

Biodiversity Management Report	Support answer: 2.7 Biodiversity
	Topic: Biodiversity Risk Assessment
	Report Year: 2023

Berli Jucker Public Company Limited and the Group of Companies (BJC) place importance on environmental stewardship and non-impacting of nature, as well as giving importance to ecosystems on humans and business operations. At the same time, it is committed to helping preserve and restore biodiversity in order to create a positive impact.

In 2023, BJC has developed a policy on biodiversity management to guide its subsidiaries, including employees, suppliers, and partner to perform their duties appropriately, which can prevent adverse impacts on biodiversity and ecosystems. Therefore, strive to help restore ecosystems for the better.

BJC operates on biodiversity with reference to the framework of "Taskforce on Nature related Financial Disclosures (TNFD)" and "Bio-based Economic Development Agency (Public Organization)" or "NEDA" on biodiversity and business. These frameworks are used for assessment to serve as a guideline for evaluating, analyzing, and finding appropriate, efficient, and effective management methods.

Corporate Biodiversity Management

1. Governance

The Board of Directors assigns the Sustainable Development Committee (SDC) to oversee various actions related to biodiversity stewardship, including conservation, restoration, and development of ecosystem abundance. In addition, there is a Risk Management Committee that oversees risks and opportunities assessment of the organization related to biodiversity, as well as various actions to manage risks to be at an acceptable level for the organization. BJC has established various policies related to biodiversity, including environmental, biodiversity, and deforestation policies in order to guide business operations without creating negative impacts on ecosystems and biodiversity. Hence, supporting the organization to achieve its set targets and goals. In addition, there is a Sustainable Development Subcommittee (SDS) consisting of senior executives from each business group and the subcommittee is responsible for supporting, monitoring, and inspecting the operations of each company/ business unit under responsibility. To ensure that each company/business unit has



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various operations related to biodiversity that are being carried out according to the plan in order to achieve the organization's goals as defined.

2. Strategy

BJC has established strategies to support biodiversity-related actions as follows:

- 1) **Avoid** business operations that will negatively impact the biodiversity throughout the supply chain. Operational sites must not be close to areas that are important to the biodiversity of the country and the world.
- 2) **Reduce** risks and impacts on biodiversity
- 3) **Protect** biodiversity and prevent biodiversity loss and its impacts on ecosystems
- 4) **Restore** the ecosystem to return to abundance.
- 5) **Build** knowledge, understanding, and awareness of biodiversity stewardship among employees, suppliers, customers, and communities.

3. Risk and Opportunity Management

BJC places importance on managing risks and opportunities related to biodiversity in accordance with LEAP (Locate, Evaluate, Assess, Prepare) principles as follows:

Locate – Identify areas where the Group operates and assess biodiversity risks in each area to prioritize.

In 2023, BJC operates more than 90% of its operations in Thailand, based on its 12 factories and 203 Hyper market retail branches, 1,548 convenience stores, and 14 distribution centers.

The Group considers and assesses the definition of biodiversity related targets for priority areas to work towards no net loss by considering 3 factors: (1) location, (2) nature of operation, (3) size of business. The operation area can be divided into 3 groups as follows:



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1) Groups that have the potential to have a high level of impact on biodiversity This is based on the nature of business activities that may have a significant impact and the location that may be close to natural sources such as factories and distribution centers.

2) The medium-risk group is Hypermarkets which are large shopping malls, they may create a fair amount of environmental impact because of their large buildings. Since most locations focus on community areas, they are not located very close to natural sources so the chances of adverse effects are less.

3) The low-risk group is convenience stores. They are considered to be small sized stores; therefore, they do not have various activities that can impact the environment. In addition, the stores are located in communities that are not close to natural resources.

Evaluate – Assess the organization’s dependence on ecosystem and the impact of the organization's business operations on biodiversity.

Corporate’s dependence on ecosystem

Plants that are highly dependent on the ecosystem:

- Source of water

For example, potato chip factories need water to wash potato tubers, glass packaging factories use water to help reduce the temperature of the glass bottles after blowing, or tissue paper and soap factories require water to help produce the products, etc.

In addition, factories’ raw materials are agricultural products such as potatoes, sugar, and palm oil. It takes water for farming to produce those raw materials.

- Abundance of raw materials

For BJC-Big C Group, which has a variety of manufacturing businesses, therefore; some types of productions required to use raw materials from the agricultural sector as the main component, such as potato chips, soap production, etc. Agricultural products may be affected in terms of quality and quantity, and eventually there will be shortages and increase in prices which will affect production and factory costs.



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Creating an impact on an organization's ecosystem

▪ Normally, water used in the production process is released back into nature after it has been treated. However, if such matters are not properly managed, it can have impacts on the ecosystem. BJC is equipped with a certified water treatment system and the factories under the Group are not heavy industries. Therefore, the amount of water discharged is not large, so it has no adverse effects on nature.

▪ Distribution of dust generated from the operation of glass packaging factories has potential to affect surrounding organisms.

Assess – Assess risks and opportunities related to biodiversity and appropriate risk management.

BJC has biodiversity-related risk management as part of Enterprise Risk Management system (ERM) and process. Each company/ business unit considers environment, ecosystems, and biodiversity among the factors that determine risk.

In addition, the Company has conducted assessments on biodiversity-related management using surveys in accordance with the guidelines of the Bio-based Economic Development Agency (Public Organization) and explore risks associated with factories and distribution centers, including our own operation, areas surrounding operations, adjacent areas to own operations, upstream, and downstream operations in order to use data to assess and analyze the organization's risks and opportunities.

The assessment of biodiversity-related risks and opportunities in 2023 can be summarized as follows:

1) Physical Risk

Water scarcity

Forests are considered to be the source of watersheds and streams. If there are abundant forests, natural water sources will not dry out. On the other hand, if biodiversity loss affects the abundance of forests, it could eventually result in water scarcity and drought. Therefore, if the Group has factories or stores located in water-scarce areas, they may not have enough water to operate (produce) as well as for employees to use for consumption.

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Risk Management: BJC continuously monitors the water supply situation to monitor risk areas such as floods and droughts, especially in areas at risk of water scarcity, hence, a water reserve will be prepared. In addition, in all operational areas, the Company will focus on the efficient use of water, reduce water consumption by preventing and reducing wastewater generation at source, and increasing the use of recycled water (wastewater reuse). Along with the fertile floors of rivers, canals and natural water sources that are also important.

Shortage of raw materials

Loss of biodiversity may affect farmers and fishermen as agricultural productivity and the amount of aquatic animals in natural water bodies may decrease significantly. Supply and Demand will affect the Company's higher costs and if there are not enough products to produce and/or sell to customers, it will affect business operations and customer satisfaction.

Risk Management: BJC finds a variety of raw materials to diversify risks and regularly monitors production volumes to be able to manage inventories adequately and efficiently. In addition, the Company supports and helps farmers to develop more sustainable farming practices, such as maximizing water efficiency and reducing environmental impacts from farming in order to help manage biodiversity-related risks in the Group's value chain.

2) Transition Risk

New Laws

To protect and take care of the ecosystem and reduce the impact on the environment. The government may impose new laws, regulations, or taxes related to the environment, such as laws on waste management, plastic reduction, or solving global warming problems. As a result, the Company has to change its operations to comply with the law and there may be additional expenses as required by law, such as taxes. Risk Management: BJC is keeping tabs on new legislation. This is to prepare and be able to plan or adjust the operation plan in time if new laws arise and could affect business operations. However, since the Group operates its business in accordance with the law, this includes operations related to the environment. The Company is continuously striving to improve its environmental operations, therefore, if new laws, regulations or regulations

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related to the environment are enforced, the Company is ready for such changes and expects to have an insignificant impact on the Group's business operations.

Consumer demand

In modern times, consumers, especially Gen Z and Millennial, are increasingly paying more attention to nature conservation and ecosystem protection. This group of consumers, which in the future will become the main purchasing power pay more attention to buying products and services that are environmentally friendly, as well as supporting organizations or companies with good environmental stewardship.

Risk Management: BJC recognizes this importance and is committed to conducting business without creating environmental impacts. In addition, the Company communicates to consumers that the Company takes environmental care seriously and it has procured environmentally friendly products to meet the needs of today's consumers adequately.

3) Systemic Risk

Ecosystem erosion

If biodiversity loss causes ecosystem erosion, this can severely impact the organization's water and raw material resources. This causes shortages of raw materials for production or goods for sale and results in higher prices. In severe cases, the epidemic may become more severe and may affect the tourism sector because of the loss of moral tourism sites. As a result, tourists are decreasing and it can affect business opportunities and economic growth.

Risk Management: BJC places great emphasis to protect and restore ecosystems in order to prevent risks from ecosystem collapsing, such as reforestation to restore degraded forests, educating farmers to reduce the use of chemicals in agriculture, which has a significant impact on ecosystems, and releasing fish in natural water bodies to help restore biodiversity, etc.

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Financial stability

If the loss of biodiversity intensifies to the extent that it affects the raw materials to be used for production and the products to be sold. This causes shortages and increases the costs, which can affect the financial condition of the company more or less because the company may have more expenses or may have lower revenue (because there are not enough products to sell) which may cause the Company to have unstable income due to fluctuations in raw materials and quantities of raw materials and goods.

The loss of biodiversity will not only affect the financial stability of the organization. There is also a risk to the financial stability of suppliers and customers. As a result, suppliers may not be able to deliver goods and services as agreed. Meanwhile, customers will have less purchasing power, therefore, having an impact on the organization's supply chain

Risk management: BJC provides a variety of raw material sources and studies are conducted to find alternative sources to reduce the risk of shortage of raw materials and products. Hence, reducing the likelihood of cost price fluctuations. In addition, various aspects of operations have been improved to increase business efficiency to control total costs from increasing, hedging, or price assurance is carried out to reduce the risk of price fluctuations. Moreover, the Group supports and assists farmers closely to develop standard farming to produce the quality and quantity required by the company. In addition, the Company continuously studies new business opportunities in order to achieve the Group's revenue growth target.

Prepare – Establish strategies and allocate resources appropriately, as well as set goals and monitor performance continuously.

BJC has established a biodiversity stewardship strategy as mentioned above under the heading "Strategy" with the goal of not creating a negative impact on biodiversity (No Net Loss) by 2032 and a Net Positive Impact by 2050.

All in all, the Company conducts biodiversity risk and impact assessments, starting from business groups with high potential impacts, namely manufacturers (factories) and distribution centers, and evaluate throughout the organization's supply chain. In addition,

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the Group provides training to create knowledge and awareness among employees involved in biodiversity stewardship.

BJC does not conduct operations that directly impact biodiversity. For the retail industry, the company procures from suppliers who follow sustainable and ethical practices to ensure that products come from areas without deforestation, and that marine products are sourced from sustainable fisheries. The company also carries out projects that support biodiversity, as per the information below.

After assessing risks and impacts throughout its supply chain, including evaluating biodiversity around its sites, each company or unit within BJC plans and implements various tasks, activities, and projects to mitigate, prevent, and restore biodiversity both within and outside the organization. The performance and projects of different business groups can be summarized as follows:

Glass Packaging Factory

- **Plastic & Hazardous Waste Reduction Initiative:** A project to reduce plastic and hazardous waste that can be toxic to both human health and biodiversity.
- **Aluminium Stewardship Initiatives (ASI):** Standards for sustainable aluminum production that support biodiversity by promoting responsible aluminum production.
- **Tree Planting Projects:** Planting trees in areas that have been degraded or deforested.
- **Zero Discharge Water Treatment:** Ensuring that no wastewater from the production process is released into natural water sources due to a zero discharge treatment system.

Tissue Paper Factory

- **Zero Water Discharge Project:** Increasing the use of recycled water to achieve zero water discharge.
- **Recycled Paper Fiber Use:** Utilizing recycled paper fiber pulp for new product production to enable resource circulation.



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- **Community Green Space Project:** Collaborating with suppliers and surrounding communities to plant large trees and increase green spaces.
- **Fish Species Reintroduction:** Reintroducing a total of 140,000 fish, including Small-scale Mud Carp, Jullien’s Golden Carp, and Nile Tilapia, into the Prachin Buri rivers.
- **Forest Stewardship Council (FSC) Certification:** Ensuring that paper pulp sources are not derived from natural forest areas.

Confectionery Factory

- **Watershed Forest Stewardship Project:** Aiming to conserve natural water production resources.
- **Fish Releasing Project:** Releasing 20,000 Java Barb fish into local rivers in Samut Prakan province to support river biodiversity.
- **Farmer Education Project:** Developing knowledge for farmers to use water efficiently and reduce chemical usage.

Additionally, BJC closely and regularly monitors biodiversity impacts. The following guidelines have been established to manage issues affecting biodiversity:

- **Avoiding Biodiversity-Sensitive Areas:** Ensuring that factories, distribution centers, and stores are not established in areas important for biodiversity.
- **Reducing Negative Impacts:** Implementing projects like zero water discharge to minimize negative impacts on biodiversity.
- **Promoting Natural Diversity:** Engaging in activities such as community tree planting and establishing mangrove nurseries for marine life.
- **Restoring Biodiversity:** Initiatives like releasing native fish species into community water bodies and the Watershed Forest Stewardship Project.
- **Transforming Operations:** Reducing negative impacts by switching from gasoline-powered trucks to electric vehicles (EVs) to lower exhaust fumes and greenhouse gas emissions from transportation.

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4. Goals and measurements

BJC Group has goals related to biodiversity and performance at the end of 2023 as follows:

- 1) 150,000 trees planted by 2032
Result: Planting 42,848 trees (From 2021 to 2023)
- 2) 100% biodiversity assessment by 2025
Performance: 100% of high-impact groups have been assessed.
- 3) Biodiversity impact to zero (No Net Loss) by 2032
Results: Impact assessment in progress
- 4) Net Positive Impact by 2050
Results: Various positive impact-building projects/ activities have been implemented, such as planting trees in both terrestrial and mangrove forests and releasing aquatic animals into nature
- 5) Net deforestation to zero (No Net Deforestation) by 2032
Results: There will be no deforestation by the Group's business operations. In addition, BJC also has tree planting projects and activities. Currently, the company is studying tree planting in areas where the forest has been degraded in order to restore the forest.
- 6) Truly zero tree cutting (No Gross Deforestation) by 2050
Results: Berli Jucker Public Company Limited (BJC) and its Group of Companies have implemented a Biodiversity and Deforestation Policy aimed at ensuring their sources do not originate from natural forest areas. This policy reflects their commitment to environmental sustainability and responsible sourcing practices.