**Non–permanence Risk Assessment Report**

Logo (optional)

Project Participant Name

|  |  |
| --- | --- |
| **Project Details** | |
| **Registration Number** | <Provide project registration No.> |
| **Project Title** | < Provide project title> |
| **Project Participant** | <Provide name of project participant> |
| **Co-Project Participant** | <Provide name of co-project participant> |
| **Project Owner** | <Provide name of project owner> |
| **Project Location** | <Provide project location> |
| **Coordinates of Project Location** | <Provide coordinates of project location> |
| **Project Model** | 🞏 Single project  🞏 Bundled Project  🞏 Program of Activities: PoA |
| **Project Activity** | <Provide details of project activities |
| **Amount of Expected GHG Reduction** | tCO2eq |
| **Crediting Period** | 🞏 15 < Crediting start date − Crediting end date >  🞏 Other ......... < Crediting start date − Crediting end date > |

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| **Document preparation details** | | | | | |
| Completion date | | DD-Month-YYYY | | | |
| Version | | XX | | | |
| Document Preparer | | Full Name |  | |
|  | | Position |  | |
|  | | Organization |  | |
|  | | Contact Number |  | |
| **Validation and Verification Body (VVB)** | | | |
| Name of VVB | <Provide VVB name> | | |

|  |  |
| --- | --- |
| **Project Participant Details** (*If there is more than one project participant, please add all names*) | |
| Project Participant |  |
| Coordinator's Name |  |
| **Position** |  |
| Address |  |
| Telephone |  |
| Fax |  |
| E-mail |  |

**Introduction**

**Premium T-VER Projects for carbon reduction, sequestration, and storage in the forestry and agriculture sectors excluding methane and/or nitrous oxide reduction activities from agriculture** there are risks associated with carbon loss due to non-permanence. These risks stem from various factors, including biological, environmental, and human-induced factors such as illegal logging, wildfires, and outbreaks of pests and diseases.

Project participants in carbon reduction, sequestration, and storage projects in the forestry and agriculture sectors (excluding methane and/or nitrous oxide reduction from agriculture) are required to prepare a Non-Permanence Risk Assessment Report, which must be validated by a Validation and Verification Body (VVB) and submitted to the Thailand Greenhouse Gas Management Organization (TGO) together with the application for Premium T-VER project registration. In addition, project participants must conduct ongoing risk monitoring throughout the crediting period, as required by TGO. This includes preparing a Non-Permanence Risk Monitoring Report every five years, which must also be verified by the VVB and submitted to TGO. The VVB is responsible for evaluating both reports by reviewing key risk factors through documentation and field inspections, as well as assessing the proposed risk mitigation measures. Where necessary, the project participant may be required to correct deficiencies, inconsistencies, or non-compliance with the applicable standards.

**Scoring system**

Non-permanence risk is categorized into three groups: Internal risks, external risks and natural risks. The risk assessment employs a scoring system that varies depending on the type of risk. The scoring for each sub-category is based on long-term project operations, ensuring alignment with the context of each risk factor.

**1. Internal risks**

Internal risks are further divided into sub-categories, with risk scores assigned to different scenarios. The total risk score ranges from 0 to 8, as are the following details:

**Score 0-2:** Low risk, where risk mitigation measures are not mandatory but recommended.

**Score 3-8:** High and unacceptable risk, requiring risk mitigation measures.

**2. External risks**

External risks are further divided into sub-categories, with risk scores assigned to different scenarios. The total risk score ranges from 0 to 8, as are the following details:

**Score 0-2:** Low risk, where risk mitigation measures are not mandatory but recommended.

**Score 3-8:** High and unacceptable risk, requiring risk mitigation measures.

**3. Natural risks**

**3.1 Probability of the risk:** The probability of the risk is assessed based on historical statistical data from the project area and its surroundings within a 20 km radius. It is categorized into three levels:

**Score 2 :** An event expected to occur at least once in 10 years.

**Score 1 :** An event expected to occur at least once in 20 years.

**Score 0 or not applicable :** An event that is not expected to occur throughout the project period or is not relevant to the project.

**3.2 Impact of the risk:** The impact of damage on carbon stocks (e.g., trees, soil) and greenhouse gas emissions is classified into two levels:

**Score 3 :** An event is expected to cause total damage to carbon stock, and natural recovery is expected to take 5 years or more.

**Score 2 :** An event is expected to affect carbon stock without causing total damage, and natural recovery is expected to take 5 years or more.

**Score 1 :** An event is expected to affect carbon stock without causing total damage, and natural recovery is expected to occur within less than 5 years.

**3.3 Scale of the risk:** The spatial extent of damage is categorized into three levels:

**Score 3 :** An event is expected to affect more than 50% of the project area.

**Score 2 :** An event is expected to affect between 5% and 50% of the project area.

**Score 1 :** An event is expected to affect less than 5% of the project area.

**3.4 Total score of the risk**: The risk score for each sub-category is based on long-term project operations and is adjusted according to the context of each risk factor. The final risk score is calculated by multiplying the scores for probability, impact, and scale of the risk, resulting in a total score between 0 and 12:

**Score 0-3:** Low risk, where risk mitigation measures are not mandatory but recommended.

**Score 4-18:** High and unacceptable risk, requiring risk mitigation measures.

For the **Non-Permanence Risk Assessment Report**, which is prepared at the start of the project to support the registration process, the score includes two components: the **initial risk score**, which reflects a projected assessment of risk based on environmental conditions and does not take into account any mitigation measures; and The **mitigation risk score**, which is determined after risk mitigation measures have been defined. This score is expected to be lower than the initial score. Project participants may provide supporting evidence or data to justify the scoring, such as academic reports, historical data, photographs, maps, websites, legal documents, etc.

**Note:** In the case of Program of Activities (PoA), the project participants must assess the risk of carbon loss due to non-permanence across the entire project area.

**Summary of Risk Assessment**

| **Risk Category** | **Initial risk score** | **Mitigation risk score** |
| --- | --- | --- |
| **1. Internal risks** |  |  |
| 1.1 Project failure due to personnel issues |  |  |
| 1.2 Project failure due to technical issues |  |  |
| 1.3 Project cumulative cash flow breakeven point |  |  |
| 1.4 Opportunity cost |  |  |
| 1.5 Project longevity |  |  |
| **2. External risks** |  |  |
| 2.1 Land use right/Land ownership |  |  |
| 2.2 Community participation |  |  |
| 2.3 Political issues |  |  |
| 2.4 Illegal logging |  |  |
| **3. Natural risks** |  |  |
| 3.1 Fire risk |  |  |
| 3.2 Disease and/or pest outbreaks |  |  |
| 3.3 Storms |  |  |
| 3.4 Wildlife and/or livestock intrusion |  |  |
| 3.5 Flooding and/or inundation |  |  |
| 3.6 Drought and/or water scarcity |  |  |
| 3.7 Climate change |  |  |
| 3.8 Landslides |  |  |
| 3.9 Other natural factors affecting the survival and growth of trees |  |  |

**Risk Assessment**

Project participants may provide supporting evidence or data to justify their risk assessment, such as academic reports, historical data, photographs, maps, websites, legal documents, etc.

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| **1. Internal risks** | | | |
| **1.1 Project failure due to personnel issues** | | | |
| (1) | **The project lacks personnel with the necessary skills and experience in implementing forestry and agriculture sector greenhouse gas reduction projects.** (**4 points**) | | |
| (2) | **The project has personnel with 2-5 years of experience in implementing forestry and agriculture sector greenhouse gas reduction projects.** (**2 points**) | | |
| (3) | **The project has personnel with more than 5 years of experience in implementing forestry and agriculture sector greenhouse gas reduction projects.** (**0 points**) | | |
| **Total Risk Score = [(1), (2), or (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **1. Internal risks** | | | |
| **1.2 Project failure due to technical issues** Risks related to technical or scientific project management must be evaluated according to the specific activities of the project. | | | |
| For Afforestation/Reforestation Activities: | | | |
| (1) | The selected tree species consist of native species and/or species suitable for the area, covering less than 75% of the project area. (4 **points**) | | |
| (2) | The selected tree species consist of native species and/or species suitable for the area, covering at least 75% of the project area. (2 **points**) | | |
| (3) | The selected tree species consist solely native species and/or species suitable for the area. (0 **points**) | | |
| For REDD and Forest Conservation Activities: | | | |
| (4) | The project’s management approach and/or activities align with no more than 50% of the key drivers of deforestation and forest degradation in the project area. (4 points) | | |
| (5) | The project’s management approach and/or activities align with more than 50% of the key drivers of deforestation and forest degradation in the project area. (2 points) | | |
| (6) | The project’s management approach and/or activities fully align with all key drivers of deforestation and forest degradation in the project area. (0 points) | | |
| **Total Risk Score =[(1), (2) or (3) + (4), (5) or (6)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **1. Internal risks** | | | |
| **1.3 Project cumulative cash flow breakeven point** | | | |
| (1) | The project's cash flow breakeven point is 20 years or more, based on the current risk assessment. (3 **points**) | | |
| (2) | The project's cash flow breakeven point is more than 10 years but less than 20 years, based on the current risk assessment. (2 **points**) | | |
| (3) | The project's cash flow breakeven point is more than 5 years but less than 10 years, based on the current risk assessment. (1 **points**) | | |
| (4) | The project's cash flow breakeven point is 5 years or less, based on the current risk assessment. (0 points) | | |
| (5) | The project secures financial stability and/or funding sources covering less than 15% of the total project costs until breakeven. (3 points) | | |
| (6) | The project secures financial stability and/or funding sources covering at least 15% but less than 40% of the total project costs until breakeven. (2 points) | | |
| (7) | The project secures financial stability and/or funding sources covering at least 40% but less than 80% of the total project costs until breakeven. (1 point) | | |
| (8) | The project secures financial stability and/or funding sources covering more than 80% of the total project costs until breakeven. (0 points) | | |
| **Total Risk Score = [(1), (2), (3) or (4)] + [(5), (6), (7) or (8)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **1. Internal risks** | | | |
| **1.4 Opportunity cost** | | | |
| (1) | The NPV of the best alternative land use activity is at least 100% higher than the NPV of the project. (8 points) | | |
| (2) | The NPV of the best alternative land use activity is at least 50% but less than 100% higher than the NPV of the project. (6 points) | | |
| (3) | The NPV of the best alternative land use activity is at least 20% but less than 50% higher than the NPV of the project. (4 points) | | |
| (4) | The NPV of the best alternative land use activity is less than 20% higher than the NPV of the project. (0 points) | | |
| (5) | The project is legally protected by binding commitments to conduct greenhouse gas reduction activities in the forest area throughout the project duration, such as obtaining permission to carry out the project on government land. (-2 points) | | |
| (6) | In cases where the project results in income loss compared to alternative land use options, the project is a non-profit initiative or receives additional financial support.  (-2 points) | | |
| **Total Risk Score = [(1), (2), (3) or (4)] + (5) + (6)** (Total Risk Score must not be less than zero) | | **initial risk score** | **mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **1. Internal risks** | | | |
| **1.5 Project longevity** The project longevity must be equal to or greater than 45 years. If it is less than 45 years, the project fails the risk assessment. | | | |
| (1) | Project longevity is equal to or greater than 45 years, but there are no regulations or planned activities to maintain carbon stocks after crediting period. (3 points) | | |
| (2) | Project longevity is equal to or greater than 45 years, and there are regulations or planned activities to maintain carbon stocks after crediting period. (0 points) | | |
| **Total Risk Score = [(1), or (2)]** | | **initial risk score** | **mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **2. External risks** | | | |
| **2.1 2.1 Land right/Land ownership** | | | |
| (1) | The rights to land ownership and access/use of project resources do not belong to the same legal entity. (2 points) | | |
| (2) | The rights to land ownership and access/use of project resources belong to the same legal entity. (0 points) | | |
| (3) | More than 5% of the project area has experienced legal land tenure and land use disputes in the past 20 years. (4 points) | | |
| (4) | Less than 5% of the project area has experienced legal land tenure and land use disputes in the past 20 years. (2 points) | | |
| (5) | The project area has had no legal land tenure and land use disputes in the past 20 years. (0 points) | | |
| (6) | The project area has undergone government changes in land tenure or land use rights (e.g., overlapping claims) in the past 20 years. (2 points) | | |
| (7) | The project area has not undergone government changes in land tenure or land use rights (e.g., overlapping claims) in the past 20 years. (0 points) | | |
| (8) | The project is legally bound to conduct activities that reduce greenhouse gas emissions in forested areas throughout the project’s duration. (-2 points) | | |
| **Total Risk Score = [(1), (2), (3), (4) or (5)] + [(6) or (7)] + (8)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **2. External risks** | | | |
| **2.2 Community participation** | | | |
| (1) | No households residing within the project area or within a 2-kilometer radius of the project area that depend on the project area. (0 points, and no need to assess items 2–3) | | |
| (2) | Less than 50% of households residing in and depending on the project area participate in and/or are aware of the project. (4 points) | | |
| (3) | At least 50% of households residing in and depending on the project area participate in and/or are aware of the project. (0 points) | | |
| (4) | Less than 50% of households within a 2-km radius of the project area participate in and are aware of the project. (2 points) | | |
| (5) | At least 50% of households within a 2-km radius of the project area participate in and/or are aware of the project. (0 points) | | |
| **Total Risk Score = [(1) or [(2) or (3)]] + [(4) or (5)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **2. External risks** | | | |
| **2.3 Political risks** | | | |
| (1) | Political risk events, such as opposition, resistance, or protests by the community, corruption and land tenure issues, riots, terrorism, etc., have occurred in the project area or within a 20-km radius at least once in the past 10 years. (6 points) | | |
| (2) | Political risk events, such as opposition, resistance, or protests by the community, corruption and land tenure issues, riots, terrorism, etc., have occurred in the project area or within a 20-km radius at least once in the past 20 years. (4 points) | | |
| (3) | No political risk events, such as opposition, resistance, or protests by the community, corruption and land tenure issues, riots, terrorism, etc., have occurred in the project area or within a 20-km radius in the past 20 years. (0 points) | | |
| (4) | In cases where opposition, resistance, community protests, corruption and land tenure issues, riots, terrorism, etc., have occurred, the project can provide documented evidence of actions taken to resolve, counter, or clarify the situation, or demonstrate preventive measures to mitigate such events. (-2 points) | | |
| **Total Risk Score = [(1), (2) or (3)] +(4)** (Total Risk Score must not be less than zero) | | **initial risk score** | **mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **2. External risks** | | | |
| **2.4 Illegal logging** | | | |
| (1) | At least one case or record of illegal logging within the project area or within a 20-kilometer radius in the past 10 years. (6 points) | | |
| (2) | At least one case or record of illegal logging within the project area or within a 20-kilometer radius in the past 20 years. (4 points) | | |
| (3) | No case or record of illegal logging within the project area or within a 20-kilometer radius in the past 20 years. (0 points) | | |
| **Total Risk Score = [(1), (2) or (3)]** | | **mitigation risk score** | **post-mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 3 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.1 Fire risk** | | | |
| (1) Probability of the risk | Fire incidents have occurred in the project area or within a 20 km radius at least once in the past 10 years. (2 points) | | |
| Fire incidents have occurred in the project area or within a 20 km radius at least once in the past 20 years. (1 point) | | |
| No fire incidents have occurred in the project area or within a 20 km radius in the past 20 years. (0 points) | | |
| (2) Impact of the risk | Fire risk in areas surrounding the project is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| Fire risk in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| Fire risk in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | Fire risk in areas surrounding the project is expected to impact more than 50% of the project area’s carbon stock. (3 points) | | |
| Fire risk in areas surrounding the project is expected to impact between 5% and 50% of the project area’s carbon stock. (2 points) | | |
| Fire risk in areas surrounding the project is expected to impact on less than 5% of the project area’s carbon stock. (1 point) | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.2 Disease and/or pest outbreaks** | | | |
| (1) Probability of the risk | Disease and/or pest outbreaks have occurred in the project area or within a 20-km radius at least once in the past 10 years. (2 points) | | |
| Disease and/or pest outbreaks have occurred in the project area or within a 20 km radius at least once in the past 20 years. (1 point) | | |
| No disease and/or pest outbreaks have occurred in the project area or within a 20 km radius in the past 20 years. (0 points) | | |
| (2) Impact of the risk | The risk of disease and/or pest outbreaks in areas surrounding the project is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk of disease and/or pest outbreaks in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk of disease and/or pest outbreaks in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk of disease and/or pest outbreaks in areas surrounding the project is expected to impact more than 50% of the project area’s carbon stock. (3 points) | | |
| The risk of disease and/or pest outbreaks in areas surrounding the project is expected to impact between 5% and 50% of the project area’s carbon stock. (2 points) | | |
| The risk of disease and/or pest outbreaks in areas surrounding the project is expected to impact on less than 5% of the project area’s carbon stock. (1 point) | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.3 Storms** | | | |
| (1) Probability of the risk | Storms have occurred in the project area or within a 20-km radius at least once in the past 10 years. (2 points) | | |
| Storms have occurred in the project area or within a 20-km radius at least once in the past 20 years. (1 point) | | |
| No storms have occurred in the project area or within a 20-km radius in the past 20 years. (0 points) | | |
| (2) Impact of the risk | The risk of storms in areas surrounding the project is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk of storms in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk of storms in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk of storms in areas surrounding the project is expected to impact on more than 50% of the project area’s carbon stock. (3 points) | | |
| The risk of storms in areas surrounding the project is expected to impact between 5% and 50% of the project area’s carbon stock. (2 points) | | |
| The risk of storms in areas surrounding the project is expected to impact less than 5% of the project area’s carbon stock. (1 point) | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
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| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.4 Wildlife and/or livestock intrusion** | | | |
| (1) Probability of the risk | Intrusion by wildlife and/or livestock has occurred in the project area or within a 20-km radius at least once in the past 10 years. (2 points) | | |
| Intrusion by wildlife and/or livestock has occurred in the project area or within a 20-km radius at least once in the past 20 years. (1 point) | | |
| No intrusion by wildlife and/or livestock has occurred in the project area or within a 20-km radius in the past 20 years. (0 points) | | |
| (2) Impact of the risk | The risk of wildlife and/or livestock intrusion in areas surrounding the project is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk of wildlife and/or livestock intrusion in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk of wildlife and/or livestock intrusion in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk of wildlife and/or livestock intrusion in areas surrounding the project is expected to impact more than 50% of the project area’s carbon stock. (3 points) | | |
| The risk of wildlife and/or livestock intrusion in areas surrounding the project is expected to impact between 5% and 50% of the project area’s carbon stock. (2 points) | | |
| The risk of wildlife and/or livestock intrusion in areas surrounding the project is expected to impact less than 5% of the project area’s carbon stock. (1 point) | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.5 Flooding** | | | |
| (1) Probability of the risk | Flooding and/or inundation has occurred in the project area or within a 20 km radius at least once in the past 10 years. (2 points) | | |
| Flooding and/or inundation has occurred in the project area or within a 20 km radius at least once in the past 20 years. (1 point) | | |
| No flooding and/or inundation has occurred in the project area or within a 20 km radius in the past 20 years. (0 points) | | |
| (2) Impact of the risk | The risk of flooding and/or inundation in areas surrounding the project is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk of flooding and/or inundation in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk of flooding and/or inundation in areas surrounding the project is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk of flooding and/or inundation in areas surrounding the project is expected to impact on more than 50% of the project area’s carbon stock. (3 points) | | |
| The risk of flooding and/or inundation in areas surrounding the project is expected to impact on between 5% and 50% of the project area’s carbon stock. (2 points) | | |
| The risk of flooding and/or inundation in areas surrounding the project is expected to impact on less than 5% of the project area’s carbon stock. (1 point) | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.6 Drought and/or water scarcity** | | | |
| (1) Probability of the risk | Drought and/or water scarcity have occurred within the project area or within a 20 km radius outside the project area once or more in the past 10 years (2 points). | | |
| Drought and/or water scarcity have occurred within the project area or within a 20 km radius outside the project area once or more in the past 20 years (1 point). | | |
| No occurrence of drought and/or water scarcity have occurred within the project area or within a 20 km radius outside the project area in the past 20 years (0 points). | | |
| (2) Impact of the risk | The risk from drought and/or water scarcity around the project area is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk from drought and/or water scarcity around the project area is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk from drought and/or water scarcity around the project area is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk from drought and/or water scarcity around the project area is expected to cause impacts on more than 50% of the project area’s carbon sink resources (3 points). | | |
| The risk from drought and/or water scarcity around the project area is expected to cause impacts on between 5-50% of the project area’s carbon sink resources (2 points). | | |
| The risk from drought and/or water scarcity around the project area is expected to cause impacts on less than 5% of the project area’s carbon sink resources (1 point). | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.7 Climate change** | | | |
| (1) Probability of the risk | Climate change has occurred within the project area or within a 20 km radius outside the project area once or more in the past 10 years (2 points). | | |
| Climate change has occurred within the project area or within a 20 km radius outside the project area once or more in the past 20 years (1 point). | | |
| There has been no occurrence of climate change within the project area or within a 20 km radius outside the project area in the past 20 years (0 points). | | |
| (2) Impact of the risk | The risk from climate change around the project area is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk from climate change around the project area is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk from climate change around the project area is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk from climate change around the project area is expected to cause impacts on more than 50% of the project area’s carbon sink resources (3 points). | | |
| The risk from climate change around the project area is expected to cause impacts on between 5-50% of the project area’s carbon sink resources (2 points). | | |
| The risk from climate change around the project area is expected to cause impacts on less than 5% of the project area’s carbon sink resources (1 point). | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.8 การเกิดดินถล่ม** | | | |
| (1) Probability of the risk | Landslides have occurred within the project area or within a 20 km radius outside the project area once or more in the past 10 years (2 points). | | |
| Landslides have occurred within the project area or within a 20 km radius outside the project area once or more in the past 20 years (1 point). | | |
| No landslides have occurred within the project area or within a 20 km radius outside the project area in the past 20 years (0 points). | | |
| (2) Impact of the risk | The risk from landslides around the project area is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk from landslides around the project area is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk from landslides around the project area is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk from landslides around the project area is expected to cause impacts on more than 50% of the project area’s carbon sink resources (3 points). | | |
| The risk from landslides around the project area is expected to cause impacts on between 5-50% of the project area’s carbon sink resources (2 points). | | |
| The risk from landslides around the project area is expected to cause impacts on less than 5% of the project area’s carbon sink resources (1 point). | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

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| **3. Natural risks** | | | |
| **3.9 Other natural factors affecting the survival and growth of trees** | | | |
| (1) Probability of the risk | Other natural factors have affected the survival and growth of trees within the project area or within a 20 km radius outside the project area once or more in the past 10 years (2 points). | | |
| Other natural factors have affected the survival and growth of trees within the project area or within a 20 km radius outside the project area once or more in the past 20 years (1 point). | | |
| No other natural factors have affected the survival and growth of trees within the project area or within a 20 km radius outside the project area in the past 20 years (0 points). | | |
| (2) Impact of the risk | The risk from other natural factors around the project area affecting tree survival and growth is expected to cause total damage to the project's carbon stock, with natural recovery expected to take 5 years or more. (3 points) | | |
| The risk from other natural factors around the project area affecting tree survival and growth is expected to impact the carbon stock but not cause total damage, with natural recovery expected to take 5 years or more. (2 points) | | |
| The risk from other natural factors around the project area affecting tree survival and growth is expected to impact the carbon stock but not cause total damage, with natural recovery expected to occur within 5 years. (2 points) | | |
| (3) Scale of the risk | The risk from other natural factors around the project area affecting tree survival and growth is expected to cause impacts on more than 50% of the project area’s carbon sink resources (3 points). | | |
| The risk from other natural factors around the project area affecting tree survival and growth is expected to cause impacts on between 5-50% of the project area’s carbon sink resources (2 points). | | |
| The risk from other natural factors around the project area affecting tree survival and growth is expected to cause impacts on less than 5% of the project area’s carbon sink resources (1 point). | | |
| **Total Risk Score = [(1) x (2) x (3)]** | | **initial risk score** | **mitigation risk score** |
|  |  |
| **Supporting Evidence or Data**  <Provide description along with supporting evidence> | | | |
| **Risk Mitigation Measures**  <Provide risk mitigation measures if the assessed risk score is high, 4 points or higher> | | | |

**Appendix**

*Documentary evidence*

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| **Revision Log** | | | |
| **Version** | **Revision No.** | **Effective Date** | **Description of Changes** |
| 01 | - | 7 July 2025 | - |
|  |  |  |  |