all equations, the subscript bsl must be substituted by wp where the relevant values are being quantified for the monitoring period.

Data / Parameter	OF
Data unit	dimensionless
Description	Organic nitrogen fertilizer type
Source of data	Determined in quantification unit i
Description of measurement methods and procedures to be applied	See Box 1. Organic fertilizer type is determined prior to verification.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	NCOF
Data unit	t N/t fertilizer
Description	Nitrogen content of organic fertilizer type OF
Source of data	Peer-reviewed published data may be used. For example, default manure N content may be selected from Edmonds et al. (2003) cited in US EPA (2021) or other regionally appropriate sources such as the European Environment Agency.
Description of measurement methods and procedures to be applied	See "Source of data."
Frequency of monitoring/recording	
Value applied	
Monitoring equipment	Monitoring must be conducted each season. Parameter value must be updated when organic fertilizer product is changed or as new default values become available in peer-reviewed publications or databases.
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	Mbsl,OF,i,t
Data unit	Data unit
Description	Mass of nitrogen-containing organic fertilizer type OF applied to quantification unit i in year t in the baseline scenario
Source of data	Management records from project area

Description of measurement methods and procedures to be applied	See Box 1.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	For all equations, the subscript bsl must be substituted by wp where the relevant values are being quantified for the monitoring period.

Data / Parameter	CR
Data unit	dimensionless
Description	Crop residue type
Source of data	Determined in quantification unit i
Description of measurement methods and procedures to be applied	See Box 1. Crop residue type is determined prior to verification.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.

Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	Mbsl,CR,i,t
Data unit	tonnes
Description	Total dry mass of crop residue returned to soils (aboveground and belowground) before rice season in quantification unit i in year t in the baseline scenario
Source of data	Management records from project area
Description of measurement methods and procedures to be applied	See Box 1.
Frequency of monitoring/recording	Monitoring must be conducted each season.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	For all equations, the subscript bsl must be substituted by wp where the relevant values are being quantified for the monitoring period.

Data / Parameter	EFN2O

Data unit	g N2O/kg dry matter burned
Description	Nitrous oxide emission factor for the burning of rice straw
Source of data	Where no information source is available that is applicable to the project conditions, project proponents may define value from the most recent version of IPCC guidelines in Table 2.5 in Chapter 2, Volume 4 of IPCC (2019).
Description of measurement methods and procedures to be applied	IPCC (2019) default value: 0.07
Frequency of monitoring/recording	Source of data for the emission factor must be monitored every fiveyears and must be updated when more accurate data applicable to the project conditions become available.
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	Guidance provided in IPCC (2003) Section 5.5 or IPCC (2000) Chapter8 must be applied.
Purpose of data	• Calculation of baseline and project emissions
Calculation method	N/A
Comments	None

Data / Parameter	
Data unit	
Description	
Source of data	
Description of measurement methods and procedures to be applied	

Frequency of monitoring/recording	
Value applied	
Monitoring equipment	
QA/QC procedures to be applied	
Purpose of data	•
Calculation method	N/A
Comments	None

5.3 Monitoring Plan

Item	Description
Overview	The monitoring plan describes the process and schedule for obtaining, recording, compiling, and analyzing all parameters defined in Section 5.2. The plan ensures consistent, transparent, and verifiable tracking of GHG emission reductions achieved through improved rice-water management practices (AWD, DSR, and Aerobic Rice Cultivation) implemented in the project area. Monitoring follows VM0051 v1.0 (Section 9) and VCS Standard v4.7.
Methods for Measurement and Recording	• Data on irrigation regime, water level, fertilizer use, residue management, and yield are collected through farmer logbooks, field observation sheets, and digital monitoring (DMRV) apps. • Flux measurements of CH_4 follow the selected quantification approach (QA3 – default emission factor method with regional adjustments for Southeast Asia). • Field officers record data for each quantification unit per cropping season.

	• Calibration of monitoring equipment (e.g., digital water-level sensors, flow meters) is performed annually per manufacturer specifications and recorded in a calibration log.
Data Storage and Aggregation	• All data are digitally stored in a central database managed by Charoen Pokphand Produce Co., Ltd. and hard copies of farmer logbooks, field records are in FarmPro each branch. • Hard copies of farmer logbooks and field records are retained for cross-verification for ≥ 10 years after issuance. • Data from each cluster (Mandalay, Naypyitaw, Ayeyarwady, Southern Shan) are aggregated by the Project Monitoring Team (PMT) before analysis. • Data integrity checks and completeness reviews are performed prior to GHG calculation and reporting.

Organizational Structure and Responsibilities

Project Proponent (Charoen Pokphand Produce Co., Ltd.)	Overall supervision of monitoring activities, data management and report submission to Verra Registry.
FarmPro Field Officers / Cluster Coordinators	Supervise data collection in each cluster, train farmers on measurement and record-keeping, and validate data entry.
Farmer Participants	Record irrigation events, fertilizer use, and harvest information in logbooks according to project guidelines.
Project Monitoring Team (PMT)	• Conduct QA/QC logbook, documents, all data reviews, check errors, and corrective actions. • Spot verifications; compile and analysed data for annual monitoring reports. • Annual training on data collection and QA/QC procedures is provided to all enumerators and coordinators.
Internal Auditing	• Annual internal audits by PMT ensure accuracy and completeness of data.

	• Cross-checks between farmer records are performed every season. • 10% of plots are randomly re-measured for validation.
External Auditor (VVB)	Verify data accuracy and methodological compliance during each verification cycle.
Handling of Non-Conformances When data gaps or inconsistencies are identified:	• The issue is entered into a Non-Conformance Register. • Root-cause analysis and corrective actions (e.g., re-training or data replacement using conservative assumptions) are applied. • Revised data are approved by the Project Manager prior to submission. • All actions are recorded for audit traceability.
Sampling Approach and Frequency	• Sampling design follows VM0051 Appendix 1 and CDM Guideline (EB67 A06). • Stratified random sampling is applied by cluster, soil type, and irrigation system. • Target precision: ±10% at 95% confidence level. • Sampling frame: registered rice fields under each cluster. • Frequency: per cropping season (monsoon and dry). • 10% duplicate measurements for quality control and cross-checks by cluster supervisors.
GHG Data Collection and Management Flow	Line Diagram: Farmers → Field Officers → Cluster Coordinator → PMT Database → Data Validation (QA/QC) → Emission Calculations → Monitoring Report → VVB Verification → Verra Registry

Reporting Schedule

Annual (Oct – Sep)	Field data collection and aggregation by cluster coordinators and PMT.
Oct – Dec each year	Internal audit and preparation of annual Monitoring Report (MR).
Every 5 years	Third-party verification by VVB and submission to Verra Registry.
Record Retention	All monitoring records, digital files, calibration logs, and audit reports will be retained for at least two crediting periods (≥ 14 years) in accordance with VCS Program requirements.
Summary	The monitoring system ensures that data collection, storage, and analysis are transparent, verifiable, and consistent with VM0051 requirements. The robust QA/QC framework and trained personnel guarantee that the project's GHG emission reductions are measurable and credible for issuance of Verified Carbon Units (VCUs).

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

*** This section will be completed in draft PDD for validation.

Use the table below to describe the commercially sensitive information included in the project description to be excluded in the public version.

APPENDIX 2: REFERENCE

1. *GHG mitigation in rice - alternate wetting and drying. (n.d.). https://ghgmitigation.irri.org/mitigation-technologies/alternate-wetting-and-drying2. World Bank. 2022. Spearheading Vietnam's Green Agricultural Transformation: Moving to Low Carbon Rice.*

2. *Map of Myanmar showing states and regions Source:https://www.researchgate.net/figure/Map-of-Myanmar-showing-states-and-regions_fig1_339105755*

3. *Wang, Y., Hu, Y., Niu, X., Yan, H., & Zhen, L. (2023). Myanmar's Land Cover Change and Its Driving Factors during 2000-2020. International journal of environmental research and public health, 20(3), 2409. https://doi.org/10.3390/ijerph20032409*

4. *Wang, Y., Hu, Y., Niu, X., Yan, H., & Zhen, L. (2022). Myanmar's Land Cover Change and Its Driving Factors during 2000- 2020. International Journal of Environmental Research and Public Health, 20(3), 2409. https://doi.org/10.3390/ijerph20032409*

5. *Environmental Conservation Law (Law no. 9/2012) – ensures that the project activities align with national environmental protection objectives, including the reduction of pollution and greenhouse gas emissions.*

6. *Environmental Conservation Rules (Law no. 50/2014) – guides the project in implementing environmentally sound practices, including sustainable land and water management.*

7. *Farmland Law (Law no. 11/2012) – confirms that participating farmers retain legal ownership of their agricultural lands, as verified through government-issued land use certificates (Form-7)*