BJC’s Standard Operating Procedure of Biodiversity Management

By Sustainability and Risk Management Department

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(1) Scope

This procedure reflects Berli Jucker Public Company Limited and the group companies (hereinafter referred to as "BJC Group") for Biodiversity Commitment, Exposure and Assessment according to Environmental policy which mentioned that BJC group commits to proceed on sustainable business operations based on social and environmental responsibility. BJC group will operate our business with the awareness of the value of natural resources and limited energy together with proactive business strategy to manage climate change and reduce environmental impact throughout our supply chain

This procedure is applied throughout BJC Group and effective from now onwards, until the new or updated procedure is applied.

(2) Roles and Responsibilities

Roles and responsibilities for Biodiversity Management are divided into groups, comprising the following groups;

1. **Sustainable Development Committee (SDC)**
   SDC oversee and give direction to overall biodiversity management, to ensure that the operations of BJC Group do not create negative impact to the environment.

2. **Sustainable Development Subcommittee (SDS)**
   SDS give guidance to business units for effective operations, not causing any loss to biodiversity (no net loss) and creating a net positive impact in the operating sites.

3. **All BJC Group companies (Business Units)**
   Business Units conduct risk monitoring and risk assessment that impact on the business opportunity from change in temperature, environment, forests, biodiversity and natural resources as well as providing appropriate risk mitigation.

4. **Sustainability and Risk Management Department (SRMD)**
   SRMD equips Business Units with tools, methodology and framework for risk assessment as well as the knowledge regarding environmental and biodiversity management. This is to enable Business Units to provide appropriate risk mitigation to creating a net positive impact in the operating sites.

(3) Overview

We all depend upon biodiversity for our livelihoods, quality of life, and basic ecological services. As well as companies, biodiversity stabilizes the climate and provide clean air and water for a stable operating environment. Moreover, it provides raw materials, technology and business opportunities. However, biodiversity is vanishing all across the world and the loss leads to business risks. Thus, companies across the world are now taking steps to stop and reverse the trend of the decline of biodiversity.

At present, BJC Group have included biodiversity dimension into the corporate-wide Environmental Policy. Moreover, BJC Group have implemented the Sustainable Development Project and participated in Corporate Sustainability Assessment (CSA) of Down Jones Sustainability Indices (DJSI). DJSI emphasized that participating companies to have implemented and clearly defined guidelines to manage biodiversity risks for company's own operations and supply chain, which includes conducting periodic assessments of sites used for operational to determine the exposure to critical biodiversity.

All BJC's supply chains use ecosystem services as critical inputs into the production processes. They depend on healthy ecosystems to treat and dissipate waste, maintain soil and water quality and help control air composition. Therefore, BJC have established **BJC's Standard Operating Procedure of Biodiversity Management** as guidelines for all business units to take early steps to secure biodiversity, and seize opportunities that enable BJC to remain competitive and to create net positive impact on biodiversity.

(4) Biodiversity Commitment and Target

BJC Group have set the long-term targets for biodiversity and deforestation to be achieved in **2030** as follows;

1. Biodiversity – Take actions to create **net positive impact** on biodiversity at all operational sites of BJC Group and critical suppliers.

2. Deforestation – Take actions to achieve **no gross deforestation or zero-gross deforestation** from all operational activities, and drive all critical suppliers to participate in the BJC Group's forestry projects.

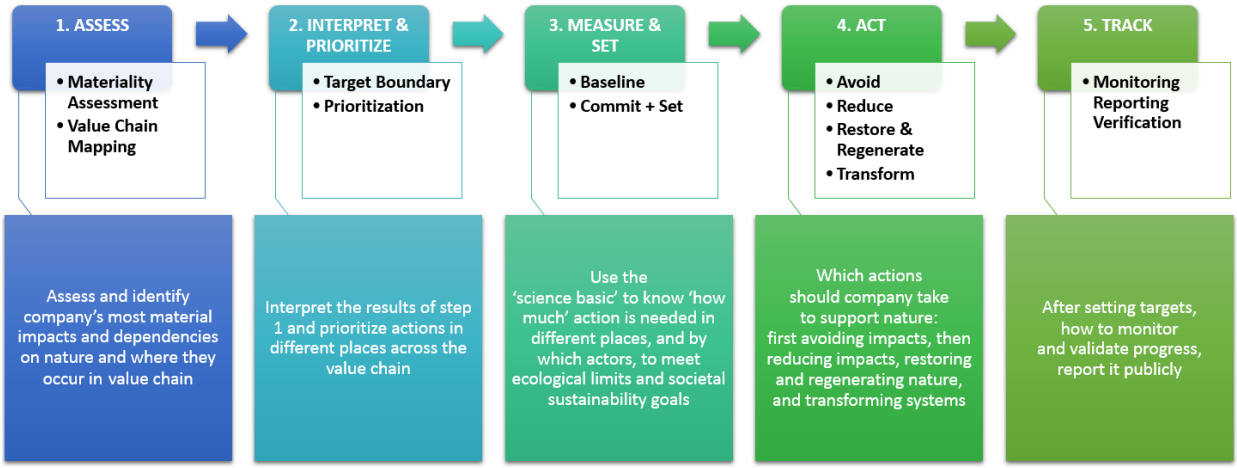
Moreover, regarding BJC's corporate-wide Environmental Policy and The UN Environment Program (UNEP)'s guidance for company's actions related to biodiversity, BJC's biodiversity commitment should follow the 3 themes below;

Themes	Main Topic	Responsible Person
Commitment	➢ Biodiversity appears a material issue ➢ Existence of a biodiversity policy statement ➢ Management approach to biodiversity	• Sustainable Development Committee (SDC) • Sustainable Development Subcommittee (SDS) • The Management
Themes	**Main Topic**	**Responsible Person**
Engagement	• Action taken to address biodiversity impacts, risks and opportunities • Specific examples of engaging with stakeholders, for example suppliers	• The Management • Business Units
Measuring	➢ Identifying risks and opportunities ➢ Using tools and other means to measure both positive and negative impacts ➢ Reporting on biodiversity specific indicators, such as International Union for Conservation of Nature (IUCN) ➢ All operations with significant impacts considered in measurements	• Business Units • Sustainability and Risk Management Department (SRMD)

(5) Biodiversity Exposure and Assessment Process

In connection with UNEP, there are 5 steps to set targets that will ensure company's activities operate within the limits of biodiversity, which are;

1) **Assess** – identifying the most material impacts and dependencies on nature and where they are geographically and throughout company's value chain
2) **Interpret & Prioritize** – refine the material impacts and dependencies to be prioritized
3) **Measure & Set** – set the baseline and identify indicators
4) **Act** – use the mitigation hierarchy of actions to avoid, reduce, restore & regenerate and transform
5) **Track** – use tools for monitoring, reporting and verification to understand and track progress



Each step could be elaborated for BJC's business units as follows;

1. Assess

a. BJC identify the most material impacts on natural resources.

b. Refer to Environmental policy item 10 mentioned about areas, including World Heritage areas in accordance with the criteria of UNESCO, and protected areas according to The International Union for Conservation of Nature (IUCN) category 1-4, BJC Group use these as the target protected areas for business units to verify if BJC's and critical suppliers' operational activities are close by.

BJC also use Aqueduct™ tools to identify and evaluate current water risks in all Thailand's provinces (baseline water stress level). The tools belong to World Resources Institute (WRI), which can map water risks such as floods, droughts, and stress, using open-source, peer reviewed data. Business units then check and acknowledge the baseline water stress level of the provinces that their operational activities and critical suppliers are located in.

The Target Protected Areas

(Sites containing globally or nationally important biodiversity)**:**

UNESCO World Heritage Areas
1. Historic City of Ayutthaya
2. Historic Town of Sukhothai and Associated Historic Towns
3. Thungyai-Huai Kha Khaeng Wildlife Sanctuaries
4. Ban Chiang Archaeological Site

5. Dong Phayayen-Khao Yai Forest Complex

IUCN Category I-IV Protected Areas
Category Ia: Strict Nature Reserve
Category Ib: Wilderness Area
Category II: National Park
Category III: Natural Monument or Feature
Category IV: Habitat/Species Management Area
Category V: Protected Landscape/Seascape
Category VI: Protected area with sustainable use of natural resources

Ramsar Wetlands
1. Pang Nga Bay Marine National Park
2. Kuan Ki Sian of the Thale Noi Non-Hunting Area Wetlands
3. Ko Kra Archipelago
4. Mu Koh Ang Thong Marine National Park
5. Nong Bong Kai Non-Hunting Area
UNESCO MAB
1. Sakaerat Biosphere Reserve
2. Hauy Tak Teak Biosphere Reserve
3. Mae Sa-Kog Ma Biosphere Reserve
4. Ranong Biosphere Reserve

Water Risks Assessment:

In order for Business Units to conduct water stress assessment annually, SRMD prepare the water risks assessment template, applying Aqueduct™ tools to identify and evaluate current water risks in all Thailand's provinces (baseline water stress level). Business Units then follow the instruction in the template to assess the baseline water stress level of the provinces that their operational activities and critical suppliers are located in. *Refer to Appendix 1 - Water Risks Assessment Template*

2. Interpret & Prioritize

a. BJC review and prioritize the results of the assessment.
b. For the protected area, business unit that has operation site located in the areas are the priority.
c. For water stress risk, the priority areas are the provinces with High and Extremely High baseline water stress levels.

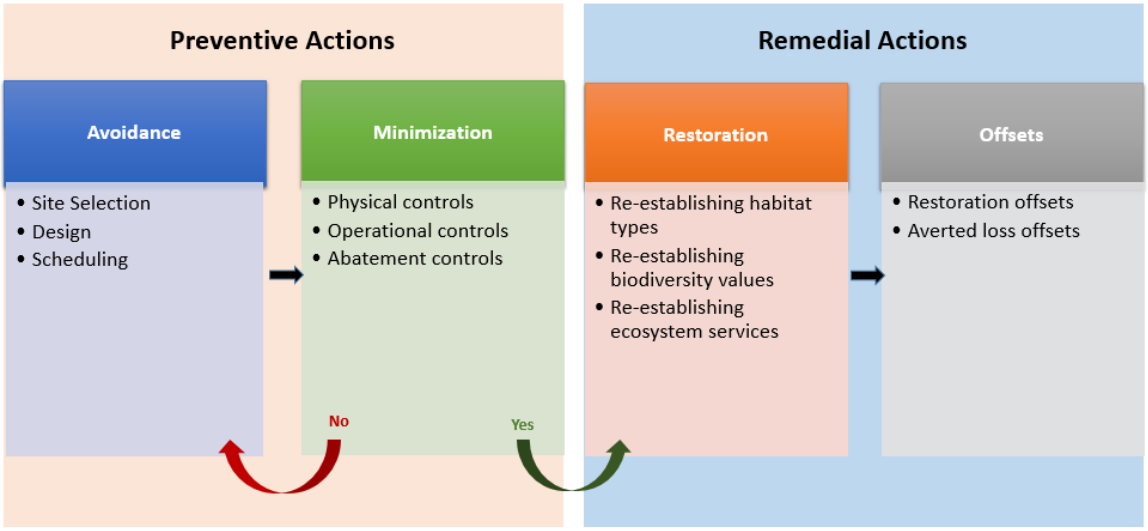
3. Measure & Set

a. If the operational activity of business unit or critical supplier is located close by the protected areas mentioned in Assess, the business unit must have mitigation hierarchy, readily to be applied and executed.
b. If the operational activity of business unit or critical supplier is located in the province with High water stress level, the business unit must prepare a risk management plan within the year or have medium- and long-term plans to manage that risk.
c. If the operational activity of business unit or critical supplier is located in the province with Extremely High-water stress level, the business unit must prepare a risk management plan immediately or have a short-term plan to manage that risk.

4. Act

a. Business unit that operates or whose critical supplier operates close by the protected areas, apply and execute mitigation hierarchy, which is an approach to protect and enhance biodiversity: avoid, minimize, restore and offset. The approach includes preventive action and remedial action. BJC Group encourage business units to prioritize preventive action first. However, because of cost, benefit, and other variables, remedial action must be taken if the impacts cannot be avoided or mitigated. The remedial action must be effective, efficient and leading to a win-win solution.

Mitigation Hierarchy		
Preventive Actions	**Avoidance**	Avoidance involves changes in early project planning to design out impacts or risks. Measures taken to avoid impacts can therefore take place at different scales and in both time and space.
	Minimization	It includes measures taken to reduce the duration, intensity, significance and/or extent of impacts that cannot be completely avoided.
Remedial Actions	**Restoration**	Restoration refers to measures taken to repair degradation or damage to specific biodiversity features and ecosystem services of concern (which might be species, ecosystems/habitats or particular ecosystem services) following project impacts that cannot be completely avoided and/or minimized.
	Offsets	They are measurable conservation outcomes, resulting from actions applied to areas not impacted by the project, that compensate for significant, adverse impacts of a project that cannot be avoided, minimized and/or restored.



b. Business unit that operates or whose critical supplier operates in the provinces with High and Extremely High baseline water stress levels execute the risk management plan, in order to minimize water stress risk.

5. Track

a. Business units monitor and validate their mitigation hierarchy or water stress management approach or both.
b. There is an annual tracking and reporting of the performance of the Biodiversity Exposure and Assessment Process, with disclosure through annual sustainability report and company website.
c. Biodiversity Exposure and Assessment Process should be conducted at least every 3 years or when there is a significant incident/change that affects Business Unit's operation.

Appendix 1 – Water Risks Assessment Template

Since the Baseline Water Stress Level of provinces changes every year, SRMD prepare the template for Business Units annually, calculating the Baseline Water Stress Level from Aqueduct™ tools.

The following template is Water Risks Assessment Template with instructions for Business Units to follow, and the Baseline Water Stress Level of Thailand's provinces in 2021.

Water Risks Assessment Template

1. Check the Baseline Water Stress Level of the province of your site and operation
2. Check the Baseline Water Stress Level of the province of your critical supplier's site and operation
3. If the province has Baseline Water Stress at High (red) please provide your management approach to minimize water stress risk in the area. The approach can be for 1 - 3 years. Please provide the details as an attached file of the reply email.
4. If the province has Baseline Water Stress at Extremely High (dark red) please provide your management approach to minimize water stress risk in the area. The approach should be immediate or currently being executed. Please provide the details as an attached file of the reply email.

Province	Baseline Water Stress Level in 2022
Krabi, Thailand	Low (<10%)
Bangkok, Thailand	Medium - High (20-40%)
Kanchanaburi, Thailand	Low - Medium (10-20%)
Kalasin, Thailand	High (40-80%)
Kamphaeng Phet, Thailand	Extremely High (>80%)
Khon Kaen, Thailand	Medium - High (20-40%)
Chanthaburi, Thailand	Low (<10%)
Chachoengsao, Thailand	Extremely High (>80%)
Chon Buri, Thailand	Medium - High (20-40%)
Chai Nat, Thailand	High (40-80%)

Province	Baseline Water Stress Level in 2022
Chaiyaphum, Thailand	High (40-80%)
Chumphon, Thailand	Low (<10%)
Chiang Rai, Thailand	Medium - High (20-40%)
Chiang Mai, Thailand	Extremely High (>80%)
Trang, Thailand	Low (<10%)
Trat, Thailand	Low (<10%)
Tak, Thailand	Extremely High (>80%)
Nakhon Nayok, Thailand	Extremely High (>80%)
Nakhon Pathom, Thailand	High (40-80%)
Nakhon Phanom, Thailand	Low (<10%)
Nakhon Ratchasima, Thailand	Medium - High (20-40%)
Nakhon Si Thammarat, Thailand	Low - Medium (10-20%)
Nakhon Sawan, Thailand	High (40-80%)
Nonthaburi, Thailand	Medium - High (20-40%)
Narathiwat, Thailand	Low (<10%)
Nan, Thailand	Low - Medium (10-20%)
Bueng Kan, Thailand	Low (<10%)
Buri Ram, Thailand	Medium - High (20-40%)
Pathum Thani, Thailand	Medium - High (20-40%)
Prachuap Khiri Khan, Thailand	Low (<10%)
Prachin Buri, Thailand	Extremely High (>80%)

Province	Baseline Water Stress Level in 2022
Pattani, Thailand	Low (<10%)
Phra Nakhon Si Ayutthaya, Thailand	High (40-80%)
Phayao, Thailand	High (40-80%)
Phang-nga, Thailand	Low (<10%)
Phatthalung, Thailand	Low - Medium (10-20%)
Phichit, Thailand	Low - Medium (10-20%)
Phitsanulok, Thailand	Low - Medium (10-20%)
Phetchaburi, Thailand	Medium - High (20-40%)
Phetchabun, Thailand	High (40-80%)
Phrae, Thailand	High (40-80%)
Phuket, Thailand	Low (<10%)
Maha Sarakham, Thailand	Medium - High (20-40%)
Mukdahan, Thailand	Low (<10%)
Mae Hong Son, Thailand	Low (<10%)
Yasothon, Thailand	Low (<10%)
Yala, Thailand	Low (<10%)
Roi Et, Thailand	Low (<10%)
Ranong, Thailand	Low (<10%)
Rayong, Thailand	Medium - High (20-40%)
Ratchaburi, Thailand	Low - Medium (10-20%)
Lopburi, Thailand	High (40-80%)

Province	Baseline Water Stress Level in 2022
Lampang, Thailand	Extremely High (>80%)
Lamphun, Thailand	Extremely High (>80%)
Loei, Thailand	Low (<10%)
Si Sa Ket, Thailand	Low (<10%)
Sakon Nakhon, Thailand	Low (<10%)
Songkhla, Thailand	Low (<10%)
Satun, Thailand	Low (<10%)
Samut Prakan, Thailand	Medium - High (20-40%)
Samut Songkhram, Thailand	Low - Medium (10-20%)
Samut Sakhon, Thailand	High (40-80%)
Sa Kaeo, Thailand	Extremely High (>80%)
Saraburi, Thailand	High (40-80%)
Sing Buri, Thailand	High (40-80%)
Sukhothai, Thailand	High (40-80%)
Suphan Buri, Thailand	High (40-80%)
Surat Thani, Thailand	Low (<10%)
Surin, Thailand	Low - Medium (10-20%)
Nong Khai, Thailand	Low (<10%)
Nong Bua Lam Phu, Thailand	Medium - High (20-40%)
Ang Thong, Thailand	High (40-80%)
Amnat Charoen, Thailand	Low (<10%)

Province	Baseline Water Stress Level in 2022
Udon Thani, Thailand	Low - Medium (10-20%)
Uttaradit, Thailand	Low - Medium (10-20%)
Uthai Thani, Thailand	High (40-80%)
Ubon Ratchathani, Thailand	Low (<10%)

Appendix 2 – Definitions

Operational Activities: Includes production, extraction, plantation, or development activities

Areas: Refers to land or any other natural environment which is used, owned, leased, operated, or permitted by the company

Biodiversity: Includes species, ecosystems, and habitats.

Sites containing globally or nationally important biodiversity: Globally important biodiversity: can include:

- Species classified as Critically Endangered, Endangered, or Vulnerable on the IUCN Red List, endemic species

- Internationally recognized areas: World Heritage sites, Ramsar Wetlands, UNESCO MAB

- Important biodiversity areas: Important Bird Areas, key biodiversity areas, AZE sites, Endemic Bird Areas, important plant areas

Mitigation hierarchy: A sequential approach to protect and enhance biodiversity: Avoid, minimize, rehabilitate/restore, offset.

Target: Includes net positive impact (NPI), biodiversity gains, positive change for biodiversity, etc.

No Net Loss: It is defined as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to undertake on-site restoration, and finally to offset significant residual impacts.