

Management Summary: Natural Capital (Biological and Water Resources)

Awareness of Natural Capital and "Location"

Holistic understanding and disclosure of climate change and natural capital

In May 2021, the Finance for Biodiversity (F4B) initiative released "The Climate-Nature Nexus: Implications for the Financial Sector," which emphasizes the concept of "The Climate-Nature Nexus." This concept considers climate change and natural capital not separately, but in a holistic manner. The Kirin Group's businesses depend on natural capital and it has understood that climate change has a major impact on agricultural raw materials and water, which is also concluded from the scenario analysis based on TCFD recommendations. Our approach is to solve environmental issues holistically based on the premise that they are interrelated rather than independent. As such, the assertion of "The Climate-Nature Nexus" is exactly what we have been trying to achieve. In the future, we intend to use the TCFD and TNFD frameworks to advance integrated disclosure.

LEAP approach focusing on "Location"

The LEAP approach involves analytical activities in the following order: Discovering the nature interface (Locate), diagnosing dependencies and impacts (Evaluate), assessing risks and opportunities (Assess), and preparing to address nature-related risks and opportunities and reporting back to investors (Prepare). This is a new approach to assessing and prioritizing natural capital dependence and impacts, with a focus on "Location".

The Kirin Group intends to use the LEAP framework to organize and deepen the initiatives it has been pursuing as a company dependent on natural capital, and to make appropriate disclosures.

Global and local perspectives

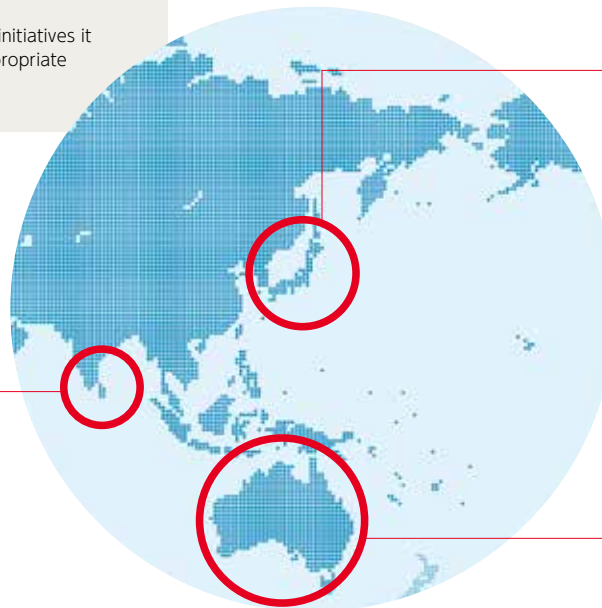
The Kirin Group took the opportunity of Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity held in Nagoya in 2010 to conduct a risk assessment of biological resources and understand the dependence of its operations on the natural capital of specific regions. It is to address this issue that we have begun supporting the acquisition of The Rainforest Alliance certifications in Sri Lanka, the main producing area of tea for *Kirin Gogo-no-Kocha*. In the area of water resources, we are acting on our early recognition that water stress and risk vary widely by country and region given our experience conducting business in Japan and Australia which have highly contrasting water resources and water stress.

Our scenario analysis also confirmed that climate change will have extreme physical impacts on natural capital in certain areas. Based on this experience, the Kirin Group understands both that global warming is a global issue and that GHG emissions must be reduced at all companies and that natural capital, such as biological and water resources, needs a local perspective because its characteristics differ by region and location. This is why the Kirin Group is making holistic efforts as proposed the LEAP (Locate-Evaluate-Assess-Prepare) approach in the beta version of the TNFD Disclosure Framework.

"Locations" that have a significant impact on our businesses and are important in terms of the natural and social environment.

Sri Lankan tea farms

- Locate** The delicious taste of *Kirin Gogo-no-Kocha* is supported by tea farms in Sri Lanka. Water sources of large coastal cities exist on the farms.
- Evaluate** Approximately 25% of the Sri Lankan tea leaves imported by Japan are used by *Kirin Gogo-no-Kocha*. Tea production areas face increased water risk and stress due to climate change, while heavy rains run off fertile soils.
- Assess** If Sri Lankan tea leaves on which Kirin is highly dependent, cannot be used sustainably, the product concept will fail.
- Prepare** Supporting Sri Lankan tea farms in obtaining The Rainforest Alliance certifications since 2013. Widely publish the number of farms obtained the certificate and the number of farms trained in environmental reports, and on the Web.



The Japanese wine where "Location" determines the characteristics of the product.

Mariko Vineyard

- Locate** An important factor that determines the taste of wine is "terroir" or the character of the land. The vineyard is an area that remains natural and inhabited by rare species of plant and wildlife.
- Evaluate** Expansion of vineyards is necessary for the expansion of the Japanese wine, and the target is derelict land.
- Assess** Joint research with the National Agriculture and Food Research Organization (NARO) revealed that converting derelict land into vineyards creates high-quality grasslands and contributes to a rich ecosystem.
- Prepare** Contributing to Nature Positive and 30 by 30.

"Locations" where water risks are high and water resource management is particularly important.

Production plants in Australia

- Locate** All Kirin Group Australian brewery locations are in water-stressed watersheds.
- Evaluate** Water stress in Australia is very high both empirically and when measured with such tools as Aqueduct. Once every few decades, when flooding occurs due to torrential rains, the damage is significant.
- Assess** Water-saving technology is the best in the Group, but there remains a possibility that production could be disrupted in the event of a severe drought.
- Prepare** Contribute to the development of the SBTs for Nature methodology and set new goals in line with this. Widely publish joint research results in environmental reports, and on the Web, environmental reports, and on the Web.

Scientific approach to natural capital, including biodiversity

Understanding that the Kirin Group is a business dependent on agricultural products (biological resources) and natural capital such as water, we conducted a risk assessment of biological resources in 2011 and a water risk survey of our global production site watersheds and major agricultural raw material production areas in 2014. We have been working to set data-based targets and initiatives. However, there have been issues that have remained empirical because the methodology for setting targets has not been established. We would also like to contribute to rule-making by participating in a corporate engagement program sponsored by the Science Based Targets Network (SBTN) to assess impacts and set targets based on scientific evidence, such as greenhouse gas emission targets. The AR3T Framework, as set forth in the SBTN Action Framework, is being evaluated on a trial basis as it is consistent with the approach taken by the Kirin Group. The Group considers agricultural raw materials and water resources to be the most vulnerable to climate change and has also identified impacts on natural capital through various studies on physical risks and transitional risks.

Value chain assessment and prioritization

STEP 1
ASSESS

Due to the nature of the Kirin Group's businesses, we assess that the Group has a significant impact and dependence on freshwater and terrestrial areas in its upstream agricultural raw materials and manufacturing sites.

SBTN's AR3T framework



Avoid

The Kirin Group depends on agricultural products and forests for its raw materials. We aim to avoid problematic use of biological resources and to use them sustainably in accordance with the Kirin Group Action Plan for the Sustainable Use of Biological Resources established in 2013.

Initiatives and Commitments

- 100% use of FSC-certified paper or recycled paper for office paper by 2030 in major global operations to avoid the use of valuable forest resources. (Achieved in Japan Beer and Spirits and Non-alcoholic Beverages businesses.)
- To avoid deforestation of tropical rainforests, the Group will ensure that 100% of transactions for palm oil used as a primary or secondary raw materials in domestic operations have RSPO certification using RSPO Credits*. (Achieved at present)

*Excluding palm kernel oil

Reduce

If we cannot completely eliminate the burden on the natural environment, we will try to reduce it. Once a scientific goal-setting framework is constructed, goals are re-set accordingly.

Initiatives and Commitments

- Support 10,000 small-scale Sri Lankan tea farms supported in obtaining Rainforest Alliance certification by 2025. (About 30% of the large estates certified in the country received Kirin's support.)
- 2.4kL/kL unit water consumption by 2025 at Lion where water stress is high. (Targets have also been set for Japan Beer and Spirits, Non-alcoholic Beverages, Pharmaceutical, and Biotechnology businesses in line with water stress.)
- Reduce food waste in the Japan Beer and Spirits, and Non-alcoholic Beverage businesses by 75% by 2025 compared to 2015.

Restore & Regenerate

We are working to restore ecosystems and water resources in the raw material production areas. We are also involved in water source conservation activities at our domestic plants and in vegetation restoration activities in our domestic vineyards in cooperation with NGOs and local communities.

Initiatives and Commitments

- Harvest 160 tons of grapes from directly managed vineyards in 2024 (In vineyards where grass growth is encouraged, the expansion of the vineyard leads to the growth of the grasslands and enriches the ecosystem.)
- In Sri Lanka, on a cumulative basis from 2022 through 2024, we aim to have 15 sites for on-farm water source conservation, 20,000 people to be educated on water conservation, and 200 people to be educated on wildlife conservation.

Transform

Natural capital initiatives need to be undertaken not only by companies, but also by society and local communities. We will promote collaboration with many stakeholders and contribute to a new disclosure framework.

Initiatives and Commitments

- As a member of the TNFD Forum, we contribute to the development of a framework for financial disclosure of nature-related information through participation in a pilot program.
- The Kirin Group contributes to the development of a scientific goal-setting framework for natural capital as a Corporate Engagement Program participant in SBTs for Nature.
- We apply our experience in establishing a consortium for sustainable paper and tea leaves to collaborate with NGOs and other companies on these and other topics.

STEP 2
INTERPRET & PRIORITIZE

In the freshwater areas, we studied and prioritized the risks and impacts on water quantity in the watersheds of our production sites according to the proposed methodology presented by the SBTN. In the future, we plan to collect data on high-priority production sites with reference to biodiversity indicators based on the IUCN Red List. In terrestrial areas, the AR3T framework was used to examine raw material production areas and organize the procurement of raw materials that do not damage nature, support the sustainability of production areas, and positive impact initiatives.

Trial Prioritization

Country	Manufacturing site	Water stress	Water Use	Biodiversity risk
US	Biokiyowa	★★★★★	★★★★★	★★★
Thailand	Thai Kyowa Biotechnologies	★★★★★	★★★★★	★★★
Japan	KYOWA PHARMA CHEMICAL	★★★★★	★★★★★	★★★
Japan	Kirin Brewery Toride Plant	★★★★★	★★★★★	★★★
Japan	Kirin Brewery Yokohama Plant	★★★★★	★★★★★	★★★
Japan	Kirin Gotemba Distillery	★★★★★	★★★★★	★★★
Japan	Kyowa Kirin Fuji Plant	★★★★★	★★★★★	★★★
Australia	Lion Tooheys Brewery	★★★★★	★★★★★	★★★
Japan	Kirin Brewery Nagoya Plant	★★★★★	★★★★★	★★★
China	Shanghai Kyowa Amino Acid	★★★★★	★★★★★	★★★
Japan	Kirin Beverage Shonan Plant	★★★★★	★★★★★	★★★
Australia	Lion Castlemaine Perkins Brewery	★★★★★	★★★★★	★★★
China	Kirin Brewery (Zhuhai)	★★★★★	★★★★★	★★★
US	New Belgium Brewing Fort Collins Brewery	★★★★★	★★★★★	★★★

*Water stress is evaluated using three indicators (Aqueduct's Baseline Water Stress, Water Risk Filter's Baseline Water Depletion and Blue Water Scarcity) that assess the amount of available water resources.
*Water use as a percentage of total use at 14 sites with high water stress
*Biodiversity is assessed by the scores in Species Threat Abatement and Restoration (STAR), namely STARt for threat abatement and STARr for restoration. These are calculated based on the IUCN Red List for the watershed of the manufacturing site. We also consider whether biodiversity elements triggering Key Biodiversity Area (KBA) criteria such as fish, amphibians, turtles, crustaceans, dragonflies, etc. are present within a 50km radius of the site's watershed.