MY_JUTAWANJEWELS_Q1/24

Document prepared by Carbon Vault Sdn Bhd

Name of the project	MY_JUTAWANJEWELS_Q1/24
Project holder	Carbon Vault Sdn Bhd
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Project participants	**Project Activity 1**: Jutawan Jewels Sdn Bhd **Project Activity 2**: Jutawan Jewels Sdn Bhd **Project Holder** : Carbon Vault Sdn Bhd
Version	*Version 2.0*
Date	21/02/2024
Project type	**Project Activity 1** : Jutawan Jewels Sdn Bhd - Activities in the AFOLU sector, other than REDD+ **Project Activity 2** : Jutawan Jewels Sdn Bhd

	- Activities in the AFOLU sector, other than REDD+
Grouped project	Yes, this project articulates the classification of the MY_JUTAWANJEWELS_Q1/24 as a grouped initiative, diverging from the model of independent GHG project. Despite its grouped nature, the project maintains a well-defined and transparent scope, a robust and conservative baseline, and a rigorous and dependable sampling strategy.
Applied Methodology	**Project Activity 1**: BCR0001: Quantification of GHG Removal - ARR, Version 4.0 AR-ACM0003. A/R Large-scale Consolidated Methodology. Afforestation and reforestation of lands except wetlands. Version 3.0 **Project Activity 2**BCR0001: Quantification of GHG Removal - ARR, Version 4.0 AR-ACM0003. A/R Large-scale Consolidated Methodology. Afforestation and reforestation of lands except wetlands. Version 3.0

Project location (City, Region, Country)	**Project Activity 1** : Jutawan Jewels Sdn Bhd - Pulau Kamiri, Kuala Kangsar, Perak, Malaysia - 4°58'25.62"N 101°14'5.32"E - 264 km from central office in Bangsar, Kuala Lumpur **Project Activity 2**: Jutawan Jewels Sdn Bhd - Pulau Kamiri, Kuala Kangsar, Perak, Malaysia - 4°58'25.62"N 101°14'5.32"E - 264 km from central office in Bangsar, Kuala Lumpur
Starting date	Project Activity 1 : Jutawan Jewels Sdn Bhd - 2021 Project Activity 2 : Jutawan Jewels Sdn Bhd - December 2018
Quantification period of GHG emissions reduction	Project Activity 1 : Jutawan Jewels Sdn Bhd - 20 years Project Activity 2 : Jutawan Jewels Sdn Bhd - 20 years

Estimated total and average annual GHG emission reduction amount	Total estimated of GHG emissions reductions (during the quantification period): - Project Activity 1 : 268,233 tCO2e - Project Activity 2 : 5,1767.26 tCO2e Estimated average annual amount of GHG emission reductions: - Project Activity 1 : 13,615.92 tCO2e/year - Project Activity 2 : 2,639.58 tCO2e/year
Sustainable Development Goals	**SDG 8** : Decent Work and Economic Growth – Projects contribute to economic growth and employment opportunities. **SDG 13** : Climate Action – Projects contribute to climate change mitigation and enhancing carbon sequestration. **SDG 15** : Life on Land – Projects contribute to protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation. **SDG 17** : Partnerships for the Goals – Projects collaborate among stakeholders for successful forest conservation and sustainable management.
Special category, related to co-benefits	Biodiversity Conservation & Community Benefit

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1 Project type and eligibility

1.1 Scope in the BCR Standard

The scope of the BCR Standard is limited to:	
The following greenhouse gases, included in the Kyoto Protocol: Carbon Dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O).	*X*
GHG projects using a methodology developed or approved by BioCarbon Registry, applicable to GHG removal activities and REDD+ activities (AFOLU Sector).	*X*
Quantifiable GHG emission reductions and/or removals generated by the implementation of GHG removal activities and/or REDD+ activities (AFOLU Sector).	*X*
GHG projects using a methodology developed or approved by BioCarbon Registry, applicable to activities in the energy, transportation and waste sectors.	
Quantifiable GHG emission reductions generated by the implementation of activities in the energy, transportation and waste sectors.	

The MY_JUTAWAN JEWELS_01/24 project complies with the BCR0001 standard by closely following the approved methodology of the BioCarbon Registry, which guarantees the elimination of greenhouse emissions. By adopting BCR0001, we not only guarantee the ecological integrity of our project, but also improve its environmental reputation and trustworthiness within the carbon credit business.

Adhering to BCR0001 demonstrates a dedication to environmental accountability, with a focus on safeguarding ecosystems and biodiversity. This program is being acknowledged in the carbon market and environmental sectors for its commitment to sustainable and eco-friendly methods. Conforming to a

recognized standard increases the environmental worth of the carbon credits produced, highlighting the project's beneficial influence on the globe.

Furthermore, BCR0001 compliance extends beyond profit-oriented incentives, prioritising the authentic conservation of the environment. It enhances the project's attractiveness to a wide array of stakeholders who prioritise sustainability and environmental welfare. By adhering to this criterion, the project gains appeal among socially conscious investors, promoting a shared dedication to conserving the environment. The project's focus on environmental responsibility guarantees a significant contribution to a sustainable and ecologically balanced future.

1.2 Project Type

Activities in the AFOLU sector, other than REDD+	*X*
REDD+ Activities	
Activities in the energy sector	
Activities in the transportation sector	
Activities related to Handling and disposing of waste	

1.3 Project scale

Based on the provided information and evaluation according to the AR-ACM0003 methodologies, the project scale for MY_JUTAWANJEWELS_Q1/24, involving the eucalyptus and durian plantation area in Kuala Kangsar, Perak, is justified as a large-scale project.

1. **Net anthropogenic GHG removals by sinks exceed the limit**

According to the AR-ACM0003 methodologies, a project may be classified as small-scale if its annual net anthropogenic greenhouse gas (GHG) removals by sinks are less than 16,000 tons of CO_2. Hence, the project's overall CO_2 emissions are lower than this cutoff. Project Activity 2 generates 2639.58 tons of CO_2 annually, compared to 13615.92 tons produced by Project Activity 1. With 16,255.5 tons CO_2 emitted annually from both activities combined, the project scale does not exceed the threshold for a small-scale project.

2. Involvement of Low-Income Communities Criterion

The AR-ACM0003 methodologies additionally stipulate that project activities must be carried out or executed by low-income communities and individuals, as determined by the host party. Nevertheless, the project pertains to a reputable corporation rather than disadvantaged communities. Therefore, it fails to satisfy the specified requirements for small-scale projects.

Given these assessments:

- The project scale, based on the net anthropogenic GHG removals by sinks criterion, meets the defined threshold for a small-scale project.
- The involvement of a well-established corporation instead of low-income communities solidifies that the project does not meet the criteria for a small-scale endeavour.

Therefore, the project scale for MY_JUTAWAN JEWELS_01/24 cannot be considered small scale. It would likely fall into a larger-scale category, necessitating different considerations and evaluations for its implementation and potential mitigation strategies. Further analysis and planning would be required to address the environmental impact and ensure sustainable practices within the scope of this project.

2 General description of the project

Project Activity 1:

Before our project's inception, the area in Pulau Kamiri, Kuala Kangsar, Perak, Malaysia, boasted a dense forest covering 645.50 hectares. Situated at coordinates 4°58'25.62"N , 101°14'5.32"E and approximately 264 kilometres away from Bangsar, Kuala Lumpur, this agroforestry primarily served as a eucalyptus forest plantation. This area underwent a series of carefully orchestrated project activities aimed at optimizing its utilization. This particular parcel of land, characterized by a diverse array of tree species, was identified for transformation to meet the growing demand for fibreboard.

A notable feature of our project is the well-maintained plantation road, with semi easy accessibility throughout the expansive site. Despite the convenience of the main roads, the plantation is also characterised by its challenging terrain, including steep and hazardous hill paths, which add a layer of complexity to its operations.

Following around the project's boundaries are diverse compounds that contribute to its multifaceted nature: a community area, a durian orchard, a rest house for plantation workers, a weighing scale area, and the 640 hectares eucalyptus cultivation Each element plays a crucial role in the project's ecosystem, from providing essential services and amenities to the workers to ensuring the seamless integration of agricultural activities with the local environment, community and animals habitats.

Project activity 1 is not just a plantation; it's a testament to innovative agricultural practices, environmental stewardship, and community integration. With its comprehensive approach to sustainability, this project stands as a beacon of progress in the region, aiming to set new benchmarks for efficiency, sustainability, and social responsibility in the industry.

This infrastructure not only enhances operational efficiency but also prioritises safety for all stakeholders involved, reflecting our dedication to sustainable practices and responsible management.

Project Activity 2:

Before our project's inception, the area in Pulau Kamiri, Kuala Kangsar, Perak, Malaysia, boasted a dense forest covering 161.87 hectares. Situated at coordinates 4°58'25.62"N , 101°14'5.32"E and approximately 264 kilometres away from Bangsar, Kuala Lumpur, this agroforestry primarily served as a durian plantation as this area underwent a series of carefully orchestrated project activities aimed at optimising its utilization. This particular parcel of land, characterized by a diverse array of tree species, was identified for transformation to meet the growing demand for fibreboard.

A notable feature of our project is the well-maintained plantation road, with semi easy accessibility throughout the expansive site. Despite the convenience of the main roads, the plantation is also characterised by its challenging terrain, including steep and hazardous hill paths, which add a layer of complexity to its operations.

Following around the project's boundaries are diverse compounds that contribute to its multifaceted nature: a community area, a durian orchard, a rest house for plantation workers, a weighing scale area, and the 161.87 hectares durian cultivation which is divided into 10 blocks. Each element plays a crucial role in the project's ecosystem, from providing essential services and amenities to the workers to ensuring the seamless integration of agricultural activities with the local environment, community and animal habitats.

Project activity 2 is not just a plantation; it's a testament to innovative agricultural practices, environmental stewardship, and community integration. With its comprehensive approach to sustainability, this project stands as a beacon of progress in the region, aiming to set new benchmarks for efficiency, sustainability, and social responsibility in the industry.

This infrastructure not only enhances operational efficiency but also prioritises safety for all stakeholders involved, reflecting our dedication to sustainable practices and responsible management.

The project activities within the Jutawan Jewels plantation are strategically designed to achieve significant greenhouse gas (GHG) emission reductions.

1. **Carbon Sequestration through Growth:**

The primary mechanism for reducing carbon emissions is the development and growth of Eucalyptus. Eucalyptus trees are known for their rapid growth and ability to absorb carbon dioxide from the atmosphere during photosynthesis. As they grow, they store carbon in their biomass and in the soil. eucalyptus trees can play a role in carbon sequestration, they are not a standalone solution to climate change. They should be integrated into comprehensive strategies that address emissions reduction, ecosystem protection, and sustainable land management.

2. **Avoidance of Deforestation:**

The project effectively mitigates the emission of stored carbon in existing ecosystems by prioritising sustainable eucalyptus farming methods and preventing deforestation. Adopting sustainable harvesting practices, such as selective logging or clear-cutting with planned reforestation, can help maintain forest cover while allowing for economic use of eucalyptus resources. It can also enhance biodiversity and ecosystem resilience, reducing the pressure on eucalyptus monocultures and lowering the risk of deforestation.

3. **Efficient Management Practices:**

Adopting optimal strategies in plantation management, such as choosing the suitable sites for eucalyptus cultivation based on soil quality, climate condition and water availability. Other than that, conducting periodic thinning and pruning operations, and enhancing the harvesting and utilization for eucalyptus can achieve sustainable outcomes that balance economic, social, and environmental considerations. Regular monitoring, adaptive management, and continuous improvement are essential components of successful plantation management strategies.

The MY_JUTAWANJEWELS_Q1/24 project, located in the vibrant region of Kuala Kangsar, is committed to mitigating greenhouse gas (GHG) emissions through carbon sequestration while also promoting environmental, social, and economic sustainability. Its activities are tailored to conserve biodiversity and deliver tangible benefits to local communities.

1. **Biodiversity Conservation**

These are the key project activities focused on biodiversity conservation, it involves habitat preservation, genetic diversity conservation, sustainable land management practices, and addressing specific challenges associated with each species. Collaboration among governments, conservation organisations, researchers, and local communities is crucial for implementing effective conservation strategies. Overall, the aim for biodiversity conservation of Project Activity 1 and Project Activity 2 is to ensure the long-term survival and sustainability of these species and their associated ecosystems.

2. **Community Benefit**

The MY_JUTAWANJEWELS_Q1/24 project extends its focus beyond environmental conservation to benefit local communities. Its project activities generate employment opportunities by offering training and jobs in reforestation-related tasks such as tree planting, maintenance, and monitoring. Additionally, sustainable forest management practices enhance community livelihoods by fostering eco-tourism, promoting non-timber forest products, and encouraging sustainable use of forest resources. Moreover, the project emphasises community engagement and awareness-building through educational programs that empower communities to actively engage in sustainable land management practices and recognize the vital role forests play in climate change mitigation and environmental protection.

Through a holistic approach that balances environmental conservation with socioeconomic development, the MY_JUTAWANJEWELS_Q1/24 project strives to make a positive and lasting impact on both the environment and local communities in the Kuala Kangsar region.

The project activities significantly contribute to the attainment of many Sustainable Development Goals (SDGs), specifically emphasising **SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 17 (Partnerships for the Goals).**

1. **SDG 8: Decent Work and Economic Growth**

Agroforestry can be complementary to reforestation and afforestation efforts, and can create employment opportunities, particularly in rural areas. Activities such as sustainable logging, forest management, and tree planting require a workforce, providing jobs for local communities. This aligns with SDG 8's focus on promoting full and productive employment. Furthermore, reforestation frequently incorporates sustainable forestry practices, which promotes responsible forest resource management. Sustainable forest management helps to ensure the long-term availability of timber and non-timber forest products, which promotes economic growth while also protecting ecosystems.

2. **SDG 13: Climate Action:**

The project makes a substantial contribution to Sustainable Development Goal 13 by actively reducing the impact of climate change. The project's use of sustainable plantation production practices, carbon sequestration, and emissions reduction strategies is in line with the objective of mitigating climate change and its consequences. The project demonstrates a dedication to climate resilience through the implementation of strategies such as preventing deforestation, improving waste management efficiency, and incorporating renewable energy sources.

3. **SDG 15: Life on Land:**

The focus of our initiative is on terrestrial ecosystems and biodiversity, in alignment with SDG 15. The initiative helps to the preservation of terrestrial habitats and the development of sustainable land use by implementing sustainable land management methods, minimising deforestation, and encouraging biodiversity conservation within the plantation area. This

commitment aligns with the overarching objective of ceasing the decline in biodiversity and preserving the integrity of ecosystems.

4. **SDG 17: Partnerships for the Goals:**

The initiative actively fosters partnerships and collaboration, in accordance with Sustainable Development Goal 17 (SDG 17). The initiative demonstrates the significance of collaborations in attaining sustainable development by engaging local communities, collaborating with stakeholders, and following global standards like the BioCarbon Registry. Collaboration guarantees a more thorough and all-encompassing approach to tackling the environmental and social issues linked to plantation cultivation.

Essentially, the project's actions directly contribute to SDG 13 by reducing the impact of climate change, SDG 15 by encouraging sustainable land use and protecting biodiversity, and SDG 17 by promoting partnerships and collaborations to achieve sustainable development goals together. The utilisation of a multi-dimensional strategy displays a dedication to comprehensively tackling worldwide difficulties and actively contributing to the overarching objective of sustainable development.

Estimated average annual amount of GHG emission reductions:

Project Activity 1 : 13,615.92 tCO2e/year

Project Activity 2 : 2,639.58 tCO2e/year

Total estimated of GHG emissions reductions (during the quantification period):

Project Activity 1 : (11,573.53 x 2 years) +(13,615.92 x 18 years) = 268,233 tCO2e

Project Activity 2 : (971.48 x 2 years) +(1,279.66 x 18 years) = 51,767.26 tCO2e

2.1 GHG project name

Throughout the entire documentation and registration process, this GHG project will be referred to as "MY_JUTAWANJEWELS_Q1/24".

2.2 Objectives

A complete set of goals that are in line with the suggested activities and anticipated outcomes in terms of greenhouse gas (GHG) mitigation are the aim of the MY_JUTAWANJEWELS_Q1/24. These goals are made to guarantee local communities' well-being, tackle environmental sustainability, and help mitigate the effects of climate change.

This GHG project within a carbon credit framework aims to actively combat climate change by engaging in activities that result in measured and verifiable reductions in greenhouse gas emissions.

Objectives:

1. **Mitigate Climate Change**

   To contribute to reducing climate change by reducing or offsetting emissions of greenhouse gases, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). This aligns with international agreements and frameworks, including the Paris Agreement, which aims to limit global temperature increases.

2. **Assessment of Carbon Sequestration Impact**

   To quantify and verify the actual carbon sequestration impact of the project through the preservation of the forest reserve and plantation. This objective aims to provide a clear and accurate measurement of the project's contribution to carbon offsetting. It entails evaluating the effectiveness of Eucalyptus plantation conservation in project activity 1 and Durian plantation in project activity 2 for capturing and storing atmospheric carbon dioxide and effectively balancing the carbon footprint.

3. **Promote Sustainable Land Use Practices**

   To promote and ensure that land use practices, such as Eucalyptus Plantation management plans and Durian plantation management, are consistent with international sustainability standards. This goal highlights the significance of responsible and sustainable land use. It additionally assures that the project not only reduces carbon emissions, but also actively promotes biodiversity conservation, soil health, and ecosystem resilience.

4. **Community Engagement and Socio-economic Impact Assessment**

   To assess the level of community engagement and evaluate the socio-economic impact of the project within the local community. Beyond environmental considerations, this objective recognizes the social dimension of sustainability. It involves evaluating the extent to which the project creates local employment opportunities, fosters economic resilience, and engages with the community in promoting environmental awareness and sustainable practices.

5. **Biodiversity Conservation and Habitat Protection**

   To conserve biodiversity by putting policies into place that protect and enhance the plantation's natural ecosystem and by using water and soil conservation measures to reduce erosion and preserve the availability of water. This includes preserving indigenous plants and animals, creating wildlife corridors, and including protection zones to decrease ecological disruptions.

6. **Align with Sustainable Goal Development (SDGs)**

   To align with the sustainable development goals, promote a holistic and integrated approach to sustainable development that incorporates concerns related to the environment, society, and economy into the planning and implementation phases. Both projects have the potential to

maximise the beneficial impact on the environment, society, and the economy while adhering to the SDGs' principles of sustainable development.

2.3 Project activities

All the project activities in the MY_JUTAWANJEWELS_Q1/24 projects aim to reduce greenhouse gas (GHG) emissions by increasing the Eucalyptus tree's abilities to absorb and store CO2. The project activities result in GHG emission reductions, highlighting the technologies and strategies involved, which field supervisors conducted an initial survey:

1. **Site selection and planning:**

   The initial survey helps assess the suitability of potential Eucalyptus plantation sites. It considers factors such as soil quality, climate conditions, and topography to ensure that the chosen location is conducive to the growth of selected tree species. This helps optimise carbon sequestration and overall project success.

2. **Identification of tree species & high-impact areas:**

   Choose tree species that are well-suited to the local climate and soil conditions, with a preference for fast-growing, long-lived species that keep large amounts of carbon. These aid in identifying areas with the best potential for carbon sequestration, ensuring that the project focuses on planting trees where they can make the most contribution to reducing greenhouse gas emissions.

3. **Biodiversity and ecological considerations:**

   A detailed first survey includes evaluations of local biodiversity and ecological conditions. This knowledge is critical for selecting tree species that are well-adapted to the ecosystem while limiting detrimental effects on local flora and fauna. It adds to the overall sustainability of the reforestation project.

4. **Identification of risk assessment:**

   The survey enables the identification and assessment of potential risks and problems that may have an impact on the project's success. This includes elements such as the existence of invasive species, disease susceptibility, and sensitivity to severe weather occurrences. Mitigation methods can then be incorporated into the project timeline.

5. **Community Engagement and Stakeholder Involvement:**

   Engaging with local communities and stakeholders during the initial survey helps build relationships and gather valuable insights. Understanding local perspectives, needs, and concerns ensures that the project aligns with the community's goals and contributes to sustainable development.

6. **Legal and Regulatory Compliance:**

   The initial survey helps identify and navigate legal and regulatory requirements related to land use and reforestation. Complying with local laws and regulations is essential for obtaining necessary permits and ensuring the project's long-term viability.

The initial survey is an essential milestone in the carbon offset project lifecycle. It provides critical data and insights that improve the reforestation initiative's strategy, implementation, and success, thereby improving the project's potential to effectively reduce greenhouse gas emissions.

2.4 Project location

Project Activity 1 : Jutawan Jewels Sdn Bhd

The project is strategically situated in Malaysia, specifically within the state of Perak Darul Ridzuan in the northern part of the peninsula. The plantation, located at Pulau Kamiri, Kuala Kangsar, Perak, Perak, is accessible vi4-by-4

vehicles. This project site has coordinates 4°58'25.62"N 101°14'5.32" and the distance from our central office which is located in Bangsar, Kuala Lumpur to the plantation is approximately 264 kilometres. The site's geographical coordinates are 2°23'15.0"N 103°27'54.0"E. The site can be accessed by 4x4 vehicles.

Project Activity 2 : Jutawan Jewels Sdn Bhd

The project is strategically situated in Malaysia, specifically within the state of Perak Darul Ridzuan in the northern part of the peninsula. The plantation, located at Pulau Kamiri, Kuala Kangsar, Perak, Perak, is accessible vi4-by-4 vehicles. This project site has coordinates 4°58'25.62"N 101°14'5.32" and the distance from our central office which is located in Bangsar, Kuala Lumpur to the plantation is approximately 264 kilometres. The site's geographical coordinates are 2°23'15.0"N 103°27'54.0"E. The site can be accessed by 4x4 vehicles.

2.5 Additional information about the GHG Project

N/A

3 Quantification of GHG emissions reduction

3.1 Quantification methodology

Both Project Activity 1 and 2 adhere to the same methodology which is:

Title of the Methodology:BCR0001: Quantification of GHG Removal - Afforestation, Reforestation & Revegetation, Version 4.0

Reference of the Methodology: CDM Methodology, AR-ACM0003. A/R Large-scale Consolidated Methodology. Afforestation and reforestation of lands except wetlands. (Version 3.0)

3.1.1 Applicability conditions of the methodology

In the MY_JUTAWANJEWELS_Q1/24 project, the selected methodology aligns seamlessly with the project's singular focus on agricultural practices within a Eucalyptus plantation. By following the criteria and procedures of the Clean Development Mechanism (CDM) under the Kyoto Protocol, the project aims to reduce greenhouse gas (GHG) emissions through sustainable management of eucalyptus and durian cultivation.

Project Activity 1 : Eucalyptus Plantation

No	Applicability Criteria	Applicability to the Project
The project uses the **BCR0001 Quantification of GHG Removal - ARR, Version 4.0** to estimate the net greenhouse gas removals by sinks from the establishment of the eucalyptus plantation. The following conditions apply:		
1	The areas in the project boundary shall not correspond to the forest category, nor natural vegetation different to a forest, at the beginning of project activities and not five years before the project start date.	Not Applicable. Even though eucalyptus plantations do not belong to natural vegetation cover, nor to the forest category, the project activity began years from the project start date, in 2021, and is still ongoing.
2	The areas in the project boundary do not fall in the wetland category.	Applicable. The eucalyptus plantation within the project boundary does not exhibit the permanent water saturation and unique ecological characteristics of wetlands, and therefore are not classified as wetlands.

3	The areas in the project boundary do not contain organic soils.	Applicable. The absence of organic soils within the project boundary of a eucalyptus plantation may result from a combination of land preparation, soil type, management practices, and historical land use factors that have influenced soil composition and suitability for rubber cultivation.
4	Carbon stocks in soil organic matter, litter, and deadwood decrease or remain stable, in the absence of project activities, that is, relative to the baseline scenario.	Applicable. The project contributes to long-term viability and potential augmentation of the carbon storage by preventing land-use changes from the environment that might deplete or maintain carbon stocks, aligning with the methodology's focus on activities that remove greenhouse gases.
5	Flood irrigation is not used.	Applicable. Flood irrigation is not used in eucalyptus plantations to maintain ideal soil moisture levels, conserve water resources, minimize soil erosion, and promote uniform growth and yield of eucalyptus plants.
6	The effects of drainage are negligible, so GHG emissions, other than CO_2, can be omitted.	Applicable. Eucalyptus plantations and durian plantations are not drained. Therefore, GHG emissions/removals from these practices are not estimated.

7	Soil disturbances due to project activities are carried out following appropriate soil conservation practices and have not been repeated for less than 20 years.	Applicable. Soil disturbance in eucalyptus plantation is used to facilitate land preparation, soil aeration, nutrient management, and pest/disease management through proper sustainable soil management practices, minimising negative impacts on soil health and environmental quality while promoting long-term productivity and resilience of eucalyptus plantations.

Project Activity 2 : Durian Plantation

No	Applicability Criteria	Applicability to the Project
The project uses the **BCR0001 Quantification of GHG Removal - ARR, Version 4.0** to estimate the net greenhouse gas removals by sinks from the establishment of the Durian plantation. The following conditions apply:		
1	The areas in the project boundary shall not correspond to the forest category, nor natural vegetation different to a forest, at the beginning of project activities and not five years before the project start date.	Not Applicable. Even though durian plantations do not belong to natural vegetation cover, nor to the forest category, the project activity began 5 years from the project start date, in 2012, and is still ongoing.
2	The areas in the project boundary do not fall in the wetland category.	Applicable. The durian plantation within the project boundary does not exhibit the permanent water saturation and unique ecological characteristics of wetlands, and therefore are not classified as wetlands.

3	The areas in the project boundary do not contain organic soils.	Applicable. The absence of organic soils within the project boundary of a Durian plantation may result from a combination of land preparation, soil type, management practices, and historical land use factors that have influenced soil composition and suitability for Durian cultivation.
4	Carbon stocks in soil organic matter, litter, and deadwood decrease or remain stable, in the absence of project activities, that is, relative to the baseline scenario.	Applicable. The project contributes to long-term viability and potential augmentation of the carbon storage by preventing land-use changes from the environment that might deplete or maintain carbon stocks, aligning with the methodology's focus on activities that remove greenhouse gases.
5	Flood irrigation is not used.	Applicable. Flood irrigation is not used in Durian plantations to maintain ideal soil moisture levels, conserve water resources, minimize soil erosion, and promote uniform growth and yield of durian trees.
6	The effects of drainage are negligible, so GHG emissions, other than CO_2, can be omitted.	Applicable. Durian plantations and forests are not drained. Therefore, GHG emissions/removals from these practices are not estimated.

7	Soil disturbances due to project activities are carried out following appropriate soil conservation practices and have not been repeated for less than 20 years.	Applicable. Soil disturbance in durian plantations is used to facilitate land preparation, soil aeration, nutrient management, and pest/disease management through proper sustainable soil management practices, minimizing negative impacts on soil health and environmental quality while promoting long-term productivity and resilience of durian plantations.

By complying to the main conditions indicated in BCR0001, both projects ensure that GHG emission reductions are quantified accurately and appropriately. The methodology's applicability is supported by Project Activity 1 and Activity 2's common commitment to sustainable management practices and environmental conservation.

3.1.2 Methodology deviations (if applicable)

There are no deviations from the selected methodology.

3.2 Project boundaries, sources and GHGs

In the MY_JUTAWANJEWELS_Q1/24 carbon offset initiative project, project boundaries refer to the specific limits or constraints that define the scope and extent of the project.

The project delimitation for the **Project Activity 1** is as follows:

This project is under Jutawan Jewels Sdn Bhd and has been given a use permit issued by the Perak State Forestry Department (JSFD) under Chapter 4 of Part IV National Forestry Act 1984 (NFA) (Amend.1993).

- The project covers a total area of 645.50 hectares allocated for **Eucalyptus plantations.**
- The project's objective is to contribute to the supply chain of Jutawan Jewels Sdn Bhd by providing a reliable source of Eucalyptus for various industries.
- The project area is surrounded by Eucalyptus plantations and Durian Trees.
- The plantation has easy accessible roads, with minimal potholes, and uneven roads which can be accessed by motorcycle but preferably by 4 by 4 car.
- Most of the sideline of the plantation roads are equipped with concrete drain.
- It has a longer time span compared to a normal drain system.
- The drainage system has been meticulously planned and engineered to accommodate various environmental factors, including rainfall intensity and land topography
- The excavators are utilised to dig the drain before the concrete drains are installed.

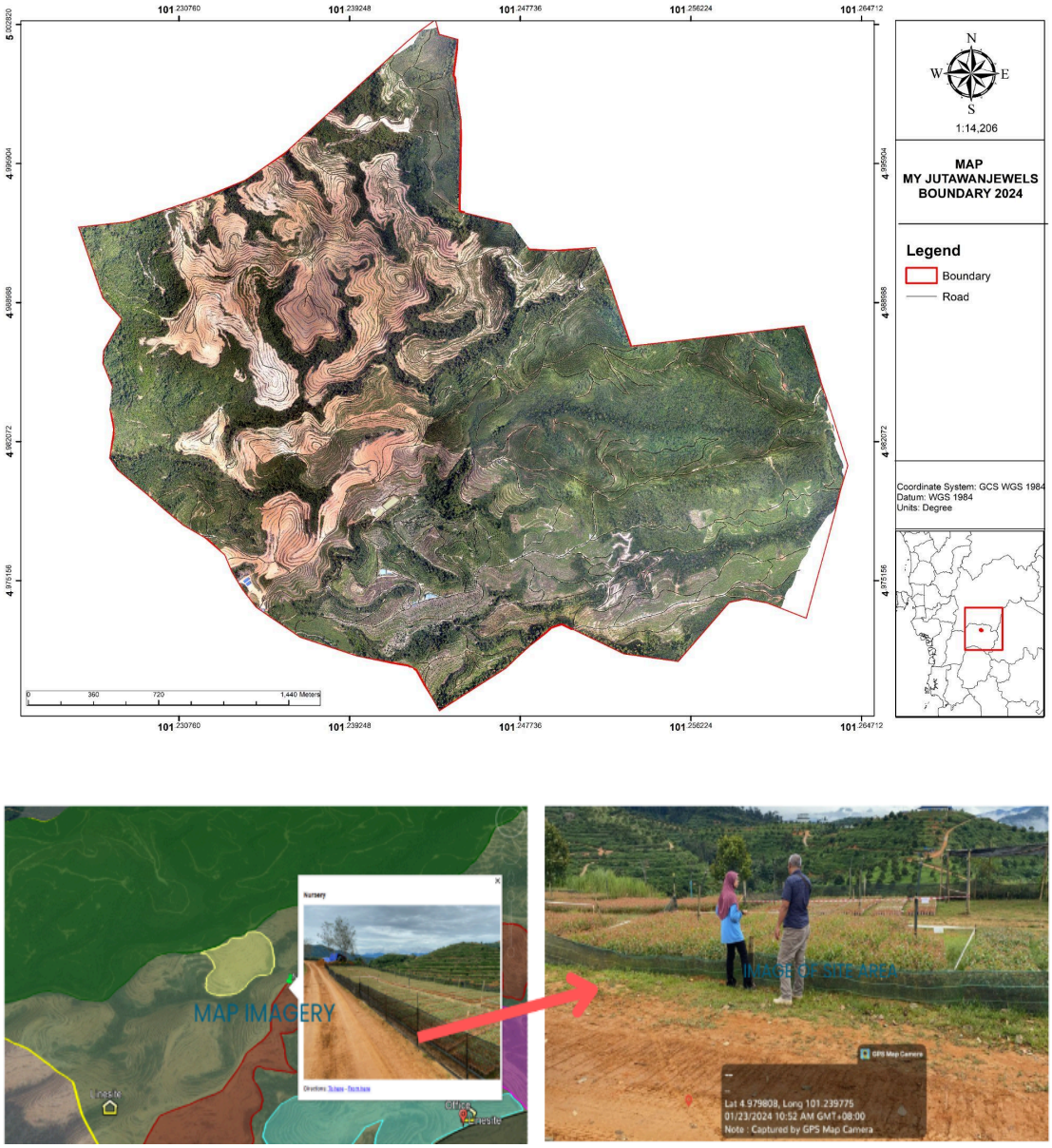


Figure 1: Project boundary and existing surrounding lots

The project delimitation for the **Project Activity 2** is as follows:

This project is under Jutawan Jewels Sdn Bhd and has been given a use permit issued by the Perak State Forestry Department (JSFD) under Chapter 4 of Part IV National Forestry Act 1984 (NFA) (Amend.1993).

- The project covers a total area of 161.87 hectares allocated for Durian plantations.
- The project's objective is to contribute to the supply chain of Jutawan Jewels Sdn Bhd by selling their Durian to the local community .
- The project area is surrounded by Eucalyptus plantations and Durian Trees.
- Most of the sideline of the plantation roads are equipped with concrete drain.
- It has a longer time span compared to a normal drain system.
- The drainage system has been meticulously planned and engineered to accommodate various environmental factors, including rainfall intensity and land topography.
- It is has longer timespan compared to normal drain system
- The excavators are utilised to dig the drain before the concrete drains are installed.

Figure 2: Project boundary and existing surrounding lots.

3.2.1 Spatial limits of the project

The project boundaries for the MY_JUTAWANJEWELS_Q1/24 project are shown in the map below, which is based on the geospatial data provided by the project proponent and verified by the verifier.

Both of the project area is located in Kuala Kangsar, Perak, Malaysia, with:

Project Activity 1

Coordinate : 2°23'14.0"N , 103°28'30.0"E

Total area : 645.50 hectares

Description : The Eucalyptus plantation planning is to sell the trees for the commercial sale of timber as it is a valuable resource in the papermaking industry, contributing to the production of a wide range of paper products.

Project Activity 2

Coordinate : 2°23'14.0"N , 103°28'30.0"E

Total area : 161.87 hectares

Description : The Durian plantation does not commercially sell the fruits, they are only distributing and selling the fruits to local people. The reason for this action is to let the plant produce a few more fruiting cycles to ensure the fruits are at top quality.

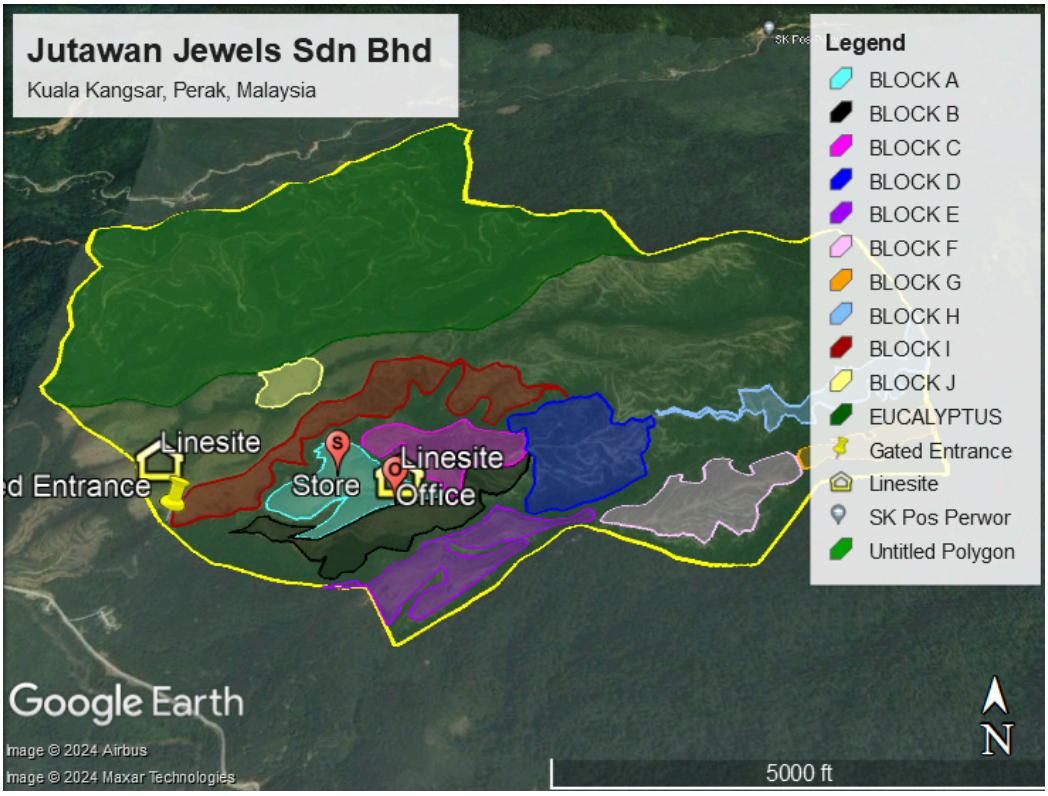


Figure 3: Jutawan Jewels Sdn Bhd Plantation Area within the project boundary of KMZ image.

3.2.2 *Carbon reservoirs and GHG sources*

The selection of carbon reservoirs to quantify changes in carbon stocks at the project boundaries are shown below:

Project Activity 1:

Carbon reservoir	***Included (Yes/No/Optional)***	***Justification***
Above-ground biomass	Yes	Carbon stock in this reservoir is expected to increase due to the implementation of the project activity.

Below-ground biomass	Yes	Carbon stock in this reservoir is expected to increase due to the implementation of the project activity.
Deadwood and litter	Optional	Carbon stock in this pool may increase due to the implementation of the project activity.
Soil organic carbon	Optional	Carbon stock in this pool may increase due to the implementation of the project activity.

The emission sources and associated GHGs selected for accounting are shown below:

Carbon reservoir	***GHG***	***Included (Yes/No/Optional)***	***Justification***
Burning of woody biomass	CO_2	No	CO2 emissions due to the burning of biomass are not accounted for as a change in carbon stock to adhere to the zero burning policy from project participants.
	CH_4	No	CH_4 emissions due to the burning of biomass are not accounted for as a change in carbon stock to adhere to the zero burning policy from project participants.
	N_2O	No	N_2O emissions due to the burning of biomass are not accounted for as a change in carbon stock to adhere to the zero burning policy from project participants.

Project Activity 2:

The selection of carbon reservoirs to quantify changes in carbon stocks at the project boundaries are shown below:

Carbon reservoir	*Included (Yes/No/Optional)*	*Justification*
Above-ground biomass	Yes	Carbon stock in this reservoir is expected to increase due to the implementation of the project activity.
Below-ground biomass	Yes	Carbon stock in this reservoir is expected to increase due to the implementation of the project activity/
Deadwood and litter	Optional	Carbon stock in this pool may increase due to the implementation of the project activity.
Soil organic carbon	Optional	Carbon stock in this pool may increase due to the implementation of the project activity.

The emission sources and associated GHGs selected for accounting are shown below:

Carbon reservoir	*GHG*	*Included (Yes/No/Optional)*	*Justification*
Burning of woody biomass	CO_2	No	CO2 emissions due to the burning of biomass are not accounted for as a change in carbon stock to adhere to the zero burning policy from project participants.

	CH_4	No	CH_4 emissions due to the burning of biomass are not accounted for as a change in carbon stock to adhere to the zero burning policy from project participants.
	N_2O	No	N_2O emissions due to the burning of biomass are not accounted for as a change in carbon stock to adhere to the zero burning policy from project participants.
Fertilizer application	CO_2	No	Carbon dioxide is not directly released during typical fertilizer application in eucalyptus plantations. However, indirect emissions may occur if land-use change or deforestation is associated with plantation establishment.
	CH_4	No	Methane is not directly linked to fertilizer application in plantations. Its production is more associated with anaerobic conditions.
	N_2O	Optional	The application of nitrogen-based fertilizers in plantations can lead to the release of nitrous oxide.

3.2.3 Time limits and analysis periods

The quantification periods are defined by the project proponent and must be consistent with the selected methodology and the relevant standards and regulations. The project timeframes may vary depending on the type and characteristics of the project, as well as the standard and market that the project is aiming for. The project timeframes typically include the following:

1. Project Start Date

The date when implementation, construction or actual action of a GHG project begins. The project start date is important for determining the eligibility and additionality of the project, as well as the calculation of the emission reductions or removals. The project of MY_JUTAWANJEWELS_Q1/24 start date must be justified and documented by the project proponent, and validated and verified by an independent third-party verifier.

- Project Activity 1 start date : 2021
- Project Activity 2 start date : 2018

2. Project Lifetime

The period during which the project is expected to generate GHG emission reductions or removals. The project lifetime is determined by the project proponent and must be realistic and credible, taking into account the technical, economic, social, and environmental factors that may affect the project performance and sustainability. The project lifetime must also comply with the rules and requirements of the selected methodology and the relevant standards and regulations.The project lifetime for MY_JUTAWANJEWELS_Q1/24 is as follows:

- Project Activity 2 : 20 years
- Project Activity 2 : 20 years

3. Monitoring Period

The monitoring period is the period during which the project's emission reductions or removals are measured, recorded, and reported. The monitoring period is determined by the project proponent and must follow the procedures and frequency specified by the selected methodology and the relevant standards and regulations. The monitoring period must also ensure the accuracy, completeness, consistency, transparency, and verifiability of the project's data and documentation. The monitoring period can be either annual or shorter, depending on the type and characteristic of the project. The monitoring period for MY_JUTAWANJEWELS_Q1/24 is as follows:

- Project Activity 1 : 6 - 8 months
- Project Activity 2 : 6 - 8 months

4. Verification Period

The verification period is the period during which the project's emission reductions or removals are confirmed and attested by an independent and qualified third-party verifier. The verification period is determined by the verifier and must cover the entire monitoring period. The verification period must also follow the principles and requirements of the ISO 14064-3 standard for the validation and verification of greenhouse gas assertions. The verification period can be either annual or shorter, depending on the type and characteristics of the project. The verification period for MY_JUTAWANJEWELS_0/24 is as follows:

- Project Activity 1 : 2 months
- Project Activity 2 : 2 months

5. Crediting Period

The crediting period is the period during which the project is eligible to generate certified emission reductions (CERs) or verified emission reductions (VERs) that can be traded and used by other entities to meet their emission reduction targets or commitments. The crediting period is determined by the project proponent

and must be approved by the competent authority or body. The crediting period must also follow the rules and requirements of the selected methodology and the relevant standards and regulations. The crediting period can be either fixed or renewable, depending on the type and characteristics of the project. The crediting period for MY_JUTAWANJEWELS_Q1/24 is as follows:

- Project Activity 1 : 20 years
- Project Activity 2 : 20 years

This streamlined overview provides key insights into the temporal aspects of managing and verifying GHG emissions in the context of plantation projects.

3.2.3.1 Project start date

The project start date is the date that a GHG project's implementation, construction, or actual action begins. The project's start date is crucial for assessing eligibility and additionality, as well as calculating emission reductions or removals. The project's start date may vary depending on the project's nature and characteristics, as well as the standard and market for which the project is intended.

The **project activity 1** aims to keep the eucalyptus plantation for the upcoming area beginning in the year of 2021 while **project activity 2**, which began in 2018 aims to establish a durian plantation on land leased from the State Government for 99 years which the project holder began the initial survey. The purposes of the initial survey is:

1. Assessment and Data Collection: Gathering crucial details about the project area to lay the groundwork for effective planning and implementation.
2. Identification of Variables: Determining land use, existing vegetation, soil conditions, and potential carbon reserves.
3. The Baseline Carbon: Calculation for both eucalyptus and durian plantation offset project is a crucial step in assessing the initial carbon

levels and understanding the potential for carbon sequestration within the project area. Unlike traditional reforestation or afforestation projects, the focus here is on sustainable plant cultivation.

4. Species Selection and Monitoring Plans: Selecting appropriate tree species, developing monitoring processes, and understanding the socio-economic background.
5. Comprehensive Overview: Providing a holistic view for developing a specific and sustainable car

3.2.3.2 Quantification period of GHG emission reductions

The crediting period is the time period for quantifying GHG emission removals and/or reductions, which varies according to the type of project. The crediting period is the time when the project is eligible to generate certified emission reductions (CERs) or verified emission reductions (VERs), which can then be traded and used by other entities to achieve their own emission reduction targets or obligations. The project proponent determines the crediting period, which must be approved by the responsible authority or organization. The crediting time must also adhere to the guidelines and requirements of the selected technique, as well as the applicable standards and laws.

According to section 10.5 of the BCR Standard, activities in the AFOLU sector, MY_JUTAWANJEWELS_Q1/24 consists of project activity 1, the period of quantification of GHG emission removals/reductions is 20 years, starting from 15th December 2023 and ending on 15th December 2043 whereas project activity 2 is 20 years, starting from 15th December 2023 and ending on 15th December 2043. This typically covers the entire duration of the project, from its initiation to its completion.

3.2.3.3 Monitoring periods

Monitoring periods for MY_JUTAWANJEWELS_Q1/24 projects are critical to ensuring the ongoing success and effectiveness of the projects. Monitoring is

typically conducted at various stages throughout the project implementation to assess and verify the carbon sequestration, biodiversity conservation, and overall project performance. It's important to note that the specific monitoring periods may vary based on project size, location, and duration.

Based on our proposed project timeline for MY_JUTAWANJEWELS_Q1/24, Project Activity 1 and Project Activity 2 will undergo **6-8 months** for organized plantation according to the:

1. **Baseline Monitoring Period**

Purpose : Establish the baseline emissions or removals scenario.

Duration : Data collection and analysis over a specific historical period are required prior to project implementation, which takes approximately 1 month.

Activities :

- Assess historical land use, carbon stocks, and emissions data to determine the baseline against which the project's performance will be measured.

2. **Implementation Monitoring Period**

Purpose : Observe and document the actual implementation of project activities.

Duration : Starts at the commencement of reforestation or afforestation activities and continues throughout the implementation phase, which takes approximately 2 months.

Activities :

- Monitor tree planting, maintenance, and other relevant activities.
- Collect data on survival rates, growth, and any unexpected events that may affect project outcomes.

3. **Growth and Sequestration Monitoring Period**

Purpose : Track the growth of planted trees and the sequestration of carbon.

Duration : Typically takes approximately 2 months, depending on the chosen accounting period and project lifespan.

Activities :

- Regular measurement of tree growth, biomass, and carbon sequestration. This may involve periodic field measurements, remote sensing, or other monitoring techniques.

4. Verification Monitoring Period

Purpose : Prepare for and conduct third-party verification.

Duration : Occurs periodically in preparation for verification, which takes approximately 2 months.

Activities :

- Ensure that all required data is collected and maintained according to the chosen methodology and project requirements.
- Prepare documentation for verification.

5. Verification Period

Purpose : Independent assessment of the project's adherence to standards and methodologies.

Duration : Occurs at defined intervals, often takes approximately 2 months.

Activities :

- Third-party auditors assess project documentation, conduct site visits, and verify that the project is meeting the requirements set by the chosen standard.

6. Reporting Period

Purpose : Report the project performance and outcomes.

Duration : Typically aligned with verification periods, which takes approximately 2 months.

Activities :

- Compile and submit comprehensive reports that detail the project's performance, emissions reductions, and other relevant information.

3.3 Identification and description of the baseline or reference scenario

Project Activity 1:

Project activity 1 consists of eucalyptus planted area from the history of Timber Latex Clone of rubber transitioning into highly productive eucalyptus plantations by project participants. In alignment with BCR0001 Methodology, the baseline scenario relies on changes in carbon stocks within the project boundary, due to

the land use which represents an attractive course of action considering the barriers to investment.

These baseline scenarios can be identify through the following steps:

Step 1: Identification of alternative land use scenarios

Transitioning from rubber to eucalyptus cultivation in the project activity 1 has the potential to reshape the environment and local communities. Without sustainable management, this shift could harm biodiversity, soil, and water resources due to intensive farming and chemical use. Such changes might disrupt ecosystems and increase greenhouse gas emissions, especially if it leads to clearing high carbon areas like peatlands. An alternative land-use scenario of eucalyptus plantation conducts an environmental impact assessment to understand the effects of eucalyptus cultivation on soil health, water resources, biodiversity, and carbon sequestration. Exploring the alternative land uses that promote ecosystem restoration, such as reforestation with native species, agroforestry systems, or conversion to natural habitats

The involvement of proper engagement stakeholders, including local communities, farmers, environmental organisations, and government agencies, could be the main reason to understand their preferences and concerns. Such a scenario could contribute to increased carbon emissions, exacerbating climate change, and negatively impacting local communities that rely on the forest for their livelihoods, could further diminish the overall well-being of the region.

Step 2 : Investment Analysis

The investment analysis for the alternative land-use scenario described would reveal short-term gains for industries engaging in activities such as logging or agriculture. The immediate profits gained from exploiting the plantation's resources may not be sustainable, leading to a depletion of valuable assets such as timber, non-timber forest products, and ecosystem services. The degradation of the environment may result in increased costs related to soil erosion, loss of water quality, and the need for restoration efforts. Additionally, the negative impacts on biodiversity, climate regulation, and other ecosystem services may lead to indirect

economic consequences, such as increased healthcare costs due to environmental degradation.

Step 3 : Barrier Analysis

Barrier analysis for transitioning from rubber to eucalyptus cultivation highlights several challenges. Key obstacles include weak enforcement of land use and agricultural regulations, allowing unsustainable practices that could harm the environment. Additionally, insufficient involvement of local communities and stakeholders in the transition process can impede the adoption of sustainable methods. A lack of awareness and understanding about the benefits of sustainable eucalyptus and durian plantation production among both the local population and policymakers may further obstruct efforts to implement effective conservation and sustainable farming practices.

Step 4 : Impact of Project registration

The impact of project registration for transitioning from rubber to eucalyptus involves formalising the process through which land use is changed from rubber cultivation to eucalyptus plantation. This registration typically involves obtaining approval and permits from relevant government authorities and may have several impacts, including ensuring legal compliance, environmental sustainability, social acceptance, and investment security. It provides a structured framework for managing land use change and facilitating the transition to more sustainable and diversified agroforestry systems.

By formalising and registering a conservation project, it becomes possible to establish clear guidelines and regulations for sustainable land management within the eucalyptus plantation. This process can enhance governance and enforcement mechanisms, addressing the barrier of weak regulatory frameworks. Project registration often involves stakeholder engagement, fostering collaboration with local communities, and increasing awareness about the importance of forest conservation. The registration process also facilitates the establishment of monitoring and reporting mechanisms, aiding in the enforcement of sustainable practices and discouraging illegal activities. It also requires conducting an environmental impact assessment (EIA) to evaluate the

potential environmental consequences of transitioning to eucalyptus cultivation. This assessment helps identify and mitigate any adverse impacts on soil health, water resources, biodiversity, and ecosystem services. Overall, project registration serves as a crucial step in mitigating the unchecked land use, promoting sustainable forest management, and ensuring the long-term health and resilience of the eucalyptus plantation.

Project Activity 2:

Project activity 2 consists of converting Timber Latex Clone (TLC) rubber to Durian cultivation. In alignment with BCR0001 Methodology, the baseline scenario relies on changes in carbon stocks within the project boundary, due to the conversion which represents an attractive course of action considering the barriers to investment.

These baseline scenarios can be identify through the following steps:

Step 1: Identification of alternative land use scenarios

An alternative conversion from Timber Latex Clone (TLC) rubber to durian cultivation has the potential to reshape the environment and local communities. Without sustainable management, this shift could harm biodiversity, soil, and water resources due to intensive farming and chemical use. Such changes might disrupt ecosystems and increase greenhouse gas emissions, especially if it leads to clearing high carbon areas like peatlands.

The move could also affect local livelihoods and lead to disputes over land rights. Yet, embracing sustainable practices and adhering to standards. By implementing methods like agroforestry and eco-friendly farming, the project can protect nature, support communities, and contribute to the area's lasting well-being.

Step 2 : Investment Analysis

The investment analysis for the alternative land-use scenario described would involve the conversion of Timber Latex Clone (TLC) rubber into durian

plantations involving clearing land, which can be an expensive process. The initial investment required for clearing, preparing the land, and planting durian trees may pose a financial barrier. The reliance on agrochemicals, including minimal pesticides and fertilisers, in monoculture durian plantations can lead to ongoing and substantial operational costs. The financial burden associated with the purchase of these inputs, along with potential health and environmental consequences, may present a barrier to sustainable and economically viable durian cultivation. Ongoing operational expenses, such as labor, maintenance, and any additional inputs required for plantation, would also need to be assessed. On the revenue side, large-scale conversion of natural ecosystems to durian plantations may provide short-term economic gains for plantation owners and investors. However, the focus on immediate profits may hinder the consideration of long-term environmental and social costs, leading to unsustainable practices.

Step 3 : Barrier Analysis

Barrier analysis of the alternative land-use scenario involves identifying potential challenges and obstacles that may impede its successful implementation. One potential barrier could be the establishment of large-scale durian plantations that can disrupt ecosystems by altering soil composition, water cycles, and nutrient flows. This barrier impedes the ability of the landscape to provide essential ecosystem services, such as water purification, pollination, and carbon sequestration, leading to a decline in overall

ecosystem health and resilience. The scenario may also involve unsustainable land management practices, such as clear-cutting and intensive monoculture cultivation. This barrier stems from a lack of awareness, education and adherence to principles of sustainable forest management, leading to soil degradation, increased vulnerability to pests and diseases, and reduced long-term productivity.

Step 4 : Impact of Project registration

The impact of project registration for the alternative land-use scenario in durian forest plantations is multifaceted. Firstly, it facilitates the formal recognition and documentation of initiatives aimed at diversifying and enhancing sustainable land use, ensuring that these projects adhere to environmental regulations and

standards. Project registration can attract financial support and investments, fostering the implementation of agroforestry systems, biodiversity conservation measures, and sustainable agriculture practices. By being formally registered, these projects may also gain credibility and support from governmental and non-governmental organizations, encouraging collaboration and knowledge-sharing. Moreover, project registration can contribute to monitoring and evaluation efforts, allowing for the assessment of the social, economic, and environmental impacts of the alternative land-use scenario over time. Ultimately, the registration process plays a pivotal role in integrating diverse stakeholders, promoting transparency, and facilitating the long-term success and replicability of sustainable land-use projects in durian forest plantations.

3,4 Additionality

To demonstrate the additionality of the MY_JUTAWANJEWELS_Q1/24 project under the BCR Standard, we follow the "Baseline and Additionality Guidance" from the BioCarbon Registry. We first establish a baseline scenario for Project Activity 1 and Project Activity 2, imagining a situation without the project's implementation. This baseline would likely see the continuation of non-sustainable land use, lacking in advanced sustainable land management practices.

In our additionality assessment, we carefully review the project's specific conditions and market dynamics to confirm that the emission reductions are indeed extra to what would occur without our initiative. This involves analysing the economic feasibility of sustainable practices, understanding regulatory frameworks, and considering the feasibility of alternative land uses. By contrasting the project's emission reductions with the baseline scenario, we affirm that our project delivers significant incremental environmental benefits.

Our assessment is backed by detailed documentation, including project planning records and stakeholder consultations, ensuring transparency and robust justification for our claims of additionality. We meticulously document our assumptions and methodologies, offering clear evidence of our project's role in surpassing baseline emission levels.

Additionally, we verify that the emission reductions achieved by the project do not stem from legally required actions or regulatory mandates. This involves assessing relevant laws and regulations to confirm that the project activities go beyond compliance obligations and represent genuine efforts to reduce emissions and enhance environmental sustainability.

Beyond environmental impacts, the project also promotes economic benefits by adopting sustainable land management practices. These practices boost land productivity and resilience, enhancing long-term profitability for landowners and stakeholders. By establishing additionality, we also minimise carbon credit risks associated with the baseline scenario's unmanaged approach, presenting Project Activity 1 and Project Activity 2 as a viable and attractive opportunity for investors.

3.5 Uncertainty management

The principle of conservative attitude is one of the principles that guide the quantification and reporting of greenhouse gas emissions and removals, according to the ISO 14064-1 standard. The principle of conservative attitude states that the assumptions, values, and procedures used to estimate the emission reductions or increases in GHG removals should be chosen to avoid overestimation of the climate impact of the project.

In line with the principle of conservative attitude, the projects use conservative assumptions, values, and procedures to ensure that it does not overestimate emission reductions or increases in GHG removals. Some of the examples of how the projects applies the principle of conservative attitude are:

1) The project uses the default values and parameters from the IPCC Guidelines for National Greenhouse Gas Inventories and the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (LULUCF) to estimate the carbon stocks and the emission factors of the project area and the biomass consumption.

2) The project accounts for the leakage from the displacement of pre-project activities and the use of fossil fuels for transportation and machinery. The project uses the procedures and equations provided by the selected methodology to calculate the leakage, and subtracts it from the emission reductions or removals achieved by the project. The project also uses conservative assumptions and values to estimate the leakage, to avoid underestimating the emissions that may occur outside the project boundary.
3) The project also establishes and applies mechanisms to manage uncertainty in the quantification of baseline and mitigation results. Uncertainty is the degree of doubt or variability associated with the estimation of the emission reductions or removals. The project uses the following mechanisms to manage uncertainty:

    - The project applies a 15% discount factor of national data for above-ground and below-ground biomass using default values and parameters from the procedures and equations provided by the selected methodology. The discount factor is a coefficient that reduces the emission reductions or removals claimed by the project, based on the level of uncertainty and the confidence interval. The discount factor ensures that the project does not overclaim the emission reductions or removals, and that the project provides a net positive climate impact management

3.6 Leakage and non-permanence

Applying the principles of AR-ACM0003 with AR-Tool15 A/R Methodological Tool, Version 2.0, we identify potential leakage as the unintended environmental impacts displaced to other areas due to the project's implementation. For project activity 1 which transitioning from Timber Latex Clone (TLC) rubber to eucalyptus cultivation and project activity 2, which involves transitioning from rubber to durian cultivation, leakage could manifest through several pathways:

1. **Indirect Land Use Change**

The expansion of conversion from rubber to project activity 1, eucalyptus cultivation and project activity 2, durian cultivation might prompt the conversion of forests or natural habitats into agricultural or plantation land elsewhere, risking deforestation and habitat loss in those regions.

2. **Infrastructure Development**

Developing infrastructure like roads and processing facilities for the durian plantation project could encourage further land conversion or environmental degradation in adjacent areas.

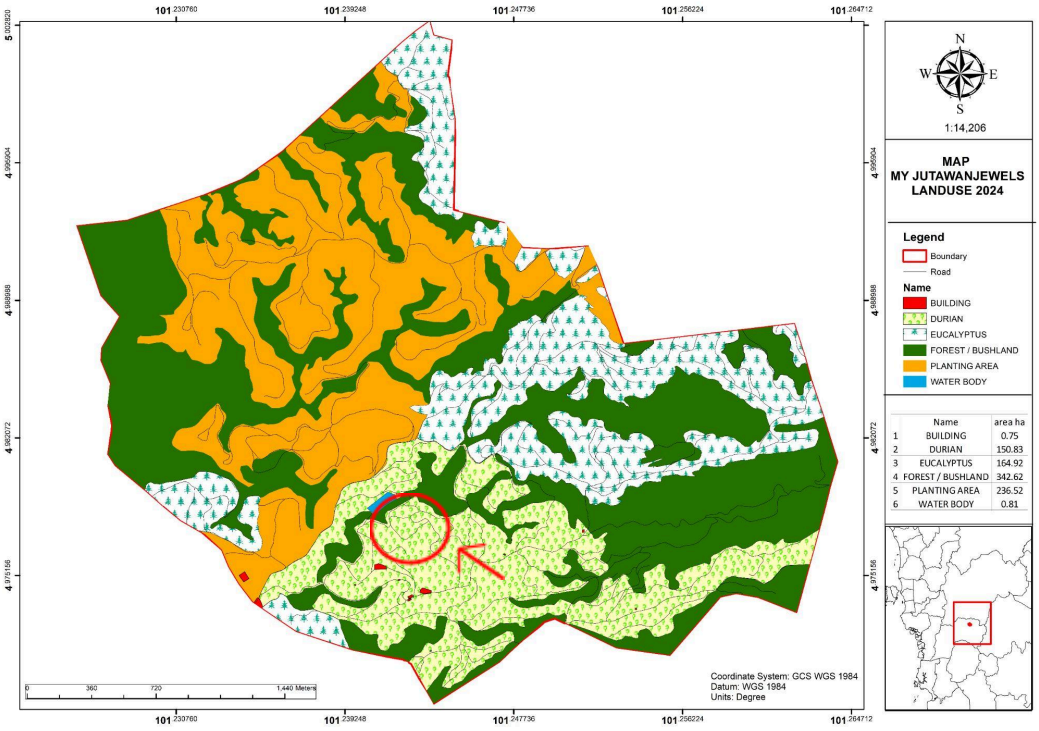


Figure 4: Leakage Area Present in Water body (circled in red) and buildings in Durian Plantation.

<u>Risks of Potential Leakage in Durian Plantation</u>

1. **Economic Impacts**

   Leakage could counteract sustainable development efforts by promoting unsustainable land uses, affecting ecosystem services crucial for local economies and livelihoods.

2. **Environmental Impacts**

   Potential leakage may result in increased deforestation, loss of biodiversity, and environmental degradation outside the project area, undermining conservation efforts.

3. **Social Impacts**

   Displacement of local communities, loss of traditional land rights, and conflicts over land use can occur if leakage results in changes to land tenure or land management practices in neighbouring areas.

The leakage emission resulting from the activities displacement is estimated as follows:

$$LK_t = LK_{AGRIC,t}$$

$$LK_{AGRIC,t} = \frac{44}{12} \times (\Delta C_{BIoMASS,t} + \Delta SOC_{LUC,t}) \quad \text{E (1)}$$

$$\Delta C_{BIoMASS,t} = [1.1 \times b_{TREE} \times (1 + R_{TREE}) + b_{SHRUB} \times (1 + RS)] \times CF \times A_{DISP,t} \quad \text{E (2)}$$

$$\Delta SOC_{LUC,t} = SOC_{REF} \times (f_{LUP} \times f_{MGP} \times f_{INP} - f_{LUD} \times f_{MGD} \times f_{IND}) \times A_{DISP,t} \quad \text{E (3)}$$

Where,

LK_t = Leakages t; tCO2-e

$LK_{AGRIC,t}$ = Leakage emission result from agricultural activities displacement in year t; tCO2-e

$\Delta C_{BIoMASS,t}$ = Decrease in carbon stock in the carbon pools of the land receiving the activity displaced in year t; t d.m.

Note. The factor of 1.1 is used to account for the carbon stock in the dead wood and litter pools as a fixed percentage of the carbon stock in living trees.

CF = Carbon fraction of woody biomass; dimensionless.

A default value of 0.47 is used unless transparent and verifiable information can be provided to justify a different value.

$A_{DISP,t}$ = Area of land from which agricultural activity is being displaced in year-t; ha

b_{TREE} = Mean above-ground tree biomass in land receiving the displaced activity; t d.m. ha-1

The value of this parameter is obtained by applying one of the applicable methods from the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" to the land receiving the displaced activity.

Where the land receiving the displaced activity is unidentified, value of *bTREE* is set equal to the applicable value of mean above- ground biomass in forest in the region or country where the A/R CDM project activity is located, as obtained from Table 3A.1.4 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC GPG-LULUCF 2003) unless transparent and verifiable information can be provided to justify a different value.

R_{TREE} = Root-shoot ratio for trees in the land receiving the displaced activity; dimensionless.

A default value of 0.25 is used unless transparent and verifiable information can be provided to justify a different value.

b_{SHRUB} = Mean above-ground shrub biomass in land receiving the displaced activity; t d.m. ha-1.

The value of this parameter is obtained by applying one of the applicable methods from the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" to the land receiving the displaced activity.

R_s = Root-shoot ratio for shrubs in the land receiving the displaced activity; dimensionless.

The default value of 0.40 is used unless transparent and verifiable information can be provided to justify a different value.

$\Delta SOC_{LUC,t}$ = Change in soil organic carbon (SOC) stock due to land-use change in the land receiving the displaced activity in year t; tC ha-1.

The value of this parameter may be set to zero if:

(a) The only displaced activity being received in the land is grazing activity; or
(b) The value of the parameter as estimated from Equation (3) is less than zero (i.e. negative)

SOC_{REF} = SOC stock corresponds to the reference condition in native lands by climate region and soil type applicable to the land receiving the displaced activity; t C ha-1.

The value of this parameter is taken from Table 3 of the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities".

$f_{LUP}, f_{MGP}, f_{INP}$ = Relative SOC stock change factors for land-use, management practices, and inputs respectively, applicable to the receiving land before the -displaced activity is received; dimensionless.

The value of these parameters is taken from Tables 4, 5, and 6 of the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities".

$f_{LUD}, f_{MGD}, f_{IND}$ = Relative SOC stock change factors for land-use, management practices, and inputs respectively, applicable to the receiving land after the-displaced activity has been received; dimensionless.

The value of these parameters is taken from Tables 4, 5, and 6 of the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities".

t = 1, 2, 3, ...years elapsed since the start of the A/R CDM project activity

The leakage is calculated as:

$$LK_{AGRIC,t} = \frac{44}{12} \times (\Delta C_{BIoMASS,t} + \Delta SOC_{LUC,t})$$

$$\Delta C_{BIoMASS,t} = [1.1 \times b_{TREE} \times (1 + R_{TREE}) + b_{SHRUB} \times (1 + RS)] \times CF \times A_{DISP,t}$$

$$\Delta SOC_{LUC,t} = SOC_{REF} \times (f_{LUP} \times f_{MGP} \times f_{INP} - f_{LUD} \times f_{MGD} \times f_{IND}) \times A_{DISP,t}$$

b_{TREE}	t d.m. ha-1	205 (IPC GPG-LULUCF 2003)
R_{TREE}	-	0.25

b_{SHRUB}	t d.m. ha-1	10.25
RS	-	0.40
CF	-	0.47
$\Delta C_{BIoMASS,t} = [1.1 \times b_{TREE} \times (1 + R_{TREE}) + b_{SHRUB} \times (1 + RS)] \times CF \times A_{DISP,t}$ **Project activity 1:** $\Delta C_{BIoMASS,t} = [1.1 \times 205 \times (1 + 0.25) + 10.25 \times (1 + 0.40)] \times 0.47 \times 0 = 0$ t d.m **Project activity 2:** $\Delta C_{BIoMASS,t} = [1.1 \times 205 \times (1 + 0.25) + 10.25 \times (1 + 0.40)] \times 0.47 \times 1.56 = 217.19$ d.m		
SOC_{REF}	t C ha-1.	66 (Sandy soil, Tropical, Wet)
f_{LUP}	-	0.82 (Short-term cultivated <20 years , Tropical, Wet
f_{MGP}	-	1.15 (Reduced tillage, Tropical, Wet)
f_{INP}	-	1.0 (Medium)
f_{LUD}	-	1.0

f_{MGD}	-	1.0 (Non-degraded grassland)
f_{IND}	-	1.11 (High input)

$$\Delta SOC_{LUC,t} = SOC_{REF} \times (f_{LUP} \times f_{MGP} \times f_{INP} - f_{LUD} \times f_{MGD} \times f_{IND}) \times A_{DISP,t}$$

$$\Delta SOC_{LUC,t} = 66 \times (0.82 \times 1.15 \times 1.0 - 1.0 \times 1.0 \times 1.0) \times 1.56 = -5.87$$

$$LK_{AGRIC,t} = \frac{44}{12} \times (\Delta C_{BIoMASS,t} + \Delta SOC_{LUC,t})$$

$$LK_{AGRIC,t} = \frac{44}{12} \times [217.19 + (-5.87)] = 774.84 \text{ tCO2-e}$$

3.7 Mitigation results

ISO 14064-3:2019 is a standard that specifies how to verify and validate greenhouse gas (GHG) statements, especially those relating to climate change mitigation efforts. Some significant points to justify and demonstrate the verifiability of mitigation results within the framework of ISO 14064-3:2019 based on MY_JUTAWANJEWELS_Q1/24 are:

1. **Project Design and Planning (ISO 14064-3:2019, Section 5.1):**
   - Provide a detailed project design and planning documentation that includes a clear description of the reforestation or afforestation activities.
   - Clearly define the project boundary, scope, and the baseline scenario against which the emission reductions or removals will be measured.
2. **Monitoring and Measurement (ISO 14064-3:2019, Section 5.2):**
   - Implement a robust monitoring and measurement plan that includes both direct and indirect measurements of GHG emissions or removals associated with the project.

- Use appropriate and accurate measurement techniques, tools, and methodologies to ensure the reliability of data collected.

3. **Data Management (ISO 14064-3:2019, Section 5.3):**
   - Establish a comprehensive data management system to store and manage all relevant data related to the project.
   - Ensure transparency and traceability of data, allowing for independent verification and validation.
4. **Uncertainty and Quality Management (ISO 14064-3:2019, Section 5.4):**
   - Address and quantify uncertainties associated with data, measurement methods, and assumptions in the project.
   - Implement quality management procedures to ensure the accuracy and reliability of data.
5. **Completeness and Consistency (ISO 14064-3:2019, Section 5.5):**
   - Ensure that the project's emissions or removals are complete by including all relevant sources and sinks within the defined project boundary.
   - Verify consistency in data and calculations to avoid errors or discrepancies.
6. **Verification (ISO 14064-3:2019, Section 5.6):**
   - Engage an independent third-party verifier to assess the project's adherence to the standard and the accuracy of the reported data.
   - Provide the verifier with access to all necessary documentation, data, and information required for a thorough evaluation.
7. **Validation (ISO 14064-3:2019, Section 5.7):**
   - Demonstrate that the project activities have achieved the anticipated emission reductions or removals by comparing the actual performance against the baseline scenario.
   - Ensure that any deviations from the expected outcomes are properly documented and explained.
8. **Reporting (ISO 14064-3:2019, Section 5.8):**
   - Develop a comprehensive and transparent report that communicates the project's results, methodologies, and any relevant findings from the verification process.
   - Comply with the reporting requirements outlined in the standard.

By following the guidelines outlined in ISO 14064-3:2019, project activities can demonstrate the verifiability of mitigation results achieved through reforestation

and afforestation projects based on MY_JUTAWANJEWELS_Q1/24, thereby providing a strong framework for assessing and validating the environmental benefits of these activities.

3.7.1 Eligible areas within GHG project boundaries (AFOLU sector projects)

The project MY_JUTAWANJEWELS_Q1/24 adheres to the specific geographical boundaries that are in line with the rigorous criteria of the chosen methodology, namely the "BCR0001 Quantification of GHG Emission Reductions - GHG Removal Activities." In order to prove adherence to the land cover/land use categories outlined in the methodology and the relevant definitions within the country, we have utilized a thorough analysis of land cover/land use throughout many time periods.

1. **Compliance with Land Use Categories**

   The analysis takes into account the particular definitions and classifications of land use in the nation where the project is situated. We have made sure that the recognized land cover/land use categories precisely match the methodology's standards by working with local authorities and specialists. For us to accurately quantify the reductions in greenhouse gas emissions linked to our GHG removal activities, compliance with this requirement is essential.

2. **Land Cover Presence/Absence Condition**

   The land cover presence/absence condition as stipulated by the BioCarbon Registry (BCR) Standard's reference data set and the applicable methodology have both been closely followed by us. We have confirmed the existence or non-existence of particular land covers within our project boundaries through thorough analysis of satellite data and ground truthing, guaranteeing compliance with the methodology and BCR Standard standards.

3. **Identification According to Applicable Classifications**

In order to show adherence to land use and land cover classifications that are relevant to the country, we have employed globally accepted criteria established by organisations like ISO. Our treatment of geographic data adheres completely to these standards, guaranteeing interoperability, precision, and dependability in the analysis and presentation of land cover/land use information.

3.7.2 Stratification (Projects in the AFOLU sector)

We have brought a targeted strategy to our plantation with the MY_JUTAWANJEWELS_Q1/24 project in order to improve the precision of carbon stock change estimates. Our customised stratification technique tries to capture the variety of carbon distribution in these contexts.

- **Stratification for Eucalyptus and Durian Plantation:**

  The project of MY_JUTAWANJEWELS_Q1/24 area is divided into strata based on a combination of biophysical, environmental, and land-use characteristics. This includes differentiating areas by soil type, elevation, existing vegetation cover, and the historical land use (previously rubber plantation areas versus newly durian and eucalyptus cultivated areas).

  Stratification is a technique used in forestry to enhance seed germination rates and seedling vigour. When applied to eucalyptus plantation, the process involves seed collection, cleaning, moisture content as eucalyptus seeds typically have low moisture content. Monitoring and transplanting in the process could optimise seedling production and improve the overall productivity and sustainability of eucalyptus plantations.

  Durian plantation has a similar way of stratification. Durian growers can optimise seed germination rates and seedling vigour, leading to successful durian plantation establishment and healthy tree growth. Additionally, proper stratification can help improve the overall productivity and sustainability of durian orchards.

- **Identification of Baseline and With-Project Strata:**

In the baseline scenario of **project activity 1**, consists of converting the TLC rubber area from turning them into highly productive Eucalyptus plantations. Whereas **for project activity 2**, we identified regions with widespread conversion of natural ecosystems, to monoculture and well-established Durian forest plantations. In the project scenario, the area in project activity 2 was developed to create a durian forest plantation divided into 10 blocks where there are varieties of clones such as Musang KIng, Blackthorn and Durian Kampung.

Project Activity 1:

For project activity 1, the majority of the eucalyptus plants are planted on the terrace. Certain strata comprise areas that have been built for implementing sustainable technologies, such as an agroforestry system and improved sustainable land management. These lands were developed from former rubber forest plantations, principally for timber and latex, using the Timber Latex Clone (TLC) for conversion of Eucalyptus cultivation with 645.50 hectares and able to accommodate 300,000 eucalyptus seedlings in the nursery. The seedling will be transplanted into the planting area after 1-2 months.

Project Activity 2:

For project activity 2, according to the agreement with the Perak State Forestry Department, Jutawan Jewels Sdn Bhd has constructed durian cultivation in stages, divided into 10 blocks and will be increased. Majority of the plants are planted on the terrace. Other than that, wildlife threat has occurred in durian cultivation as the elephant went on rampage and crop raiding. However, planting other fruit trees has been one of their alternative ways to strategically and employing protective measures to lure elephants away from damaging durian plants while promoting coexistence between humans and wildlife. This approach not only helps mitigate

human-wildlife conflicts but also contributes to the conservation of both elephants and fruit tree species. Other than that, a tiger, black panther and sun bear were also spotted in the plantation. It is because there is no fencing between the plantation and the forest.

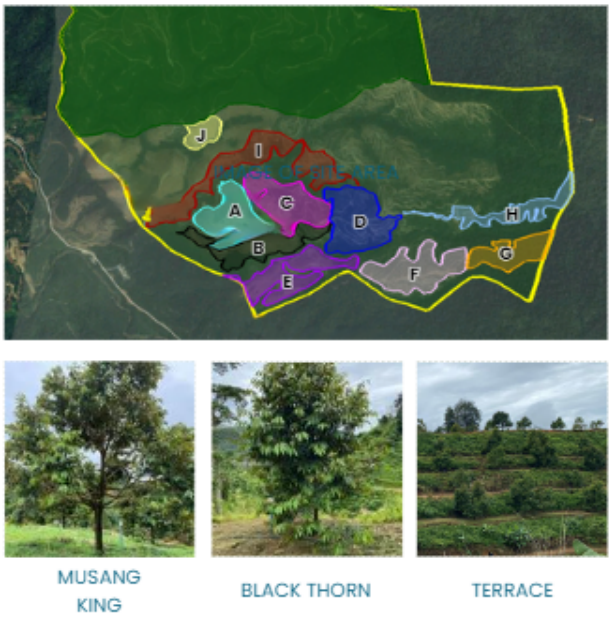


Figure 5 : 10 blocks of durian plantation area with various species.

- **Optimising Accuracy in Eucalyptus and Durian Context:**

  Precision sampling entails conducting on-site evaluations of certain characteristics, such as the number of trees and their overall condition. The quantitative models are specifically designed to capture the dynamics of eucalyptus and durian's growth by incorporating satellite data and measurements taken on-site. Continuous surveillance adjusts to the distinct characteristics of the plantation, guaranteeing precision in assessing alterations in carbon stock over a period of time.

- **Tailoring the Approach:**

  Integrating field surveys with drone technology and mapping techniques creates a synergistic approach for optimising accuracy in estimating GHG

reductions/removals in eucalyptus and durian forest plantations. This combination allows for a more thorough and reliable assessment of carbon dynamics, supporting sustainable forest management practices and contributing to effective climate change mitigation strategies.

This method ensures that our calculations are in compliance with the specific complexities of a both eucalyptus and durian environment. Our project aims to precisely analyse and increase carbon sequestration activities inside plantations by focusing on tree features, land use, and sustainable practices. This will help to ensure the success of MY_JUTAWANJEWELS_Q1/24.

3.7.3 GHG emissions reduction/removal in the baseline scenario

In order to ensure precise and transparent quantification, the MY_JUTAWANJEWELS_01/24 projects fully follow the requirements provided in "BCR0001 Quantification of GHG Emission Reductions - GHG Removal Activities." To ensure accuracy and clarity, our measurement and calculation methods use extensive approaches that include key data, parameters, equations, and other elements.

The baseline scenario can be calculated as follows:

$$\Delta C_{BSL,t} = \Delta C_{TREE\_BSL,t} + \Delta C_{SHRUB\_BSL,t} + \Delta C_{DW\_BSL,t} + \Delta C_{LI\_BSL,t} \quad \text{E(1)}$$

Where:

$\Delta C_{BSL,t}$ = Baseline net GHG removals by sinks in year t; t CO2-e

$\Delta C_{TREE\_BSL,t}$ = Change in carbon stock in baseline tree biomass within the project boundary in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO2-e

$\Delta C_{SHRUB\_BSL,t}$ = Change in carbon stock in baseline shrub biomass within the project boundary, in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO2-e

$\Delta C_{DW\_BSL,t}$ = Change in carbon stock in baseline dead wood biomass within the project boundary, in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in deadwood and litter in A/R CDM project activities"; t CO2-e

$\Delta C_{LI\_BSL,t}$ = Change in carbon stock in baseline litter biomass within the project boundary, in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in deadwood and litter in A/R CDM project activities"; t CO2-e

Change in carbon stock in tree biomass within the project boundary at the baseline:

$$\Delta C_{TREE\_BSL,t} = \sum_{i=1}^{M} \Delta C_{TREE\_BSL,i} \qquad E(2)$$

$$\Delta C_{TREE\_BSL,i} = \frac{44}{12} \times CF_{TREE} \times \Delta b_{FOREST} \times (1 + R_{TREE}) \times CC_{TREE\_BSL,i} \times A_i \qquad E(3)$$

Where:

$\Delta C_{TREE\_BSL,t}$ = Mean annual change in carbon stock in trees in the baseline; tCO2e yr-1

$\Delta C_{TREE\_BSL,i}$ = Mean annual change in carbon stock in trees in the baseline, in baseline stratum i; t CO2e yr-1

CF_{TREE} = Carbon fraction of tree biomass; t C (t.d.m.)-1.

A default value of 0.47 t C (t.d.m.)-1 is used unless transparent and verifiable information can be provided to justify a different value.

Δb_{FOREST} = Default means annual increment of above-ground biomass in forest in the region or country where the A/R CDM project activity is located; t d.m. ha-1 yr-1.

Values of ΔbF_{OREST} are taken from Table 3A.1.5 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC GPG-LULUCF 2003) unless transparent and verifiable information can be provided to justify different values.

Note. Tree biomass may reach a steady state in which biomass growth becomes zero or insignificant, either because of biological maturity of trees or because the rate of anthropogenic biomass extraction from the area is equal to the rate of biomass growth. Therefore, this parameter should be taken to be zero after the year in which tree biomass in the baseline reaches a steady state. The year in which tree biomass in the baseline reaches a steady-state is taken to be the 20th year from the start of the CDM project activity, unless transparent and verifiable information can be provided to justify a different year.

R_{TREE} = Root-shoot ratio for the trees in the baseline; dimensionless.

A default value of 0.25 is used unless transparent and verifiable information can be provided to justify a different value.

$CC_{TREE\_BSL,i}$ = Crown cover of trees in the baseline, in baseline stratum i, at the start of the A/R CDM project activity, expressed as a fraction(e.g. 10 percent crown cover implies $CCTREE\_BSL,i$ = 0.10); -dimensionless.

A_i = Area of baseline stratum i, delineated on the basis of tree crown cover at the start of the A/R CDM project activity; ha

Change in carbon stock in shrub biomass within the project boundary at the baseline:

$$C_{SHRUB,t} = \frac{44}{12} \times CF_S \times (1 + R_S) \times \sum_{i=1} A_{SHRUB,i} \times b_{SHRUB,i} \quad \text{E(4)}$$

$$b_{SHRUB,i} = BDR_{SF} \times b_{FoREST} \times CC_{SHRUB,i} \quad \text{E(5)}$$

$$\Delta C_{SHRUB} = C_{SHRUB,t2} - C_{SHRUB,t1} \quad \text{E(6)}$$

Where,

$C_{SHRUB,t}$ = Carbon stock in shrubs within the project boundary at a given -point of time in year t; t CO2-e

CF_S = Carbon fraction of shrub biomass; t C (t.d.m.)-1.

A default value of 0.47 is used unless transparent and verifiable information can be provided to justify a different value.

R_s = Root-shoot ratio for shrubs; dimensionless.

The default value of 0.40 is used unless transparent and verifiable information can be provided to justify a different value.

$A_{SHRUB,i}$ = Area of shrub biomass estimation stratum i; ha

$b_{SHRUB,i}$ = Shrub biomass per hectare in shrub biomass estimation stratum i; t d.m. ha-1

BDR_{SF} = Ratio of shrub biomass per hectare in land having a shrub crown cover of 1.0 (i.e. 100 per cent) and the default above-ground biomass content per hectare in forest in the region/country where the A/R CDM project activity is located;-dimensionless.

A default value of 0.10 should be used unless transparent and verifiable information can be provided to justify a different value.

b_{FOREST} = Default above-ground biomass content in forest in the region/country where the A/R CDM project activity is located; -t d.m. ha-1.

Values from Table 3A.1.4 of IPCC GPG-LULUCF 2003 are used unless transparent and verifiable information can be provided to justify different values.

$CC_{SHRUB,i}$ = Crown cover of shrubs in shrub biomass estimation stratum i at the time of estimation, expressed as a fraction (e.g. 10 percent crown cover implies $CCSHRUB,i$ = 0.10); dimensionless

Change in carbon stock in deadwood within the project boundary at the baseline:

$$C_{DW,i,t} = C_{TREE,i,t} \times DF_{Dw} \quad \text{E(7)}$$

$$dC_{DW},(t1,t2) = \frac{C_{DW},t2 - C_{DW},t1}{T} \quad \text{E(8)}$$

$$\Delta C_{DW,t} = dC_{DW},(t1,t2) \times 1 \text{ year for } t_1 \le t \le t_2 \quad \text{E(9)}$$

Where:

$C_{DW,i,t}$	=	Carbon stock in deadwood in stratum i at a given point of time in year t; t CO2e
$C_{TREE,i,t}$	=	Carbon stock in trees biomass in stratum i at a point of time in year t, as calculated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO2e
DF_{DW}	=	Conservative default factor expressing carbon stock in deadwood as a percentage of carbon stock in tree biomass, percent A default value of 0.37 t C t-1 d.m. may be used unless transparent and verifiable information can be provided to justify a different value
i	=	1, 2, 3. … biomass estimation strata within the project boundary
v	=	1, 2, 3. … years elapsed since the start of the project activity
dC_{DW},(t1,t2)	=	Rate of change in carbon stock in dead wood within the project boundary during the period between a point of time in year t1 and a point of time in year t2; t CO2e yr-1
C_{DW},t2	=	Carbon stock in dead wood within the project boundary at a point of time in year t2; t CO2e
C_{DW},t1	=	Carbon stock in dead wood within the project boundary at a point of time in year t1; t CO2e
T	=	Time elapsed between two successive estimations (T=t2 – t1); yr
$\Delta C_{DW,t}$	=	Change in carbon stock in dead wood within the project boundary in year t; t CO2e

Change in carbon stock in a litter within the project boundary at the baseline:

$$C_{LI,i,t} = C_{TREE,i,t} \times DF_{LI} \quad \text{E(10)}$$

$$C_{LI},(t1,t2) = \frac{C_{LI},t2 - C_{LI},t1}{T} \quad \text{E(11)}$$

$$\Delta C_{DW,t} = dC_{LI},(t1,t2) \times 1 \text{ year for } t_1 \leq t \leq t_2 \quad \text{E(12)}$$

Where:

$C_{DW,i,t}$	=	Carbon stock in deadwood in stratum i at a given point of time in year t; t CO2e
$C_{LI,i,t}$	=	Carbon stock in trees biomass in stratum i at a point of time in year t, as calculated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO2e
$C_{TREE,i,t}$	=	Conservative default factor expressing carbon stock in deadwood as a percentage of carbon stock in tree biomass, percent A default value of 0.37 t C t-1 d.m. may be used unless transparent and verifiable information can be provided to justify a different value
DF_{LI}	=	Conservative default factor expressing carbon stock in the litter as a percentage of carbon stock in tree biomass, percent A default value of 0.37 t C t-1 d.m. may be used unless transparent and verifiable information can be provided to justify a different value.
i	=	1, 2, 3. … biomass estimation strata within the project boundary

t	=	1, 2, 3. … years elapsed since the start of the project activity
dC_{LI},(t1,t2)	=	Rate of change in carbon stock in litter within the project boundary during the period between a point of time in year t1 and a point of time in year t2; t CO2e yr-1
C_{LI},,t2	=	Carbon stock in litter within the project boundary at a point of time in year t2; t CO2e
C_{LI},,t1	=	Carbon stock in litter within the project boundary at a point of time in year t1; t CO2e
T	=	Time elapsed between two successive estimations (T=t2 – t1); yr
$\Delta C_{LI,t}$	=	Change in carbon stock in litter within the project boundary in year t; t CO2e

This rigorous method ensures that our quantification practices are consistent with industry standards, providing a solid foundation for accurately assessing greenhouse gas emission reductions in both project activity 1 and project activity 2.

The baseline emissions in year y (BE) are calculated as:

CF_{TREE}	t C (t.d.m.)-1	0.47
Δb_{FOREST}	t d.m. ha-1 yr-1.	13.0 (≤20 years)
R_{TREE}	-	0.25
$CC_{TREE\_BSL,i}$	-	0.2
A_i	ha	Project activity 1: 645.50 Project activity 2 : 161.87

$$\Delta C_{TREE\_BSL,t} = \sum_{i=1}^{M} \Delta C_{TREE\_BSL,i}$$

Project activity 1:

$\Delta C_{TREE\_BSL,i} = \frac{44}{12} \times 0.47 \times 13.0 \times (1 + 0.25) \times 0.2 \times 645.50 = 3,615.34$ t CO2-e

Project activity 2:

$\Delta C_{TREE\_BSL,i} = \frac{44}{12} \times 0.47 \times 13.0 \times (1 + 0.25) \times 0.2 \times 161.87 = 906.61$ t CO2-e

CF_S	t C (t.d.m.)-1	0.47
R_S	-	0.40
$A_{SHRUB,i}$	ha	Project activity 1: 645.50 Project activity 2 : 161.87
$b_{SHRUB,i}$	t d.m. ha-1	$b_{SHRUB,t1} = 10.25$ $b_{SHRUB,t2} = 14.35$

$$C_{SHRUB,t} = \frac{44}{12} \times CF_S \times (1 + R_S) \times \sum_{i=1} A_{SHRUB,i} \times b_{SHRUB,i}$$

$$b_{SHRUB,i} = BDR_{SF} \times b_{FoREST} \times CC_{SHRUB,i}$$

$b_{SHRUB,t1} = 0.10 \times 205 \times 0.5 = 10.25$

$b_{SHRUB,t2} = 0.10 \times 205 \times 0.7 = 14.35$

Project activity 1:

$C_{SHRUB,t1} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 645.50 \times 10.25 = 15,963.11$ t CO2-e

$C_{SHRUB,t2} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 645.50 \times 14.35 = 22,348.35$ t CO2-e

$\Delta C_{SHRUB} = C_{SHRUB,t2} - C_{SHRUB,t1}$

$= 22,348.35 - 15,963.11 = 6,385.24$ t CO2-e

Project activity 2:

$C_{SHRUB,t1} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 161.87 \times 10.25 = 4,003.02$ tCO2-e

$C_{SHRUB,t2} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 161.87 \times 14.35 = 5,604.23$ tCO2-e

$\Delta C_{SHRUB} = C_{SHRUB,t2} - C_{SHRUB,t1}$

$= 5,604.23 - 4,003.02 = 1,601.21$ CO2-e

Project Activity 1:

$\Delta C_{BSL,t} = \Delta C_{TREE\_BSL,t} + \Delta C_{SHRUB\_BSL,t} + \Delta C_{DW\_BSL,t} + \Delta C_{LI\_BSL,t}$

$= 929.29 + 6,385.24 + 0 + 0 = 10,000.58$ t CO2-e

Project Activity 2:

$\Delta C_{BSL,t} = \Delta C_{TREE\_BSL,t} + \Delta C_{SHRUB\_BSL,t} + \Delta C_{DW\_BSL,t} + \Delta C_{LI\_BSL,t}$

$= 906.61 + 1,601.21 + 0 + 0 = 2507.82$ t CO2-e

3.7.4 GHG emissions reduction/removal in the project scenario

In order to ensure precise and transparent quantification, the MY_JUTAWANJEWELS_Q1/24 projects fully follow the requirements provided in "BCR0001 Quantification of GHG Emission Reductions - GHG Removal Activities." To ensure accuracy and clarity, our measurement and calculation

methods use extensive approaches that include key data, parameters, equations, and other elements.

The actual net GHG removals for project scenario can be calculated as follows:

$$\Delta C_{ACTUAL,t} = \Delta C_t - GHG_{E,t} \quad \text{E(13)}$$

Where:

$\Delta C_{ACTUAL,t}$	=	Actual net GHG removals by sinks, in year t; t CO2-e
ΔC_t	=	Change in the carbon stocks in Project, occurring in the selected carbon pools, in year t; t CO2-e
$GHG_{E,t}$	=	Increase in non-CO2 GHG emissions within the project boundary as a result of the implementation of the A/R CDM - project activity, in year t, as estimated in the tool "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; tCO2-e

Change in the carbon stocks in Project, occurring in the selected carbon pools in year t shall be calculated as follows:

$$\Delta C_{P,t} = \Delta C_{\text{TREE\_PROJ},t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI\_PROJ,t} + \Delta \text{SOC}_{A,t} \quad \text{E(14)}$$

Where:

$\Delta C_{P,t}$	=	Change in the carbon stocks in Project, occurring in the selected carbon pools, in year t; t CO2-e

$\Delta C_{TREE\_PROJ,t}$ = Change in carbon stock in tree biomass in Project in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project -activities"; tCO2-e

$\Delta C_{DW\_PROJ,t}$ = Change in carbon stock in deadwood in Project in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in deadwood and litter in A/R CDM project activities"; tCO2-e

$\Delta C_{LI\_PROJ,t}$ = Change in carbon stock in litter in Project in year t, as estimated-in the tool "Estimation of carbon stocks and change in carbon -stocks in deadwood and litter in A/R CDM project activities"; tCO2-e

$\Delta SOC_{AL,t}$ = Change in carbon stock in SOC in Project, in year t, in areas of land meeting the applicability conditions of the tool "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities,"22 as estimated-in the same tool; t CO2-e

Change in carbon stock in tree biomass within the project boundary for project scenario:

$$\Delta C_{TREE\_PROJ,t} = \sum_{i=1}^{M} \Delta C_{TREE\_PROJ,i} \quad \text{E(15)}$$

$$\Delta C_{TREE\_PROJ,i} = \frac{44}{12} \times CF_{TREE} \times \Delta b_{FOREST} \times (1 + R_{TREE}) \times CC_{TREE\_PROJ,i} \times A_i \quad \text{E(16)}$$

Where:

$\Delta C_{TREE\_PROJ,t}$ = Mean annual change in carbon stock in trees in the project; tCO2e yr-1

CF_{TREE} = Carbon fraction of tree biomass; t C (t.d.m.)-1.

A default value of 0.47 t C (t.d.m.)-1 is used unless transparent and verifiable information can be provided to justify a different value.

Δb_{FOREST} = Default means annual increment of above-ground biomass in-forest in the region or country where the A/R CDM project activity is located; t d.m. ha-1 yr-1.

Values of ΔbF_{OREST} are taken from Table 3A.1.5 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC GPG-LULUCF 2003) unless transparent and verifiable information can be provided to justify different values.

Note. Tree biomass may reach a steady state in which biomass growth becomes zero or insignificant, either because of biological maturity of trees or because the rate of anthropogenic biomass extraction from the area is equal to the rate of biomass growth. Therefore, this parameter should be taken to be zero after the year in which tree biomass in the baseline reaches a steady state. The year in which tree biomass in the baseline reaches a steady-state is taken to be the 20th year from the start of the CDM project activity, unless transparent and verifiable information can be provided to justify a different year.

R_{TREE} = Root-shoot ratio for the trees in the project; dimensionless.

A default value of 0.25 is used unless transparent and verifiable information can be provided to justify a different value.

$CC_{TREE\_PROJ,i}$ = Crown cover of trees in the project, in project stratum i, at the start of the A/R CDM project activity, expressed as a fraction(e.g. 10 percent crown cover implies $CCTREE\_BSL,i$ = 0.10); -dimensionless

A_i = Area of project stratum i, delineated on the basis of tree crown-cover at the start of the A/R CDM project activity; ha

Change in carbon stock in shrub biomass within the project boundary for project scenario:

$$C_{SHRUB,t} = \frac{44}{12} \times CF_S \times (1 + R_S) \times \sum_{i=1} A_{SHRUB,i} \times b_{SHRUB,i} \quad \text{E(17)}$$

$$b_{SHRUB,i} = BDR_{SF} \times b_{FoREST} \times CC_{SHRUB,i} \quad \text{E(18)}$$

$$\Delta C_{SHRUB} = C_{SHRUB,t2} - C_{SHRUB,t1} \quad \text{E(19)}$$

Where:

$C_{SHRUB,t}$ = Carbon stock in shrubs within the project boundary at a given point of time in year t; t CO2-e

CF_S = Carbon fraction of shrub biomass; t C (t.d.m.)-1.

A default value of 0.47 t C (t.d.m.)-1 is used unless transparent and verifiable information can be provided to justify a different value.

R_s = Root-shoot ratio for shrubs; dimensionless.

The default value of 0.40 is used unless transparent and verifiable information can be provided to justify a different value.

$A_{SHRUB,i}$ = Area of shrub biomass estimation stratum i; ha

$b_{SHRUB,i}$ = Shrub biomass per hectare in shrub biomass estimation stratum-i; t d.m. ha-1

BDR_{SF} = Ratio of shrub biomass per hectare in land having a shrub crown cover of 1.0 (i.e. 100 per cent) and the

default-above-ground biomass content per hectare in forest in the -region/country where the A/R CDM project activity is located;-dimensionless.

A default value of 0.10 should be used unless transparent and verifiable information can be provided to justify a different value.

b_{FOREST} = Default above-ground biomass content in forest in the region/country where the A/R CDM project activity is located; t d.m. ha-1.

Values from Table 3A.1.4 of IPCC GPG-LULUCF 2003 are used unless transparent and verifiable information can be provided to justify different values.

$CC_{SHRUB,i}$ = Crown cover of shrubs in shrub biomass estimation stratum i at the time of estimation, expressed as a fraction (e.g. 10 percent crown cover implies $CCSHRUB,i$ = 0.10); dimensionless

Change in carbon stock in deadwood within the project boundary for project scenario:

$$C_{DW,i,t} = C_{TREE,i,t} \times DF_{Dw} \quad \text{E(20)}$$

$$dC_{DW},(t1,t2) = \frac{C_{DW},t2 - C_{DW},t1}{T} \quad \text{E(21)}$$

$$\Delta C_{DW,t} = dC_{DW},(t1,t2) \times 1 \text{ year for } t_1 \le t \le t_2 \quad \text{E(22)}$$

Where:

$C_{DW,i,t}$	=	Carbon stock in deadwood in stratum i at a given point of time in year t; t CO2e
$C_{TREE,i,t}$	=	Carbon stock in trees biomass in stratum i at a point of time in year t, as calculated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM -project activities"; t CO2e
DF_{DW}	=	Conservative default factor expressing carbon stock in deadwood as a percentage of carbon stock in tree biomass, percent A default value of 0.37 t C t-1 d.m. may be used unless transparent and verifiable information can be provided to justify a different value
i	=	1, 2, 3. … biomass estimation strata within the project boundary
t_i	=	1, 2, 3. … years elapsed since the start of the project activity
dC_{DW},(t1,t2)	=	Rate of change in carbon stock in dead wood within the project boundary during the period between a point of time in year t1 and a point of time in year t2; t CO2e yr-1
C_{DW},t2	=	Carbon stock in dead wood within the project boundary at a point of time in year t2; t CO2e
C_{DW},t1	=	Carbon stock in dead wood within the project boundary at a point of time in year t1; t CO2e
T	=	Time elapsed between two successive estimations (T=t2 – t1); yr
$\Delta C_{DW,t}$	=	Change in carbon stock in dead wood within the project boundary in year t; t CO2e

Change in carbon stock in a litter within the project boundary for the project scenario:

$$C_{LI,i,t} = C_{TREE,i,t} \times DF_{LI} \quad \text{E(23)}$$

$$C_{LI},(t1,t2) = \frac{C_{LI},t2 - C_{LI},t1}{T} \quad \text{E(24)}$$

$$\Delta C_{DW,t} = dC_{LI},(t1,t2) \times 1 \text{ year for } t_1 \leq t \leq t_2 \quad \text{E(25)}$$

Where:

$C_{LI,i,t}$ = Carbon stock in deadwood in stratum i at a given point of time in year t; t CO2e

$C_{TREE,i,t}$ = Carbon stock in trees biomass in stratum i at a point of time in year t, as calculated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO2e

DF_{LI} = Conservative default factor expressing carbon stock in the litter as a percentage of carbon stock in tree biomass, percent

A default value of 0.37 t C t-1 d.m. may be used unless transparent and verifiable information can be provided to justify a different value.

i = 1, 2, 3. … biomass estimation strata within the project boundary

t_i = 1, 2, 3. … years elapsed since the start of the project activity

$dC_{LI},(t1,t2)$	=	Rate of change in carbon stock in litter within the project boundary during the period between a point of time in year t1 and a point of time in year t2; t CO2e yr-1
$C_{LI},t2$	=	Carbon stock in litter within the project boundary at a point of time in year t2; t CO2e
$C_{LI},t1$	=	Carbon stock in litter within the project boundary at a point of time in year t1; t CO2e
T	=	Time elapsed between two successive estimations (T=t2 – t1); yr
$\Delta C_{LI},_t$	=	Change in carbon stock in litter within the project boundary in year t; t CO2e

This rigorous method ensures that our quantification practices are consistent with industry standards, providing a solid foundation for accurately assessing greenhouse gas emission reductions in both project activity 1 and project activity 2.

The project emissions in year y (*PE*) are calculated as:

CF_{TREE}	t C (t.d.m.)-1	0.47
Δb_{FOREST}	t d.m. ha-1 yr-1.	13.0 (≤20 years)
R_{TREE}	-	0.25
$CC_{TREE\_PROJ,i}$	-	0.6
A_i	ha	Project activity 1: 645.50 Project activity 2 : 161.87

$$\Delta C_{TREE\_PROJ,t} = \sum_{i=1}^{M} \Delta C_{TREE\_PROJ,i}$$

$$\Delta C_{TREE\_PROJ,i} = \frac{44}{12} \times CF_{TREE} \times \Delta b_{FOREST} \times (1 + R_{TREE}) \times CC_{TREE\_PROJ,i} \times A_i$$

Project activity 1:

$\Delta C_{TREE\_PROJ,i} = \frac{44}{12} \times 0.47 \times 13.0 \times (1 + 0.25) \times 0.6 \times 645.50 = 10{,}846.01$ t CO2-e

Project activity 2:

$\Delta C_{TREE\_PROJ,i} = \frac{44}{12} \times 0.47 \times 13.0 \times (1 + 0.25) \times 0.6 \times 161.87 = 2{,}719.82$ t CO2-e

CF_S	t C (t.d.m.)-1	0.47
R_S	-	0.40
$A_{SHRUB,i}$	ha	Project activity 1: 645.50 Project activity 2 : 161.87
$b_{SHRUB,i}$	t d.m. ha-1	$b_{SHRUB,t1} = 16.4$ $b_{SHRUB,t2} = 20.5$

$$C_{SHRUB,t} = \frac{44}{12} \times CF_S \times (1 + R_S) \times \sum_{i=1} A_{SHRUB,i} \times b_{SHRUB,i}$$

$$b_{SHRUB,i} = BDR_{SF} \times b_{FOREST} \times CC_{SHRUB,i}$$

$b_{SHRUB,t1} = 0.10 \times 205 \times 0.6 = 12.3$

$b_{SHRUB,t2}$ = 0.10 × 205 × 1.0 = 20.5

Project activity 1:

$C_{SHRUB,t1} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 645.50 \times 12.3 = 19{,}155.73$ t CO2-e

$C_{SHRUB,t2} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 645.50 \times 20.5 = 31{,}926.21$ t CO2-e

$\Delta C_{SHRUB} = C_{SHRUB,t2} - C_{SHRUB,t1}$

= 31,926.21 - 19,155.73 = 12,770.48 t CO2-e

Project activity 2:

$C_{SHRUB,t1} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 161.87 \times 12.3 = 4{,}803.62$ tCO2-e

$C_{SHRUB,t2} = \frac{44}{12} \times 0.47 \times (1 + 0.40) \times 161.87 \times 20.5 = 8{,}006.04$ tCO2-e

$\Delta C_{SHRUB} = C_{SHRUB,t2} - C_{SHRUB,t1}$

= 8,006.04 - 4,803.62 = 3,202.42 t CO2-e

Project Activity 1:

$\Delta C_{P,t} = \Delta C_{TREE\_PROJ,t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI\_PROJ,t} + \Delta SOC_{A,t}$

= 10,846.01 + 12,770.48 + 0 + 0 = 23,616.50 t CO2-e

Project Activity 2:

$\Delta C_{P,t} = \Delta C_{TREE\_PROJ,t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI\_PROJ,t} + \Delta SOC_{A,t}$

= 2,719.82 + 3,202.42 + 0 + 0 = 5,922.24 t CO2-e

Project Activity 1:

Year	GHG emission reductions in the baseline scenario (tCO2e)	GHG emission reductions in the project scenario (tCO_{2e})	GHG emissions attributable to leakages (tCO_{2e})	Estimated Net GHG Reduction (tCO_{2e})
Year 1	8,500.49	20,074.03	0	11,573.54
Year 2	8,500.49	20,074.03	0	11,573.54
Year 3	10000.58	23,616.50	0	13,615.92
Year...	10000.58	23,616.50	0	13,615.92
Total	197011.42	465,245.06	0	268,233.64

Project Activity 2:

Year	GHG emission reductions in the baseline scenario (tCO2e)	GHG emission reductions in the project scenario (tCO_{2e})	GHG emissions attributable to leakages (tCO_{2e})	Estimated Net GHG Reduction (tCO_{2e})
Year 1	2131.65	5,033.90	774.84	2,127.41
Year 2	2131.65	5,033.90	774.84	2,127.41
Year 3	2507.82	5,922.24	774.84	2,639.58
Year...	2507.82	5,922.24	774.84	2,639.58
Total	49404.06	116,668.12	15,496.8	51,767.26

Total estimated of GHG emissions reductions (during the quantification period):

Project Activity 1 : (11,573.53 x 2 years) +(13,615.92 x 18 years) = 268,233 tCO2e

Project Activity 2 : (2,127.41 x 2 years) +(2,639.58 x 18 years) = 51767.26 tCO2e

Estimated average annual amount of GHG emission reductions:

Project Activity 1 : 13,615.92 tCO2e/year

Project Activity 2 : 2,639.58 tCO2e/year

4 Compliance with applicable legislation

MY_JUTAWANJEWELS_Q1/24 project has implemented a Document Management System (DMS) to systematically organise and manage all relevant legal documents, including Malaysian laws and international regulations governing forest reserves and durian forest plantations. The project conducts regular legal audits to identify and update the applicable laws and regulations. This includes a comprehensive review of local and national legal frameworks that may impact the project. The project has categorized the documents based on topics such as land use, environmental regulations, labor laws, indigenous rights, and human rights.

All relevant Malaysia laws and regulations applicable to MY_JUTAWANJEWELS_Q1/24 projects as following:

1. **Land Acquisition and Land Use:**
    - National Land Code 1965
    - State Land Rules
2. **Environmental Regulations:**
    - Environmental Quality Act 1974
    - Environmental Impact Assessment (EIA) Order 1987
    - Wildlife Conservation Act 2010
3. **Forestry Laws:**

- National Forestry Act 1984
- Perak Forest Rules

4. **Biodiversity Conservation:**
   - Biodiversity Conservation Act 2010
5. **Labour Laws:**
   - Employment Act 1955
   - Occupational Safety and Health Act 1994
6. **Indigenous Peoples:**
   - Indigenous Peoples Act 2016
   - United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)

To ensure legal compliance, especially in relation to the protection of human and indigenous peoples' rights in a MY_JUTAWANJEWELS_Q1/24 project, specific measures have be implemented, which can align with relevant laws and international regulations:

1. **Labor Rights and Safety:**

Description: The project ensures compliance with Malaysian labor laws and international standards.

Implementation: Employment practices adhere to the Employment Act 1955, and occupational safety measures follow the Occupational Safety and Health Act 1994, protecting workers' rights and well-being.

2. **Social Impact Assessments:**

Description: Social impact assessments are conducted to identify potential impacts on local communities, with a particular focus on indigenous peoples.

Implementation: The assessments are comprehensive, covering aspects such as land tenure, cultural practices, and social structures to find guide project planning and mitigation strategies.

3. Community Engagement and Free, Prior, and Informed Consent (FPIC):

Description: The project engages with local communities, especially indigenous groups, in a meaningful way. FPIC is obtained before implementing any activities that may affect their land, resources, or cultural heritage.

Implementation: Regular consultations, community meetings, and the establishment of grievance mechanisms ensure that the project respects the rights and decisions of indigenous communities.

4. Monitoring and Reporting:

Description: Regular monitoring of project activities is conducted, with a focus on human and indigenous peoples' rights.

Implementation: The project maintains transparent reporting mechanisms, providing updates to relevant stakeholders, regulatory bodies, and communities. This includes reporting in alignment with international standards and agreements.

By implementing these measures, MY_JUTAWANJEWELS_Q1/24 project can demonstrate its commitment to legal compliance, human rights, and the protection of indigenous peoples' rights in accordance with international regulations.

5. Carbon ownership and rights

5.1 Project holder

Individual or organization	Carbon Vault Sdn Bhd
Contact person	Nuralya Zulaikha Mohamad Haini
Job position	Operations Executive

Address	No.11A, Lorong Kurau, Bangsar, 59100 Kuala Lumpur.
Phone number	(+60) 17 369 7419
Email	nuralya@co2bank.asia

5.2 Other project participants

Individual or organization	Jutawan Jewels Sdn Bhd
Contact person	Surayati
Job position	Plantation Assistant Manager
Address	PT3349 Pulau Kemiri, Perak (4.971337, 101.230920)
Phone number	(+60)13 988 9885
Email	surayati1989@gmail.com

5.3 Agreements related to carbon rights

Both the projects have obtained the agreement of all the project stakeholders to the management of carbon rights, and have demonstrated transparency and, where appropriate, evidence of a process based on full, prior and informed consent. The project has respected the rights of the local traditional communities that inhabit or use the project area, and has ensured that they are informed and consulted about the project activities and benefits. The project has demonstrated carbon rights based on agreements and documents that ensure that the requirement is met, with at least the following information:

(a) Parties signing the agreement(s):

Project Owner : Carbon Vault Sdn Bhd

Parent Company : Jutawan Jewels Sdn Bhd

(b) Purpose of the agreement:

The purpose of the agreement is to define and transfer the carbon rights from the landowners and the local communities to the project participants, and to establish the terms and conditions for the sharing of the benefits from the carbon credits generated by the project. The agreement also specifies the roles and responsibilities of each party, and the mechanisms for monitoring, reporting, verification, and dispute resolution.

(c) Date of the agreement:

The agreement was signed on 15/12/2023, and after the validation and approval of the project design document by the BioCarbon Technical Committee.

(d) Name of the GHG project:

The name of the GHG project is MY_JUTAWANJEWELS_Q1/24 which aims to combat climate change by engaging in activities that result in measured and verifiable reductions in greenhouse gas emissions in Kuala Kangsar, Perak, Malaysia.

(e) Period of quantification of GHG emission removals/reductions:

The period of quantification of GHG emission removals/reductions is 10 years, starting from 15/12/2024 and ending on 15/12/2034. This typically covers the entire duration of the project, from its initiation to its completion.

(f) Responsibilities, obligations, and rights of each of the signatory parties are as follows:

Landowners:

- The landowners agree to grant the carbon rights to the project participants, and to allow the project activities to take place on their land.
- The landowners also agree to maintain and protect the land and the trees, and to refrain from any activities that may harm or reduce the carbon stocks.
- The landowners have the right to receive a fair and equitable share of the benefits from the carbon credits, based on the area and the quality of their land.

Local communities:

- The local communities agree to support and cooperate with the project activities, and to respect the carbon rights of the project participants.
- The local communities also agree to participate in the monitoring and reporting of the project performance, and to provide feedback and suggestions for improvement.
- The local communities have the right to receive a fair and equitable share of the benefits from the carbon credits, based on their contribution and involvement in the project.

Project Participants:

- The project participants agree to implement and manage the project activities, and to comply with the selected methodology and the relevant standards and regulations.
- The project participants also agree to monitor and report the project performance, and to verify and certify the emission reductions or removals.
- The project participants have the right to own and sell the carbon credits generated by the project, and to retain a reasonable share of

the benefits from the carbon credits, based on their investment and risk in the project.

5.4 Land tenure (Projects in the AFOLU sector)

In this MY_JUTAWANJEWELS_Q1/24 project, Jutawan Jewels Sdn Bhd was the project participants for this project.

The project participants can demonstrate their land ownership by providing evidence and information that support their legal rights and claims to the land or land parcels. The evidence and information may include:

- Land titles, deeds, or certificates that show the name, location, area, and boundaries of the land or land parcels, and the date and terms of acquisition, transfer, or lease.
- Land contracts, agreements, or leases that show the name, role, and responsibilities of the parties involved in the land or land parcels, and the duration and conditions of the land use or management.
- Land maps, surveys, or records that show the geospatial data and characteristics of the land or land parcels, and the land use or cover types and changes over time.
- Land permits, licences, or approvals that show the authorization and compliance of the project activities with the relevant laws, regulations, and policies of the national or local authorities.
- Land registries, databases, or systems that show the official and updated information and documentation of the land or land parcels, and the verification and validation of the land ownership and the project activities.

6 Climate change adaptation

In adherence to the BioCarbon Registry (BCR) Standard, this document outlines the climate change adaptation activities undertaken by Jutawan Jewels Sdn Bhd,

as derived from the GHG project activities. The adaptation measures implemented align with the relevant criteria and indicators specified by the BCR Standard.

Project Activity 1:

Adaptation Criteria and Indicators for Eucalyptus Plantation:

	Criteria	**Indicator**
Integration of Climate Resilience in Sustainable Practices	Integration of climate-resilient practices within eucalyptus plantation management.	Adoption of sustainable agroforestry practices, including intercropping with shade-providing tree species to enhance ecosystem resilience to climate variability and reduce the vulnerability of eucalyptus production.
Identification and Mitigation of Climate Risks	Identification and proactive mitigation of climate-related risks specific to eucalyptus cultivation.	Conducting risk assessments to assess potential impacts of climate change on eucalyptus production and implementing strategies to mitigate risks, such as improved water management practices and pest control measures.
Enhanced Soil Conservation Techniques	Adoption of sustainable soil management and erosion control practices.	Measurement of soil organic matter content, reduction in soil erosion rates observed through satellite imagery or ground surveys, and implementation of cover cropping or terracing practices.
Biodiversity Conservation for Climate Resilience	Promoting biodiversity conservation within and around the palm oil plantation.	Establishing buffer zones with diverse vegetation to enhance biodiversity, providing habitats for beneficial species that

		contribute to ecosystem resilience and pest control.

Project Activity 2:

Adaptation Criteria and Indicator for Durian Plantation:

	Criteria	**Indicator**
Diversification of Crop Varieties	Introduction of genetically diverse and climate-resistant durian varieties.	Decrease in crop failure rates due to extreme weather, increased yield stability year over year, and diversity of planted durian varieties assessed through genetic markers.
Improved Water Management Practices	Implementation of water-saving technologies and practices.	Reduction in water usage per hectare, increase in rainwater harvesting capacity, and maintenance of soil moisture levels through drought-resistant crops or mulching techniques.
Enhanced Soil Conservation Techniques	Adoption of sustainable soil management and erosion control practices.	Measurement of soil organic matter content, reduction in soil erosion rates observed through satellite imagery or ground surveys, and implementation of cover cropping or terracing practices.

By integrating these adaptation strategies, the project can address the challenges posed by climate change, ensuring the sustainability and resilience of the plantation. These activities not only contribute to mitigating the direct impacts of

climate change on the plantation but also support broader environmental sustainability and resilience objectives.

7 Risk management

The projects have carried out risk assessment and risk management, to identify the environmental, financial and social risks associated with the implementation of the project activities, and to justify the measures designed to manage the risks so that GHG emission reductions and/or removals are maintained throughout the project quantification period. The project has followed the guidelines and best practices of the ISO 31000 standard for risk management, and the ISO 14091 standard for adaptation to climate change. The project has also used the web search results to obtain relevant information and data on the potential risks and mitigation measures.

The projects have identified the following risks in the environmental, financial and social dimensions, and has proposed the following measures to manage them:

Project Activity 1:

a) Environmental Risks:

These are the potential natural and anthropogenic risks to which the GHG mitigation activities may be exposed, such as storms, fire, pests, diseases, land use change, and illegal logging. These risks may affect the survival, growth, and health of the trees, and the carbon stocks and sequestration potential of the project area. The project has assessed the likelihood and impact of these risks, and has developed the following measures to mitigate them:

1) The project has implemented a forest management plan, which includes specific goals and objectives for the management of the forest, considering factors like biodiversity conservation, timber production, recreational use, and watershed protection. It outlines silvicultural

practices, harvesting methods, and monitoring protocols to ensure the health and resilience of the forest ecosystem.

2) The project has established a fire prevention and control system, which includes the creation and maintenance of firebreaks, the provision and training of fire-fighting equipment and personnel, and the coordination and cooperation with the local fire authorities and communities.

3) The project has implemented a pest and disease monitoring and control system, which includes the regular inspection and diagnosis of the trees, the application of biological or chemical treatments when necessary, and the quarantine and removal of infected or infested trees.

4) The project has secured the legal ownership and tenure of the land and the carbon rights, and has obtained the necessary permits and approvals from the relevant authorities, to prevent or reduce the risk of land use change or illegal logging in the project area.

5) The project has established a buffer zone and a contingency reserve, which are areas or pools of carbon credits that are set aside to compensate for any potential or actual losses or reversals of carbon stocks due to the environmental risks.

b) Financial Risks:

These are the potential financial risks associated with the expected costs and cash flow of the project, such as the fluctuations in the carbon price, the delays or failures in the validation, verification, and certification of the emission reductions or removals, and the operational or maintenance costs of the project activities. These risks may affect the profitability and viability of the project, and the incentives and motivations of the project participants and stakeholders. The project has assessed the probability and magnitude of these risks, and has developed the following measures to mitigate them:

1) The project has conducted a financial analysis and a sensitivity analysis, which include the estimation and projection of the costs and revenues of the project, and the evaluation of the net present value, the internal rate

of return, and the break-even point of the project, to assess the financial feasibility and attractiveness of the project.

2) The project has diversified its sources and streams of income, which include not only the sale of carbon credits, but also the sale of eucalyptus products and other ecosystem services, to reduce the dependence and exposure to the carbon market volatility and uncertainty.
3) The project has secured the funding and financing of the project, which include the equity, debt, and grant contributions from the project participants and other entities, such as the project proponent, the project developer, the project manager, the project financier, and the BioCarbon Fund, to cover the upfront and ongoing costs of the project activities.
4) The project has followed the procedures and requirements of the selected methodology and the relevant standards and regulations, such as the BCR0001 Quantification of GHG Emission Reductions (GHG Removal Activities) where the CDM Afforestation and Reforestation (A/R) Large-Scale Consolidated Methodology ACM0003, and the BioCarbon standard become references, to ensure the quality and credibility of the emission reductions or removals, and to facilitate the validation, verification, and certification of the project by the competent authority or body.
5) The project has implemented a risk management plan, which includes the identification, assessment, treatment, monitoring, and reporting of the financial risks, and the application of the risk mitigation measures, to minimize the negative impacts and maximize the positive outcomes of the project.

c) Social Risks:

These are the potential social risks associated with the participation of local communities and stakeholders in the activities proposed by the project owner, such as the conflicts or disputes over the land or carbon rights, the impacts or trade-offs on the livelihoods and well-being of the local people, and the expectations or perceptions of the project benefits and costs. These risks may

affect the acceptance, support, and cooperation of the local communities and stakeholders, and the sustainability and legitimacy of the project. The project has assessed the frequency and severity of these risks, and has developed the following measures to mitigate them:

1) The project has conducted a stakeholder analysis and a social impact assessment, which include the identification and mapping of the relevant and affected stakeholders, such as the landowners, the local communities, the indigenous peoples, and the environmental authorities, and the evaluation of the potential positive and negative impacts of the project on their rights, interests, and needs.
2) The project has engaged and consulted with the local communities and stakeholders, using the principles and methods of free, prior and informed consent (FPIC), to inform and educate them about the project objectives, activities, and benefits, and to obtain their feedback and suggestions for improvement.
3) The project has established a benefit-sharing mechanism, which includes the definition and allocation of the benefits from the carbon credits and other sources of income, and the distribution and delivery of the benefits to the local communities and stakeholders, based on their contribution and involvement in the project.
4) The project has implemented a grievance redress mechanism, which includes the provision and facilitation of a transparent and accessible process for the local communities and stakeholders to raise and resolve any complaints or concerns related to the project activities and impacts, and to seek and obtain remedies or compensation when appropriate.
5) The project has established a monitoring and evaluation system, which includes the collection, analysis, and disclosure of the relevant data and information on the social performance and impacts of the project, and the application of the quality assurance and quality control procedures.

Project Activity 2:

a) <u>Environmental Risks:</u>

These are the potential natural and anthropogenic risks to which the GHG mitigation activities may be exposed, such as storms, fire, pests, diseases, land use change, and illegal logging. These risks may affect the survival, growth, and health of the trees, and the carbon stocks and sequestration potential of the project area. The project has assessed the likelihood and impact of these risks, and has developed the following measures to mitigate them:

1) The project has selected Durian that is suitable and adapted to the local climate and soil conditions, and that are resistant or tolerant to the common pests and diseases in the region.
2) The project has implemented a silvicultural management plan, which includes the proper site preparation, planting, pruning, thinning, harvesting, and replanting of the trees, to enhance the productivity and resilience of the plantation.
3) The project has established a fire prevention and control system, which includes the creation and maintenance of firebreaks, the provision and training of fire-fighting equipment and personnel, and the coordination and cooperation with the local fire authorities and communities.
4) The project has implemented a pest and disease monitoring and control system, which includes the regular inspection and diagnosis of the trees, the application of biological or chemical treatments when necessary, and the quarantine and removal of infected or infested trees.
5) The project has secured the legal ownership and tenure of the land and the carbon rights, and has obtained the necessary permits and approvals from the relevant authorities, to prevent or reduce the risk of land use change or illegal logging in the project area.
6) The project has established a buffer zone and a contingency reserve, which are areas or pools of carbon credits that are set aside to compensate for any potential or actual losses or reversals of carbon stocks due to the environmental risks.

b) <u>Financial Risks:</u>

These are the potential financial risks associated with the expected costs and cash flow of the project, such as the fluctuations in the carbon price, the delays or failures in the validation, verification, and certification of the emission reductions or removals, and the operational or maintenance costs of the project activities. These risks may affect the profitability and viability of the project, and the incentives and motivations of the project participants and stakeholders. The project has assessed the probability and magnitude of these risks, and has developed the following measures to mitigate them:

1) The project has conducted a financial analysis and a sensitivity analysis, which include the estimation and projection of the costs and revenues of the project, and the evaluation of the net present value, the internal rate of return, and the break-even point of the project, to assess the financial feasibility and attractiveness of the project.
2) The project has diversified its sources and streams of income, which include not only the sale of carbon credits, but also the sale of eucalyptus products and other ecosystem services, to reduce the dependence and exposure to the carbon market volatility and uncertainty.
3) The project has secured the funding and financing of the project, which include the equity, debt, and grant contributions from the project participants and other entities, such as the project proponent, the project developer, the project manager, the project financier, and the BioCarbon Fund, to cover the upfront and ongoing costs of the project activities.
4) The project has followed the procedures and requirements of the selected methodology and the relevant standards and regulations, such as the BCR0001 Quantification of GHG Emission Reductions (GHG Removal Activities) where the CDM Afforestation and Reforestation (A/R) Large-Scale Consolidated Methodology ACM0003, and the BioCarbon standard become references, to ensure the quality and credibility of the emission reductions or removals, and to facilitate the validation, verification, and certification of the project by the competent authority or body.
5) The project has implemented a risk management plan, which includes the identification, assessment, treatment, monitoring, and reporting of

the financial risks, and the application of the risk mitigation measures, to minimize the negative impacts and maximize the positive outcomes of the project.

c) Social Risks:

These are the potential social risks associated with the participation of local communities and stakeholders in the activities proposed by the project owner, such as the conflicts or disputes over the land or carbon rights, the impacts or trade-offs on the livelihoods and well-being of the local people, and the expectations or perceptions of the project benefits and costs. These risks may affect the acceptance, support, and cooperation of the local communities and stakeholders, and the sustainability and legitimacy of the project. The project has assessed the frequency and severity of these risks, and has developed the following measures to mitigate them:

1) The project has conducted a stakeholder analysis and a social impact assessment, which include the identification and mapping of the relevant and affected stakeholders, such as the landowners, the local communities, and the environmental authorities, and the evaluation of the potential positive and negative impacts of the project on their rights, interests, and needs.
2) The project has engaged and consulted with the local communities and stakeholders, using the principles and methods of free, prior and informed consent (FPIC), to inform and educate them about the project objectives, activities, and benefits, and to obtain their feedback and suggestions for improvement.
3) The project has established a benefit-sharing mechanism, which includes the definition and allocation of the benefits from the carbon credits and other sources of income, and the distribution and delivery of the benefits to the local communities and stakeholders, based on their contribution and involvement in the project.
4) The project has implemented a grievance redress mechanism, which includes the provision and facilitation of a transparent and accessible process for the local communities and stakeholders to raise and resolve

any complaints or concerns related to the project activities and impacts, and to seek and obtain remedies or compensation when appropriate.

5) The project has established a monitoring and evaluation system, which includes the collection, analysis, and disclosure of the relevant data and information on the social performance and impacts of the project, and the application of the quality assurance and quality control procedures.

7.1 Reversal Risk

MY_JJUTAWANJEWELS_00/24 project has maintained a carbon offset project over time that requires a comprehensive approach that includes legal agreements, contractual clauses, and a robust management plan to mitigate the risk of reversion. By referring to BCR website by using "Risk and Permanence" tool, key measures taken to ensure the longevity of project activities 1 and 2:

- **Legally Agreements and contracts:**

  Establish clear and legally binding land use agreements that specify that the selected area will only be Eucalyptus plantation in project activity 1 and used for the durian plantation in project activity 2 of the carbon offset project. This helps to prevent the property from being converted for other purposes, which could weaken the project's carbon sequestration goals. Contracts with stakeholders, including project developers, investors, and carbon offset buyers, should outline the terms and conditions of the carbon offset project. This can include the duration of the project and the responsibilities of each party.

- **Monitoring and Verification:**

  Establish a method for regular monitoring and verification of carbon sequestration levels. This includes independent third-party audits to track changes in carbon stocks, tree health, and overall project performance. Remote sensing technologies, on-the-ground surveys, and other monitoring methods should be employed. It also includes elements in the management plan that enable for changes based on monitoring data. If

problems emerge, such as falling carbon sequestration rates, the plan should specify corrective actions to be implemented.

- **Management Plan:**

  Create a detailed management strategy that explains the project's objectives, major achievements, and the measures required to maintain and improve carbon sequestration over time. Identify potential risks, including the risk of reversion, and design strategies to mitigate them. This could include regular maintenance, pest and disease control, and adaptive management strategies.

- **Financial Mechanisms:**

  Secure long-term financing commitments or endowments that can be used to cover continuing maintenance costs by establishing escrow accounts to keep funds specifically allocated for project maintenance, with disbursement restrictions tied to achieving established milestones. Implementing insurance policies also can provide financial protection against unforeseen events, such as natural disasters or fires, which could jeopardize the project's success.

- **Long-Term Contracts:**

  Establish contracts with entities that purchase carbon offsets to assure a long-term commitment to the project. These contracts should detail the agreed-upon terms, such as the period of the offsetting commitment, pricing techniques, and consequences for noncompliance. Furthermore, these contracts include conditions requiring offset purchasers to give financial guarantees or insurance to cover the risk of reversion, guaranteeing that money is available for project maintenance.

- **Community Engagement and Benefit Sharing:**

  Create agreements with local communities to assure their cooperation and participation in the project. This could include revenue-sharing

arrangements, job opportunities, or additional benefits that establish a vested interest in the project's success.

In conclusion, the success of MY_JUTAWANJEWELS_Q1/24 projects hinges on anticipating and effectively mitigating both expected risks (direct and indirect) through adaptive management strategies where :

Direct Risks:

- These can include natural disasters like wildfires, storms, or droughts, pest infestations that could jeopardize the health of the forest ecosystem and unauthorized land use such as illegal logging and land encroachment.

Indirect Risks:

- Changes in government policies, economic fluctuations in the carbon market can impact the economic viability of carbon offset projects. In addition, economic uncertainties can affect the availability of funds for ongoing project maintenance.

Adaptive Management:

- Planting a diverse range of tree species can enhance the project's resilience to environmental changes, diseases, and pests, contributing to long-term sustainability.
- Regular monitoring of carbon sequestration, tree health, and overall project performance is fundamental for early detection of issues and informed decision-making.
- Adaptive management involves maintaining flexibility in project planning. This could include the ability to adjust planting strategies, land use

agreements, and financial allocations in response to changing circumstances.

8 Environmental Aspects

Project Activity 1:

The project has conducted an environmental assessment, analyzing the foreseeable impacts on biodiversity and ecosystems within the project boundaries. The environmental assessment is supported by reliable and up-to-date references, such as the Preliminary Environmental Impact Assessment (EIA) Report, Environmental Management Plan (Wildlife) Report and Forest Management Plan Report from project activity 1.

The environmental assessment has found that the project activities have mostly **positive impacts** on biodiversity and ecosystems, such as:

- The project preserves forested land that was formerly a restricted protected forest area under the Perak State Forestry Department, while additionally enhancing the land's carbon stocks and sequestration capacity.
- The surrounding project area establishes a eucalyptus plantation that are suitable and adapted to the local climate and soil conditions, and that provide multiple ecosystem services and benefits.
- The project increases the habitat quality and connectivity for the native flora and fauna, which supports the conservation of endangered and endemic species, such the Asian elephant (*Elephas maximus*), Tiger, black Panther, Sun Bear were commonly found for pioneer species of flora.

In order to demonstrate that the project activities cause no net harm to the environment, the project holder has used a No Net Harm tool developed by the BioCarbon Registry. The tool is a spreadsheet that provides a framework and a checklist for assessing the environmental impacts and risks of the project

activities, and for developing and implementing the environmental safeguards and mitigation measures. The tool also provides guidance and examples for the application of the tool, and for the reporting and verification of the environmental performance and outcomes of the project.

Project Activity 2:

The project has conducted an environmental assessment, analyzing the foreseeable impacts on biodiversity and ecosystems within the project boundaries. The environmental assessment is supported by reliable and up-to-date references, such as the Preliminary Environmental Impact Assessment (EIA) Report, Environmental Management Plan (Wildlife) Report and Forest Management Plan Report from project activity 2.

The environmental assessment has found that the project activities have mostly **positive impacts** on biodiversity and ecosystems, such as:

- The project restores and conserves forested land that was previously used for shifting cultivation and logging, and enhances the carbon stocks and sequestration potential of the land.
- The project area establishes a durian forest plantation, using durian trees and other species (such as musang king, Black Thorn,Musang King, Blackthorn Nangka, Cempedak) planted in between the durian trees that are suitable and adapted to the local climate and soil conditions, and that provide multiple ecosystem services and benefits.
- The project has implemented a silvicultural management plan, which includes the proper site preparation, planting, pruning, thinning, harvesting, and replanting of the trees, to enhance the productivity and resilience of the plantation.
- The project switches from non-renewable biomass to renewable biomass for thermal energy generation by the project participants, and reduces the emissions and pollution from fossil fuels.

The environmental assessment has also identified some potential **negative impacts** of the project activities, such as:

- The project may cause soil erosion, nutrient depletion, or water contamination due to the site preparation, planting, harvesting, or replanting of the trees, or the use of fertilizers, pesticides, or herbicides.
- The project may affect the hydrological cycle, water availability, or water quality due to the changes in land use or cover, or the water consumption by the trees.
- The project may generate waste, noise, or dust during the construction, operation, or maintenance of the project facilities or equipment.

The project has proposed the following **actions and corrective measures** to manage and minimize the impacts resulting from the development of the GHG project activities, such as:

- The project will implement a silvicultural management plan, which includes the proper site preparation, planting, pruning, thinning, harvesting, and replanting of the trees, and the application of organic or low-toxicity fertilizers, pesticides, or herbicides, to prevent or reduce the soil erosion, nutrient depletion, or water contamination.
- The project will conduct a hydrological assessment, which includes the estimation and monitoring of the water balance, water demand, and water quality of the project area and the surrounding areas, and will implement water conservation and protection measures, such as rainwater harvesting, drip irrigation, or buffer strips, to prevent or reduce the impacts on the hydrological cycle, water availability, or water quality.
- The project will implement a waste management plan, which includes the reduction, reuse, recycling, or disposal of the waste generated by the project activities, and will follow the noise and dust control regulations and standards, to prevent or reduce the waste, noise, or dust pollution.

In order to demonstrate that the project activities cause no net harm to the environment, the project holder has used a No Net Harm tool developed by the BioCarbon Registry. The tool is a spreadsheet that provides a framework and a checklist for assessing the environmental impacts and risks of the project activities, and for developing and implementing the environmental safeguards and mitigation measures. The tool also provides guidance and examples for the application of the tool, and for the reporting and verification of the environmental performance and outcomes of the project.

9 Socio-economic aspects

Project Activity 1:

The project has conducted an analysis of the potential socio-economic impacts of the activities, within the scope of the project, clearly explaining the assumptions used and justifying the results of the analysis. The analysis is supported by relevant documentation and evidence, such as the Preliminary Environmental Impact Assessment (EIA) Report and Forest Management Plan Report from project activity 1.

The analysis has found that the project activities have mostly **positive impacts** on the socio-economic aspects, such as:

- The project creates jobs and income opportunities for the local communities and foreigners, by employing them as workers, technicians, or managers for the project activities.
- The project also conducts a training and learning process for the local communities.
- The project improves the livelihoods and well-being of the local communities, by providing them with access to clean and renewable energy, health and education services, and capacity building.

- The project contributes to the sustainable development goals and the national development plans, by aligning and complying with the relevant policies, regulations, and standards, and by addressing the key challenges and priorities of the country and the region, such as poverty reduction, climate change mitigation and adaptation, and biodiversity conservation.

The analysis has also identified some potential **negative impacts** of the project activities, such as:

- The project may affect or undermine the traditional or customary practices, values, or beliefs of the local communities, especially the indigenous peoples, who may have a different worldview or relationship with the land and the natural resources.

- The project may generate or increase the inequality or vulnerability of the local communities, especially the marginalized or disadvantaged groups, such as women, youth, or ethnic minorities, who may face barriers or discrimination in accessing or benefiting from the project activities and resources.

- The project may create or reinforce the dependency or expectations of the local communities on the project activities and benefits, which may not be sustainable or reliable in the long term, or which may crowd out or displace other sources of livelihoods or income.

The project has proposed the following **actions and corrective measures** to prevent and/or reduce the socio-economic impacts resulting from the development of the GHG project activities, such as:

- The project will conduct a stakeholder analysis and a conflict analysis, which include the identification and mapping of the relevant and affected stakeholders, such as the landowners, the local communities, the indigenous peoples, and the environmental authorities, and the assessment and management of the potential or actual conflicts or disputes related to the project activities and impacts.

- The project will respect and protect the rights and interests of the local communities, especially the indigenous peoples, and will seek their free, prior and informed consent (FPIC) for the project activities and benefits, as well as their feedback and suggestions for improvement.

- The project will implement a grievance redress mechanism, which includes the provision and facilitation of a transparent and accessible process for the local communities and stakeholders to raise and resolve any complaints or concerns related to the project activities and impacts, and to seek and obtain remedies or compensation when appropriate.

- The project will implement a monitoring and evaluation system, which includes the collection, analysis, and disclosure of the relevant data and information on the socio-economic performance and impacts of the project, and the application of the quality assurance and quality control procedures.

In order to demonstrate that the project activities do not cause net harm to local communities and society, the project holder has used a No Net Harm tool developed by the BioCarbon Registry.

Project Activity 2:

The project has conducted an analysis of the potential socio-economic impacts of the activities, within the scope of the project, clearly explaining the assumptions used and justifying the results of the analysis. The analysis is supported by relevant documentation and evidence, such as the Preliminary Environmental Impact Assessment (EIA) Report and Forest Management Plan Report from project activity 2.

The analysis has found that the project activities have mostly **positive impacts** on the socio-economic aspects, such as:

- The project creates jobs and income opportunities for the local communities and foreigners, by employing them as workers, technicians, or managers for the project activities.

- The project improves the livelihoods and well-being of the local communities, by providing them with access to clean and renewable energy, health and education services, and capacity building and training programs.

- The project contributes to the sustainable development goals and the national development plans, by aligning and complying with the relevant policies, regulations, and standards, and by addressing the key challenges and priorities of the country and the region, such as poverty reduction, climate change mitigation and adaptation, and biodiversity conservation.

The analysis has also identified some potential **negative impacts** of the project activities, such as:

- The project may generate or increase the inequality or vulnerability of the local communities, especially the marginalized or disadvantaged groups, such as women, youth, or ethnic minorities, who may face barriers or discrimination in accessing or benefiting from the project activities and resources.

- The project may create or reinforce the dependency or expectations of the local communities on the project activities and benefits, which may not be sustainable or reliable in the long term, or which may crowd out or displace other sources of livelihoods or income.

The project has proposed the following **actions and corrective measures** to prevent and/or reduce the socio-economic impacts resulting from the development of the GHG project activities, such as:

- The project will conduct a stakeholder analysis and a conflict analysis, which include the identification and mapping of the relevant and affected stakeholders, such as the landowners, the local communities, the indigenous peoples, and the environmental authorities, and the assessment and management of the potential or actual conflicts or disputes related to the project activities and impacts.

- The project will implement a grievance redress mechanism, which includes the provision and facilitation of a transparent and accessible process for the local communities and stakeholders to raise and resolve any complaints or concerns related to the project activities and impacts, and to seek and obtain remedies or compensation when appropriate.

- The project will implement a monitoring and evaluation system, which includes the collection, analysis, and disclosure of the relevant data and information on the socio-economic performance and impacts of the project, and the application of the quality assurance and quality control procedures.

In order to demonstrate that the project activities do not cause net harm to local communities and society, the project holder has used a No Net Harm tool developed by the BioCarbon Registry.

10 Consultation with interested parties (stakeholders)

The project has carried out stakeholder consultation through appropriate and widespread consultation processes. The stakeholder consultation is a process of engaging and communicating with the relevant and affected stakeholders, such as the landowners, the local communities, the indigenous peoples, the environmental authorities, and the civil society organizations, to inform and educate them about the project objectives, activities, and benefits, and to obtain their feedback and suggestions for improvement.

The stakeholder consultation process meets the relevant requirements, as follows:

a) The scope of stakeholder consultations:

   The stakeholder consultations cover the entire project cycle, from the project design, implementation, monitoring, and verification, to the benefit-sharing and grievance redress. The stakeholder consultations also address the key issues and topics related to the project, such as the

additionality, baseline, leakage, permanence, environmental and social impacts, and safeguards of the project.

b) The number of stakeholders consulted:

The projects have consulted around 100 to 150 stakeholders, representing a diverse and representative sample of the relevant and affected stakeholders. The project has ensured that the stakeholder consultations are inclusive and participatory, and that the views and interests of the marginalized or disadvantaged groups, such as women, youth, children or ethnic minorities, are adequately considered and respected.

c) The means used to invite interested parties to participate in the consultations:

The projects have used several means to invite interested parties to participate in the consultations, such as emails, phone calls, and social media platforms. Furthermore, engage with local businesses and chambers of commerce to seek their support in spreading information about the consultations to their members and employees. In addition, the projects have also used local languages, media, and channels, to ensure that the invitations are accessible and understandable to the stakeholders.

d) The information that was made available to stakeholders during the consultation process:

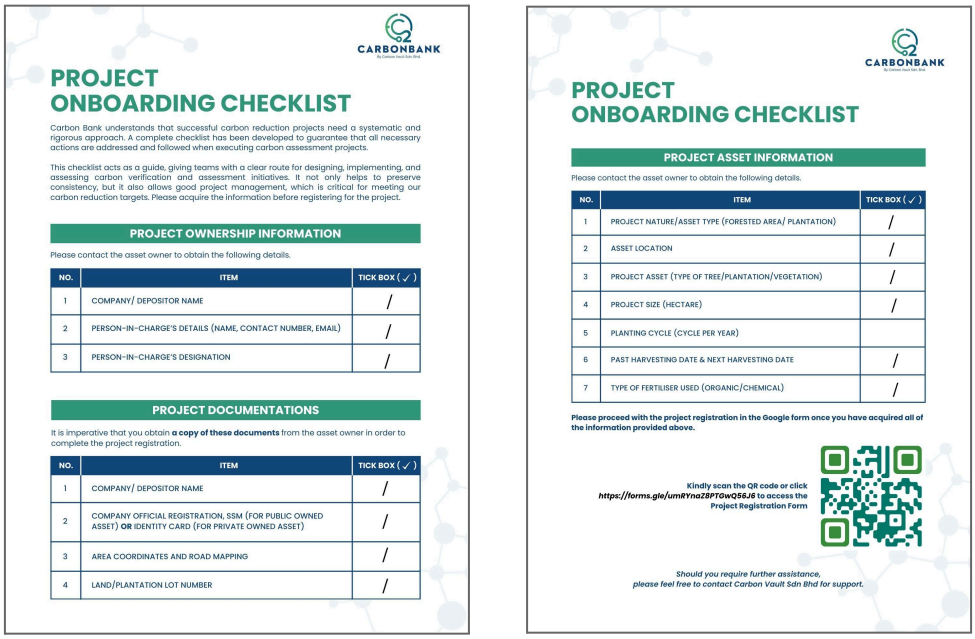
The projects have made available the relevant information and documentation to stakeholders during the consultation process, such as the project design document, the monitoring report, the validation and verification reports, the environmental and social impact assessment, and the benefit-sharing and grievance redress mechanisms. The project has also provided the information and documentation in local languages, formats, and media, to ensure that they are comprehensible and transparent to the stakeholders.

e) The meetings, workshops and other processes developed in the framework of the stakeholder consultation:

The projects have arranged and facilitated informational meetings as part of the stakeholder consultation process, including focus group discussions, surveys, interviews, field visits, and feedback sessions. The project has also ensured that the meetings are conducted in a timely, respectful, and culturally appropriate manner, and that the outcomes and recommendations are recorded and reported.

The project has provided documentary (or other) evidence to ensure that invitations were sent to relevant stakeholders. The evidence includes:

Figure 6, 7 & 8: Meeting with project participants and stakeholders from Jutawan Jewels Sdn Bhd.



CARBONBANK

PROJECT
ONBOARDING CHECKLIST

Carbon Bank understands that successful carbon reduction projects need a systematic and rigorous approach. A complete checklist has been developed to guarantee that all necessary actions are addressed and followed when executing carbon assessment projects.

This checklist acts as a guide, giving teams with a clear route for designing, implementing, and assessing carbon verification and assessment initiatives. It not only helps to preserve consistency, but it also allows good project management, which is critical for meeting our carbon reduction targets. Please acquire the information before registering for the project.

PROJECT OWNERSHIP INFORMATION

Please contact the asset owner to obtain the following details.

NO.	ITEM	TICK BOX (✓)
1	COMPANY/ DEPOSITOR NAME	/
2	PERSON-IN-CHARGE'S DETAILS (NAME, CONTACT NUMBER, EMAIL)	/
3	PERSON-IN-CHARGE'S DESIGNATION	/

PROJECT DOCUMENTATIONS

It is imperative that you obtain **a copy of these documents** from the asset owner in order to complete the project registration.

NO.	ITEM	TICK BOX (✓)
1	COMPANY/ DEPOSITOR NAME	/
2	COMPANY OFFICIAL REGISTRATION, SSM (FOR PUBLIC OWNED ASSET) **OR** IDENTITY CARD (FOR PRIVATE OWNED ASSET)	/
3	AREA COORDINATES AND ROAD MAPPING	/
4	LAND/PLANTATION LOT NUMBER	/

CARBONBANK

PROJECT
ONBOARDING CHECKLIST

PROJECT ASSET INFORMATION

Please contact the asset owner to obtain the following details.

NO.	ITEM	TICK BOX (✓)
1	PROJECT NATURE/ASSET TYPE (FORESTED AREA/ PLANTATION)	/
2	ASSET LOCATION	/
3	PROJECT ASSET (TYPE OF TREE/PLANTATION/VEGETATION)	/
4	PROJECT SIZE (HECTARE)	/
5	PLANTING CYCLE (CYCLE PER YEAR)	
6	PAST HARVESTING DATE & NEXT HARVESTING DATE	/
7	TYPE OF FERTILISER USED (ORGANIC/CHEMICAL)	/

Please proceed with the project registration in the Google form once you have acquired all of the information provided above.

Kindly scan the QR code or click *https://forms.gle/umRYnaZBPTGwQ56J6* to access the Project Registration Form

Should you require further assistance, please feel free to contact Carbon Vault Sdn Bhd for support.

Figure 9: Documentation of the Project Onboarding Checklist, specifically for information on ownership, plantation assets, and other associated documentation.

10.1 Summary of comments received

N/A

10.2 Consideration of comments received

N/A

11 Sustainable Development Goals (SDGs)

The following is a particular description of how the MY_JUTAWANJEWELS_Q1/24, which includes project activities 1 and 2, contributes to the Sustainable Development Goals (SDGs). The BioCarbon Registry established the Tool for Determining the Contributions of GHG Projects

to Achieving the SDGs, which is used for the assessment can be referred from https://biocarbonregistry.com/es_en/ods/.

SDG Goal	Criteria and Indicator	Project's Contribution
SDG 8: Decent Work and Economic Growth Projects contribute to economic growth and employment opportunities.	• Gross Domestic Product (GDP) growth to local economic growth. • Job creation and decent work opportunities	• Establishing job possibilities at various phases and generating income for local people through sustainable forest management methods including non-timber forest product collection. • Increased employment rates include providing fair wages, safe working conditions, and skill development for workers that are involved.
SDG 13: Climate Action Projects contribute to climate change mitigation and enhancing carbon sequestration.	• Adoption of sustainable forest practices to reduce the carbon footprint. • Implementation of climate-resilient measures in plantation cultivation	• Implementation of optimal methods for sustainable forest management, minimizing deforestation and fostering carbon sequestration.

SDG 15: Life on Land Projects contribute to protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation.	• Implementation of practices to avoid negative impacts on biodiversity and ecosystems. • Conservation of natural habitats within and around the plantation.	• Strict adherence to optimal management strategies to minimise negative effects on the local biodiversity and ecosystems. • Implementation of conservation zones within the plantation to enhance biodiversity and preserve habitats.
SDG 17: Partnerships for the Goals Projects collaborate among stakeholders for successful forest conservation and sustainable management.	• Collaboration with local communities and stakeholders for sustainable timber and non-timber production. • Contribution to local economic development and capacity-building.	• Conducting open and honest discussions with local communities to address their concerns and collect their input. • Executing community development endeavours, such as educational programmes and vocational training, to augment the local capability and foster economic advancement.

Using the BioCarbon Registry's SDG Tool, it reveals that MY_JUTAWANJEWELS_Q1/24 exceeds the given criteria and indicators for SDGs 8, 13, 15, and 17. The tool provides insights into the project's positive contributions

to sustainable development goals through reforestation and afforestation. It specifically supports sustainable methods in the timber business, protects biodiversity, and works with local communities. This aligns with the larger worldwide goal for sustainable development and illustrates the BioCarbon Registry's commitment to ensuring that greenhouse gas projects have beneficial impacts.

12 REDD+ Safeguards (For REDD+ projects)

N/A

13 Special categories, related to co-benefits (optional)

Co-benefits are the additional benefits that are generated by the project, such as the improvement of the livelihoods, health, education, gender equality, or human rights of the local communities, or the conservation of biodiversity and ecosystem services. The BCR STANDARD recognizes and encourages the generation of co-benefits by the project, and offers the possibility of obtaining a special category for the project, if it meets certain conditions and criteria related to the co-benefits.

Reforestation and afforestation projects, while primarily focused on mitigating greenhouse gas (GHG) emissions through carbon sequestration, offer several co-benefits that contribute to environmental, social, and economic sustainability.

Project Activity 1:

Biodiversity Conservation

Project activity 1 could be classed as biodiversity conservation. It is designated for conservation and sustainable management, with the purpose of preserving its forest cover throughout time. By hindering forest cover loss, these methods help to conserve carbon stored in trees and soil by planting eucalyptus plantation,

lowering emissions from deforestation and additionally focuses on restoring and maintaining biodiversity-rich areas, which benefit not only carbon sequestration but also the preservation of unique ecosystems and the species they support. The criteria for compliance could involve sustainable eucalyptus management strategies, while maintaining ecosystem health and biodiversity. Sustainable forestry can encourage the regeneration of harvested areas, ensuring that the forest's overall carbon store remains stable or increases over time.

Community Benefit

Project activity 1 provided employment opportunities and supported local economies. This could be achieved by providing training and employment opportunities related to reforestation activities, such as maintenance and monitoring the forest reserve. Sustainable forest management practices also create long-term benefits for communities through non-timber forest products and other sustainable uses of forest resources. Furthermore, it also increases awareness about the value of forests in climate change mitigation and environmental protection by developing educational programs that enable communities to actively participate in sustainable land management practices.

Project Activity 2:

Biodiversity Conservation

Project activity 1 could be classed as biodiversity conservation. It is designated for conservation and sustainable management, with the purpose of preserving its forest cover throughout time. By hindering forest cover loss, these methods help to conserve carbon stored in trees and soil by planting durian plantation, lowering emissions from deforestation and additionally focuses on restoring and maintaining biodiversity-rich areas, which benefit not only carbon sequestration but also the preservation of unique ecosystems and the species they support. The criteria for compliance could involve sustainable forest management strategies, such as extracting timber and non-timber forest products while maintaining ecosystem health and biodiversity. Sustainable forestry can encourage the regeneration of harvested areas, ensuring that the forest's overall carbon store remains stable or increases over time.

Community Benefit

Project activity 2 provided employment opportunities and supported local economies. This could be achieved by providing training and employment opportunities related to reforestation activities, such as tree planting, maintenance, and monitoring. Sustainable forest management practices also create long-term benefits for communities through non-timber forest products and other sustainable uses of forest resources. Furthermore, it also increases awareness about the value of forests in climate change mitigation and environmental protection by developing educational programs that enable communities to actively participate in sustainable land management practices.

Hence, the monitoring plan should include a section on measuring and tracking of co-benefits, which should specify the following information:

- The data and parameters that are required to measure and quantify the co-benefits achieved by the project, and how they will be collected, recorded, and archived.
- The indicators and methods that will be used to demonstrate and verify compliance with the conditions and criteria for the special category, and how they will be calculated, reported, and validated.
- The quality control and quality assurance procedures that will be applied to ensure the reliability and validity of the data and information on co-benefits, and how they will be documented and reviewed.
- The frequency and timing of the monitoring and reporting of co-benefits, and the reporting formats and templates that will be used.

14 Grouped projects (if applicable)

In the context of the MY_JUTAWANJEWELS_Q1/24 grouped project, compliance with the conditions applicable to clustered projects is demonstrated through the following key aspects:

1. Defined Project Boundaries

- Clear demarcation of well-defined project boundaries for each project activity within the grouped structure.
- Detailed documentation specifying the extent and limits of each project's operational areas.

2. **Independent Project Activities**
   - Acknowledgment that each project activity, despite being part of a grouped project, operates independently with its unique set of activities and objectives.
   - Documentation outlining the autonomy of each project activity in terms of planning, implementation, and monitoring.

3. **Transparent Accounting and Reporting**
   - Establishing a transparent accounting system that enables accurate measurement and reporting of emissions and removals for each project activity.
   - Compliance with methodology and reporting standards ensures consistency and dependability in quantifying emission reductions.

4. **Risk Assessment and Management:**
   - Comprehensive risk assessment and management plan addressing potential risks associated with each project activity independently.
   - Risk mitigation and management measures have been implemented for particular project activities.

5. **Commonality in Compliance Standards**
   - Adherence to a common set of compliance standards, ensuring that each project activity complies with the same regulatory frameworks, methodologies, and BCR Standard requirements.

6. **Independent Validation and Verification**
   - Independent validation and verification processes conducted separately for each project activity.
   - Verification of emission reductions and adherence to methodologies independently for the grouped projects.

7. **Benefit Sharing and Stakeholder Engagement**
    - Implementation of benefit-sharing mechanisms that consider the unique circumstances of each project activity.
    - Robust stakeholder engagement strategies tailored to the specific context and community dynamics of each project.

By addressing these aspects, the MY_JUTAWANJEWELS_Q1/24 grouped project ensures compliance with the conditions applicable to clustered projects, maintaining the integrity and independence of each project activity within the group.

15 Other GHG program

N/A

16 Double counting avoidance

This section offers a detailed account of how MY_JUTAWANJEWELS_Q1/24 implements the measures to prevent double counting, with a focus on the concepts and requirements specified in the BioCarbon Registry's "Avoiding Double Counting (ADC)" tool. The objective is to guarantee that the accounting, issuance, and retirement of GHG reduction outcomes comply with the most rigorous criteria and avoid any occurrences of duplicative counting.

- Double Counting Avoidance Requirements:

    1. **Prohibition on Accounting**

        MY_JUTAWANJEWELS_Q1/24 Strictly abides by the restriction of double-counting GHG mitigation outcomes. This entails the clear and precise reporting of emissions, guaranteeing that each metric tonne of emission reduction or removal is accounted for without duplication.

2. **Prohibition on Issuance**

   The allocation of carbon credits undergoes meticulous examination to ensure the prevention of any replication. Every granted credit indicates a distinct and confirmed decrease or removal of emissions, and the procedure adheres to the rules established by the ADC tool.

3. **Prohibition on Retirement**

   The retirement of carbon credits is meticulously managed. MY_JUTAWANJEWELS_Q1/24 guarantees that retired credits are accurately aligned with verifiable emission reductions or removals and are strictly prohibited from being utilised for any form of compensation or assertion.

- Application of BCR Tool "Avoiding Double Counting (ADC)":

1. **Transparent Documentation**

   MY_JUTAWANJEWELS_Q1/24 Ensures the preservation of clear and comprehensive documentation throughout the full project cycle. This encompasses extensive documentation of confirmed reductions or removals of emissions, issuing of credits, and retirement of credits. All documentation is provided for the purpose of independent third-party verification.

2. **Verification Process**

   The ideas of the ADC tool are included into the verification process. The tool is utilised by independent third-party verifiers to evaluate the project's compliance with double counting avoidance standards. Prior to the issuance of carbon credits, any inconsistencies are meticulously examined and corrected.

- Continuous Monitoring and Improvement:

1. **Regular Audits**

   Regular internal and external audits are performed to evaluate the efficacy of the procedures used to prevent duplicate counting. Any detected vulnerabilities are swiftly fixed to strengthen the integrity of the project.

2. **Stakeholder Awareness**

   Stakeholders, such as project participants, local communities, and investors, get education regarding the significance of preventing double counting. This consciousness fosters a culture of responsibility and guarantees that all individuals concerned comprehend their involvement in avoiding duplicate tallying.

Conclusion:

MY_JUTAWANJEWELS_Q1/24 is committed to the highest standards of integrity in its GHG mitigation efforts. Through the strict application of the BCR Tool "Avoiding Double Counting (ADC)," the project ensures that each ton of emission reduction or removal is accurately accounted for, issued, and retired only once, contributing to the credibility and transparency of the BioCarbon Registry Program.

17 Monitoring plan

The project MY_JUTAWANJEWELS_Q1/24 has designed and explained a monitoring plan that, as required by the BCR Standard and the applied methodology, contains the following:

a) **Project boundary monitoring:** This is the process of measuring and recording the physical and geographical boundaries of the project area, where the GHG emission reductions or removals occur. The project boundary monitoring includes the following:

- The projects use a Global Positioning System (GPS) device and a Google Earth Pro software to map and mark the coordinates and the area of the project boundary, and to update them periodically or whenever there are changes in the land use or cover.
- The projects use drones equipped with cameras and sensors to capture high-resolution images and data to verify and validate the land use or cover types and changes within the project boundary, and to compare them with the baseline scenario.
- The projects use field surveys and ground truthing to collect and confirm the data and information on the land use or cover types and changes within the project boundary, and to calibrate and correct the satellite imagery and aerial photography.

b) **Monitoring of the execution of project activities:** This is the process of tracking and reporting on the progress and outcomes of project activities. It entails assessing and ensuring that the project is moving in accordance with the specified objectives, timelines, and compliance standards. The monitoring of the execution of project activities involves the internal audit, which includes the following:

- The project activities will be reviewed to ensure compliance with relevant laws and regulations related to carbon offset projects. This includes adherence to emissions reduction methodologies, accounting standards, and any other legal requirements.
- Auditors assess whether the project execution aligns with the original plans and objectives. This involves reviewing project documentation, timelines, milestones, and assessing any deviations from the initial project plan.
- The internal audit assesses the effectiveness of risk management processes associated with the carbon offset project. This includes identifying and evaluating risks, as well as reviewing the adequacy of risk mitigation strategies in place.

- The internal audit assesses the robustness of internal controls, tracking financial expenditures, and confirming that carbon offset credits generated are legitimate and verifiable.

c) **Monitoring of the quantification of project emission reduction/removals:** This is the process of estimating and calculating the GHG emission reductions or removals achieved by the project activities, compared to the baseline scenario. The monitoring of the quantification of project emission reduction/removals includes the following:

- The projects use the BCR0001 Quantification of GHG Emission Reductions - GHG Removal Activities, Version 3.2 Methodology, ACM0003 Afforestation and Reforestation (A/R) Large-Scale Consolidated Methodology and the BioCarbon standard, to determine the parameters, equations, and procedures for the quantification of the project emission reduction/removals.

- The projects use the BCR Tool: Monitoring, Reporting and Verification (MRV), which is a spreadsheet that provides a framework and a checklist for the monitoring, reporting, and verification of the project emission reduction/removals, and for the development and implementation of the environmental and social safeguards and mitigation measures[1].

- The projects use the BCR Tool: Risk and Permanence, which is a spreadsheet that defines the step-wise approach for conducting the non-permanence risk analysis to determine the number of buffer credits that the project shall deposit into the AFOLU Pooled Buffer Account[2].

d) **Quality control and quality assurance procedures:** These are the processes of ensuring and verifying the accuracy, completeness, consistency, transparency, and verifiability of the data and information collected and reported by the project, and of the emission reductions or removals estimated and calculated by the project. The quality control and quality assurance procedures include the following:

- The projects encompass regular monitoring of data collection, emissions measurements, and project implementation to verify that the

methodologies employed are consistent with industry standards and best practices.

- The projects establish and maintain high standards for project documentation by including developing clear and comprehensive protocols for data collection, measurement methodologies, and reporting.
- The projects involve conducting audits of the entire project process, from data collection to reporting in identifying any systemic issues or gaps in the procedures that may impact the accuracy and reliability of the project outcomes.

e) **Verification of field data:** This is the process of confirming and attesting the validity and reliability of the data and information collected from the field, such as the land use or cover types and changes, the number and type of the trees planted, pruned, thinned, harvested, and replanted. The verification of field data includes the following:

- The projects conduct multiple on-site visits and inspections to validate the physical existence of emission reduction measures or carbon sequestration activities. This may involve inspecting equipment, facilities, or natural ecosystems to confirm that they align with project documentation.
- Scrutinise all relevant project documentation, including monitoring reports, maintenance records, and any other records that support the reported emissions reductions or removals which helps ensure transparency and accountability in the project's operations.
- The projects use an independent and qualified third-party verifier, who is accredited and approved by the BioCarbon Technical Committee, to conduct the verification of the field data, and to issue a verification report and a verification statement.

f) **Review of information processing:** This is the process of checking and evaluating the quality and consistency of the data and information processing, such as the data entry, analysis, calculation, and disclosure, and of the

emission reductions or removals estimation and reporting. The review of information processing includes the following:

- The projects use Google Sheets to store, organize, and retrieve the data and information collected and reported by the project, and to ensure the security, integrity, and accessibility of the data and information.

- The project uses a data quality assessment and a data quality control, which include the application of the data quality indicators, such as accuracy, precision, completeness, consistency, transparency, and verifiability, and the data quality procedures, such as calibration, validation, correction, and documentation, to ensure and improve the quality and consistency of the data and information processing.

- The projects utilize Google Forms as a feedback mechanism, which includes soliciting and incorporating project information, data, comments, and suggestions from project participants and stakeholders.

g) **Data recording and archiving system:** This is the system of recording and archiving the data and information collected and reported by the project, and of the emission reductions or removals estimated and calculated by the project, for the purpose of verification, certification, and transparency. The data recording and archiving system includes the following:

- The project uses a data recording and archiving software and a database to record and archive the data and information collected and reported by the project, and of the emission reductions or removals estimated and calculated by the project, in a consistent, transparent, and verifiable format and manner.

- The project uses the BCR Registry, which is an online platform that registers and tracks the emission reductions or removals generated and transferred by the project, and that provides access and information to the project participants, stakeholders, and the public.

- The project uses the BCR Tool. Data Recording and Archiving, which is a spreadsheet that provides a framework and a checklist for the data

recording and archiving of the project, and for the compliance with the BCR Registry rules and requirements.

The BCR Tool is a tool for monitoring, reporting and verification of emissions, reductions and removals from carbon dioxide removal (CDR) projects under Article 6 of the Paris Agreement. The tool provides guidance on how to update existing CDM methodologies to align with the requirements of Article 6.2 and 6.4, as well as the enhanced transparency framework. The tool covers the following aspects of MRV:

- **Monitoring Plan Specification:**

  The data and information needed to estimate GHG emission removals or reductions during the project quantification period are specified in the monitoring plan, which is based on the approved CDM methodology and updated according to the tool. The data and information include the parameters to be monitored, the sources and methods of data collection, the frequency and duration of monitoring, the quality assurance and quality control procedures, and the data management system.

- **Baseline Establishment:**

  Data and additional information for establishing the baseline or reference scenario are specified in the monitoring plan, following the same principles as for the project scenario. The baseline scenario represents the hypothetical situation in the absence of the CDR project and is determined using baseline approaches defined in CDM methodology.

- **Leakage Identification:**

  The monitoring plan includes specifications on potential emissions occurring outside the project boundary as a result of GHG project activities (leakage). It defines leakage sources, estimation methods, and leakage deduction factors, adhering to CDM methodology.

- **Environmental Impact Assessment:**

  The Project Design Document (PDD) provides information on environmental impact assessment of GHG project activities, including changes in land use, water quality, biodiversity, and social aspects, along with mitigation measures and stakeholder consultations.

- **Quality Control and Assurance:**

  Established procedures for the management of GHG emission reductions or removals and associated quality control for monitoring activities are also described in the PDD and the monitoring plan. The procedures include the roles and responsibilities of the project participants, the operational and management structure, the internal and external audits, the corrective and preventive actions, and the record keeping and reporting system.

- **Calculation Procedures:**

  Description of established procedures for periodic calculation of GHG emission reductions or removals and leakage which include the methods and formulas for calculating the net GHG emission reductions or removals, which are the difference between the baseline emissions and the sum of the project emissions and the leakage emissions.

- **Stakeholder Roles and Responsibilities:**

  Assignment of roles and responsibilities for monitoring and reporting relevant variables is specified in the PDD and monitoring plan, involving project participants, designated operational entities (DOEs), host country, buyer country, and supervisory body.

- **Identification of Sustainable Development Goals (SDGs):**

Procedures for assessing the project's contribution to Sustainable Development Goals (SDGs) are outlined in the PDD and monitoring plan, following guidance from the SDG Tool. This includes identifying relevant SDGs, setting indicators and targets, collecting and reporting data, and verifying outcomes.

- **Co-Benefits and Special Category Monitor :**

  Procedures related to co-benefits and special category monitoring, where applicable, are also included in the PDD and the monitoring plan, following the guidance of the CDM methodologies and the tool. The procedures include the identification, quantification, verification, and reporting of the co-benefits and the special category aspects.

The BCR Tool ensures that the MRV process is rigorous and meets a high level of accuracy and strict data collecting and archiving, by following the principles and requirements of Article 6 of the Paris Agreement and the enhanced transparency framework. The tool also ensures that the MRV process is consistent, comparable, complete, transparent, and verifiable, by applying the methodologies and metrics assessed by the Intergovernmental Panel on Climate Change and adopted by the CMA2. The tool also ensures that the MRV process is cost-effective and harmonized, by building on the existing CDM methodologies and tools, and by providing guidance, templates, examples, and further tools for the project participants and the DOEs.

NOTE: This Project Document (PD) shall be completed following the instructions included. However, it is important to highlight that these instructions are complementary to the BCR STANDARD, and the Methodology applied by the project holder, in which more information on each section can be found.