Tokyu Fudosan Holdings

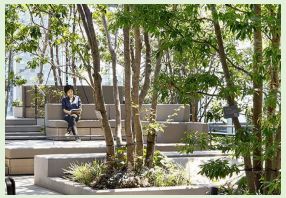
TNFD Report

- Contributions to Nature Positive by the Tokyu Fudosan Holdings Group -

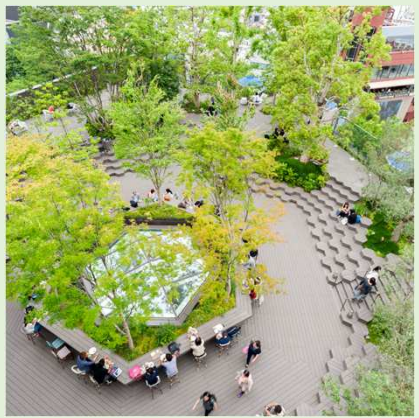
August 25, 2023

TOKYU FUDOSAN HOLDINGS







INTRODUCTION

Introduction-Nature Positive as a Global Goal-

Amid increasing international recognition of how important it is to halt and recover natural loss (See *1), at the 15th Meeting of the Conference of the Parties to the UN Convention on Biological Diversity (COP15) that convened in December 2022, the “Kunming-Montreal Global Biodiversity Framework” (GBF) was adopted as the first international targets for biodiversity since the Aichi Biodiversity Targets of 2010.

Under the GBF, based on the **2050 vision of “Living in harmony with nature,”** the mission of **striving for “nature positive”*2** as defined by “taking urgent action to halt and reverse biodiversity loss to put nature on a path to recovery” **by the year 2030** was set forth along with 23 concrete targets. Those targets include the assessment and disclosure of risks, dependencies and impacts on biodiversity by corporations in their operations in order to reduce negative impact on biodiversity and expand positive impact.

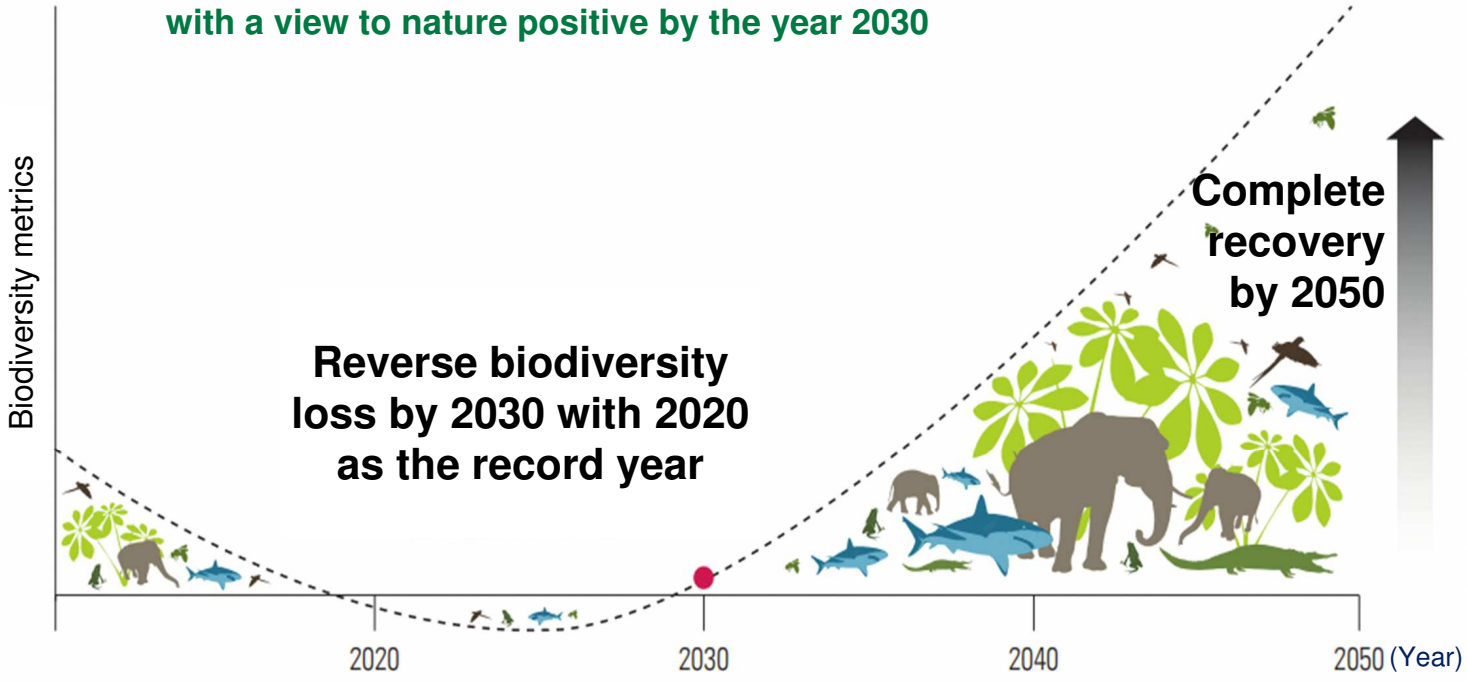
Based on this, the Company has commenced associated efforts starting with assessing the degree of contribution to nature positive in its businesses.

***1: Excerpt from World Economic Forum** (References 1)

Ranking of severity of risks in the next decade	
1	Failure to mitigate climate change
2	Failure of climate change adaption
3	Natural disasters and extreme weather event
4	**Biodiversity loss and ecosystem collapse**
5	Large-scale involuntary migration
6	**Natural resource crisis**
7	Erosion of social cohesion and societal polarization
8	Wide spread cybercrime and cyberinsecurity
9	Geoeconomic confrontation
10	Large-scale environmental damage incident

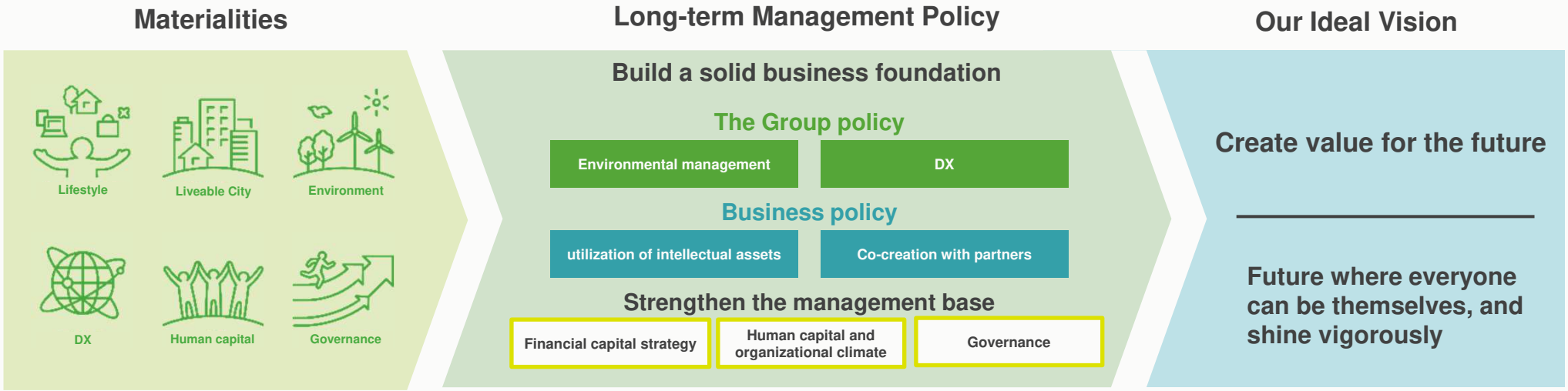
***2: Measurable global goals for nature with a view to nature positive by the year 2030**

Source: WWF



Environmental Management at Tokyu Fudosan Holdings and Positioning of TNFD Report

- The group has established materialities based on social challenges and has set forth a long-term management policy with environmental management as one of its group policies. We will promote this long-term management policy and realize our ideal vision.



- In our long-term vision and our Medium-Term Management Plan 2025, having positioned environmental management as a group policy, we will strive to expand business opportunities with the environment as the starting point through our efforts in tackling the priority challenges of a **Decarbonized society, Recycling-based society, and Biodiversity**. With regard to biodiversity in particular, having adopted the goal of contributing to nature positive based on regional characteristics, we currently developing, operating and managing real estate with the objectives of promoting people-and nature-conscious greening that connects the green dotting the cities in urban areas and coexisting with ecosystem services in countryside areas.
- This TNFD Report (“Report” below) discloses dependencies, impacts, risks and opportunities pertaining to the natural capital of the Group using the “TNFD Nature-Related Risk & Opportunity Management and Disclosure Framework v0.4 Beta Release” by the Taskforce on Nature-related Financial Disclosures (“TNFD” below) as a reference. Note that the Company, working with **MS&AD InterRisk Research & Consulting, Inc.** and **Think Nature Inc.**, has examined, analyzed and organized nature-related information within the Group’s businesses.

[Summary] TNFD Framework and Main Information Disclosed

As the Group's businesses are founded on the premise of depending on and impacting nature in a variety of aspects, over time, the Group has continuously implemented initiatives to limit its negative impact on and exert a positive impact on nature.

In preparing this report, we followed the four pillars of the TNFD Recommended Disclosure as well as conducted examinations for each pillar in line with the **LEAP**[*1] approach provided by the TNFD,

*1: **"LEAP" stands for "Locate" (locate the interface with nature), "Evaluate" (evaluate dependencies and impacts), "Assess" (assess material risks and opportunities) and "Prepare" (prepare to respond and report).**

TNFD Recommended Disclosure	TNFD Recommended Items for Disclosure	Information disclosed recently (TNDF disclosure at the Company)
Governance	**Governance structure** for nature-related dependencies, impacts, risks and opportunities that includes oversight structure for Board of Directors, and roles of management	Governance structure for the Company's nature-related issues
Strategy	● **Identified nature-related dependencies/impacts and risks/opportunities** ● Effects of risks and opportunities on businesses, strategy and financial plans ● Resilience of strategy with scenarios taken into consideration ● **Priority locations in organization**	● **Overview of nature-related dependencies and impacts in Group overall** ● **Priority locations at sites directly operated by the Company** ● **Nature-related dependencies/impacts and risks/opportunities examined for businesses in the "greater Shibuya area"[*2] set forth as a priority locations** ● Nature-related risks and opportunities envisioned at current point in time, including those in other businesses
Risk and Impact Management	● **Process for identifying, evaluating and managing** nature-related dependencies, impacts, risks and opportunities and actions taken in light of management process ● Integration of above process with group risk management process ● Involvement of affected stakeholders	● Relationship between process of Group identifying, evaluating and managing nature-related dependencies, impacts, risks and opportunities and group-wide risk management ● **Concrete initiatives for responding to dependencies/impacts and risks/opportunities** ● Stakeholder engagement
Measured metrics / targets	**Measured metrics and targets** for evaluating and managing nature-related dependencies, impacts, risks and opportunities and **performance relative to targets**	● Metrics and targets of Group

*2: The greater Shibuya area refers to the area within a 2.5-km radius from Shibuya Station as set forth in the Group's community development strategy. In the Report, the greater Shibuya area has been set forth as a priority area.

[Summary] Overview of Dependencies and Impact on Nature and Setting of Priority Locations

STEP 1) Assess dependencies/impacts on nature for Group overall

Referred to ENCORE tool (See Terms)

Segment	Business activities	Sales volume	Value chain	Impacts on nature								Dependencies on nature					
				Terrestrial ecosystem use	Freshwater/ Marine ecosystem use	Resource use		GHG emissions	Pollutant	Waste	Other	Provisioning services		Regulating services			Cultural services
						Water	Other resources					Water resources	Other resources	Alleviation of impacts	Climate regulation	Other	
Urban development	Offices and commercial facilities/condominiums and rental housing, etc.		Building and development	VH			M	H	M	H	H		M	L			
			Operation	VH		H		H		H		H		L	L		H
Strategic investment	Renewable energy facilities (Solar power/wind power/biomass)		Building and development	VH			M	H	M	H	H		M	L			
			Fuel production	H				H	H			VH					
			Operation	VH		H	H	H	H	H	M	M	VH	L	VH		
	Logistics facilities		Building and development	VH			M	H	M	H	H		M	L			
			Operation	VH				H		H	H			L	L		M
Property management and operation	Condominium management Environment and greening management		Management, renovation and construction	VH							H						
	Hotel, golf course, ski resort, etc.		Building and development	VH	VH		M	H	M	H	H		M	L			
			Production of ingredients, etc.	VH	VH	VH		H	H			VH	VH	VH	VH	VH	
			Operation	VH	VH	H	M	H		H	H	H	M	L	M	H	VH
	Healthcare, etc.		Building and development	VH			M	H	M	H	H		M	L			
			Operation and use	VH		H		H		H		H		L	L		H

Impacts

Land modification/occupation, etc. upon real estate development and operation
Terrestrial ecosystem use

Dependencies

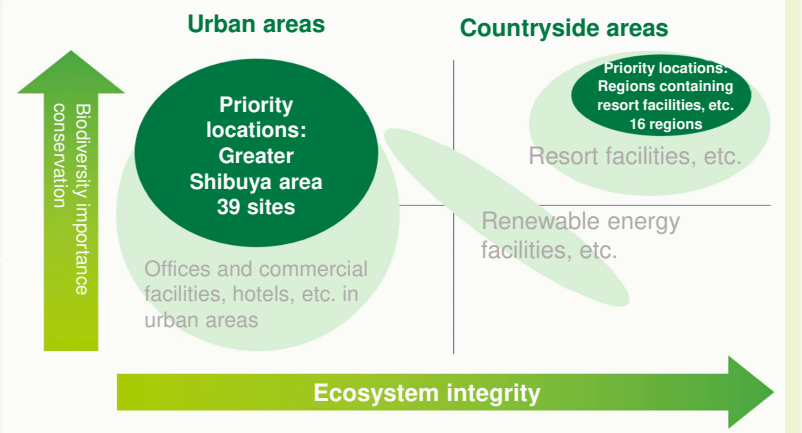
Supply services for resources, etc.
and **cultural services** for nature-based comfort, landscapes, etc.

+

Business scale (Sales volume)

STEP 2) Analyze importance at addresses of each property

Analyze various metrics regarding the intactness and biodiversity importance and water stress as they pertain to the addresses of properties held and operated by the Group



Greater Shibuya area under Urban Development Business
(Priority location recently examined)

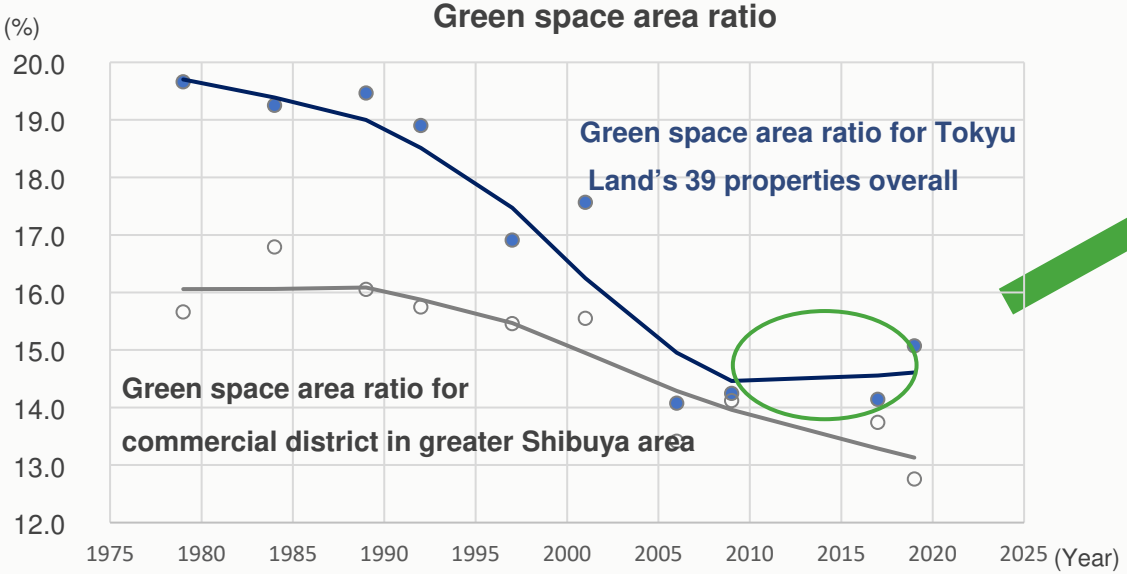
[Summary] Contributed to Nature Positive in our Urban Development Business in the Greater Shibuya Area

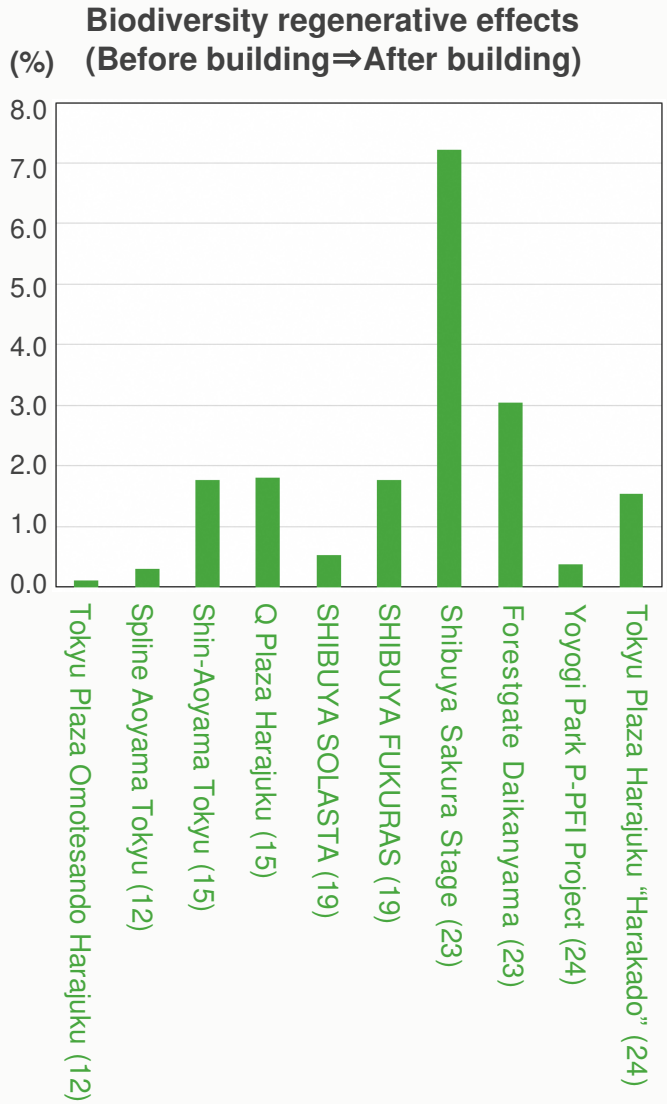
LEAP
L E A P

Nature-related dependencies and impacts in greater SHIBUYA

As a result of performing quantitative analysis using Think Nature's analysis tools, we found that **biodiversity regenerative effects before and after the building of Group properties** in the greater Shibuya area turned positive starting with properties **from FY2012 and beyond.** At properties completed in recent years, initiatives aimed at ensuring the quantity and quality of greening, such as securing green space area largely through urban redevelopment systems and selecting native species of trees for planting, have shown positive effects, and the community planning efforts of the Group have been recognized as **contributing to nature positive**.

In particular, the quantity and quality of greening at target properties under our Redevelopment Business have been trending highly relative to facilities up to this point. Going forward, we will continue to promote the planning of communities that coexist with nature.





*Year in parentheses is the year of completion

[Summary] Joint Endeavors with Supply Chain, Company Initiatives and Looking Towards the Future

LEAP
L E A P

Initiatives geared towards risks, opportunities and impacts in supply chain

In the business of real estate that the Group is involved in, given the process between development and operation spans a long period of time and that numerous parties have involvement in that process, we believe that it is necessary to work together with our stakeholders to tackle nature-related issues in our entire supply chain.

● Sustainable Procurement Policy

To complement “combatting climate change,” “biodiversity protection” as well as “compliance with and respect for international human rights and labor standards,” the Company has also set forth at “Sustainable Procurement Policy” that covers consideration towards the environment, and is promoting initiatives across its entire supply chain.

● Initiatives for zero forest destruction

With respect to plywood panels for concrete formwork used upon building, it may be pointed out that environmental destruction in the forest of origination, the usurping of land from indigenous people or something similar may be involved. In cooperation with construction companies, the Group has set a usage ratio of sustainability-minded lumber (FSC- or PEFC-certified lumber as well as domestically produced lumber, etc.) of 100% by FY2030. For example, the BRANZ Chiyoda Fujimi condominium was made with PEFC-certified lumber, and the place of origin and legality was verified as much as possible for interior materials as well. Additionally, COERU SHIBUYA, an office building in the greater Shibuya area, contains Japanese larch timber.

Concrete initiatives by the Company aimed at nature-related impacts, etc.

Item	Initiatives
Urban Development Business	Community planning, greening technology, planting management, etc.
Hotel and Leisure Business	Forest management, protection of rare species, etc.
Other	Invasive alien species countermeasures, contamination and waste reduction, resource circulation, water usage reduction, etc.

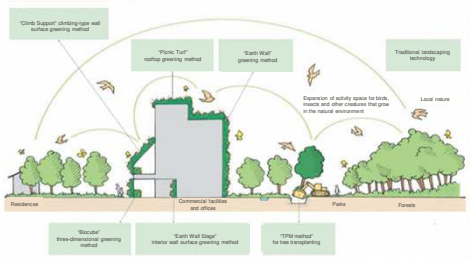


Image representation of building greening

Looking towards the future

In addition to the greater Shibuya area that we recently performed analysis for, we also intend on performing more detailed analysis of dependencies, impacts, risks and opportunities related to the Hotel and Leisure Business, which we operate in other priority locations. Additionally, based on a scenario analysis approach, we will further deepen analysis of the importance of risks and opportunities and the impacts on the businesses and finances of the Group as well as examine the ideal form of nature-related metrics and targets based on international trends as we move forward.

INDEX

INTRODUCTION

Nature-Related Information Disclosure in line with TNFD

Nature-Related Information Disclosure in line with TNFD

Governance

Under “governance” by the TNFD, it is recommended that corporations explain oversight by the Board of Directors and the roles of management as they pertain to nature-related dependencies, impacts, risks and opportunities.

The nature-related governance framework at the Company is as follows.

Main roles of Organization

- The group established the Sustainability Committee with the president & CEO (Chair) and operating officers as its members. This committee devises plans and verified results with respect to climate change and other material sustainability issues.
- The board of directors receives reports from the Sustainability Committee on material climate-related issues and the results of deliberations and oversees progress as well as conducts regular reviews.

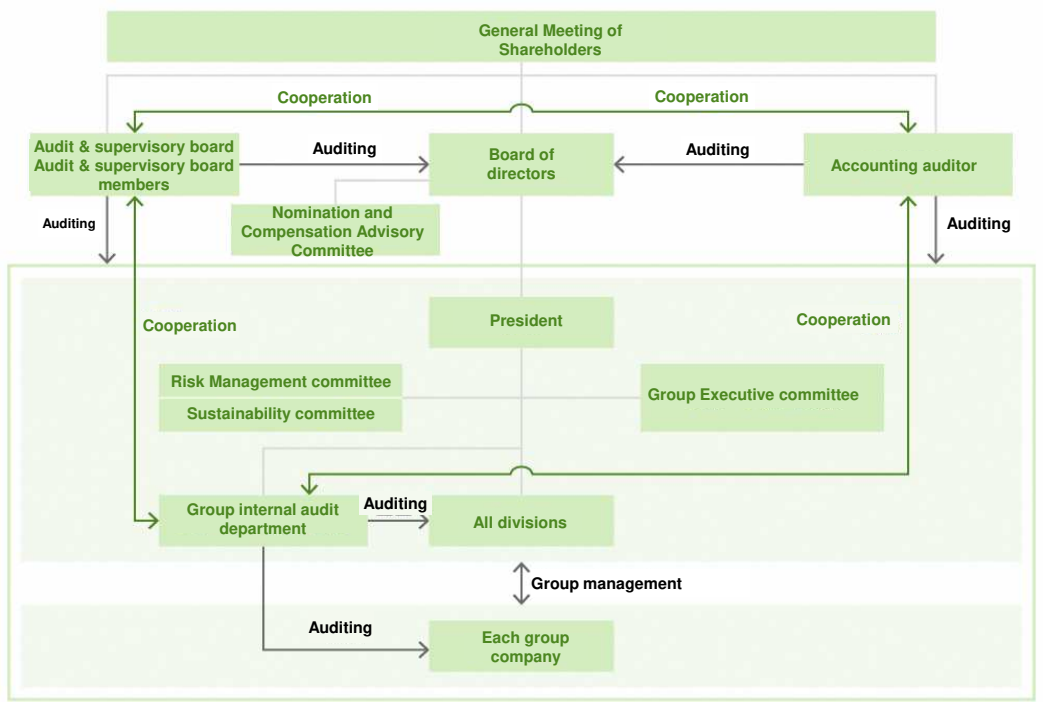
Having espoused “environmental management” as a group policy as part of its long-term management policy
the Company is carrying out environmental initiatives through its businesses with a “decarbonized society,” a “recycling-based society,” and “biodiversity” under its Medium-Term Management Plan.

Environmental Management

Decarbonized Society | **Recycling-based Society** | **Biodiversity**

Organizational Chart

- The group executive committee and the Sustainability Committee work in tandem to formulae policies, targets (KPI) and action plans related to environmental management, with oversight provided by the board of directors.
- The monitoring of KPI progress and the management of results is conducted by the sustainability committee.



Strategy Framework

Under “strategy” by the TNFD, it is recommended that corporations explain the nature-related dependencies, impacts, risks and opportunities that they identified, the effects those exert on companies’ businesses, strategies and financial plans, the resilience of strategies based on scenarios, and priority locations for business activities and value chain.

In the Report, the below information is examined as it pertains to the Group’s business, with an accompanying explanation given between pp. 13-30.

Note that information not included in this examination, including scenario analysis, will continue to be examined based on future trends.

Nature of recommendations for strategy	Information examined for this disclosure	Pages featured on
Explanation of dependencies and impacts on nature	Group overall: Overview of dependencies and impacts on nature	13
	Greater Shibuya area (priority location) Quantitative and qualitative examination of dependencies and impacts in line with LEAP Approach	16-26
Explanation of nature-related risks and opportunities and their impacts on businesses, strategy, etc.	Group overall: Identification of envisioned risks and opportunities based on dependencies and impacts on nature and revisions to Biodiversity Policy	29-30
	Greater Shibuya area (priority location) Identification of risks and opportunities based on examination of dependencies and impacts	27-28
Explanation of priority locations	Group overall and greater Shibuya area (priority location): Examination of priority locations from standpoint of nature at addresses of properties held and operated	14-15

Appearance of Dependencies and Impacts on Nature in Group Overall

Using TNFD classification as a reference, we examined a summary of the nature of dependencies and impacts according to business and value chain steps and their qualitative importance. Additionally, using the sector-specific ratings in the tools ENCORE, which was developed by the UN Environment Programme (UNEP), and SBT for Nature as a reference[*1], we sorted out the importance of dependencies and impacts according to four steps between Very High and Low. The results of that analysis are as follows.[*2]

Impacts

- "Terrestrial ecosystem utilization" was especially high from aspects such as land modification/occupation, etc. upon real estate development and operation.
- The likes of water use and the introduction of alien species was also high at the stages of GHG emissions, waste emissions and operation.

Dependencies

- In addition to supply services for the likes of water resources and building materials upon operation, cultural services such as landscape improvement and comfort were also high.
- At hotel and leisure facilities, the likes of water supply, pollinator and climate regulation were high at the production stage for ingredients, etc. at the upstream of the value chain.

VH Very High（とても高い） H High（高い） M Medium（中程度） L Low（低い）

Segment	Business activities	Sales volume	Value chain	Impacts on nature							Dependencies on nature					
				Terrestrial ecosystem use	Freshwater/ marin ecosystem use	Resource use		GHG emissions	Contamination	Waste	Other	Provisioning services		Regulating services			Cultural services
						Water	Other resources					Water resources	Other resources	Alleviation of impacts	Climate regulation	Other	
Urban development	Offices and commercial facilities/condominiums and rental housing, etc.		Building and development	VH			M	H	M	H	H		M	L			
			Operation	VH		H		H		H		H		L	L		H
Strategic investment	Renewable energy facilities (Solar power/wind power/ biomass)		Building and development	VH			M	H	M	H	H		M	L			
			Fuel production	H				H	H			VH					
			Operation	VH		H	H	H	H	H	M	M	VH	L	VH		
	Logistics facilities		Building and development	VH			M	H	M	H	H		M	L			
			Operation	VH				H		H	H			L	L		M
Property management and operation	Condominium management Environment and greening management		Management, renovation and construction	VH							H						
	Hotel, golf course, ski resort, etc.		Building and development	VH	VH		M	H	M	H	H		M	L			
			Production of ingredients, etc.	VH	VH	VH		H	H			VH	VH	VH	VH	VH	
			Operation	VH	VH	H	M	H		H	H	H	M	L	M	H	VH
	Healthcare, etc.		Building and development	VH			M	H	M	H	H		M	L			
			Operation and use	VH		H		H		H		H		L	L		H

*1: For ratings at the stage of building and development under all businesses and at the stage of operation for properties other than the Renewable Energy and Hotel and Leisure Businesses, we examined importance while making supplements and adjustments as necessary based on "real estate" in each tool.
For ratings at the stage of operation under the Renewable Energy Business, we used "renewable energy" in each tool as the basis. For ratings at the stage of operation of leisure facilities, we used "hotels, resorts and cruises" in each tool as the basis. For ratings at the stage of production of biomass fuel, ingredients, etc., we used subindustries under "forest products" and "agriculture" in each tool as the basis.
*2: With regards to the segment "Real Estate Agents," given that the importance of dependence and impacts at the stage of direct operation is not high and that indirect dependencies and impacts are similar to other real estate businesses, said segment has been omitted from this table.

Evaluation of Priority Locations based on Address of Group Properties

As the importance of the relationship with nature at the development to operation stages at Group properties is believed to particularly high within the value chain, addresses of properties at 267 main sites under the Urban Development business and Property Management & Operation Business (offices/commercial facilities, hotels, leisure facilities, renewable energy facilities, etc.) were overlaid with data for each metric, and an evaluation of priority locations based on address was conducted with the standpoint of priority locations presented by the TNFD used as a reference.

Metrics and information used for location prioritization

Criteria of priority locations under TNFD	Metrics referred to
Ecosystem integrity[*1]	Evaluated according to how high the Biodiversity Intactness Index[*2] is (For the Biodiversity Intactness Index, 100% is assigned to so-called “untouched nature.” Otherwise, this index indicates the degree to which biological species are remaining after the ecosystem of the land in question has been “touched”)
Biodiversity importance	Evaluated with the below metrics taken into total consideration Status of proximity of protected regions with Key Biodiversity Area (KBA) STAR Index[*4] Conservation priority level[*5]
Water stress	Evaluated according to how high Baseline Water Stress[*6] is
Dependencies/impacts	Dependencies and impacts are qualitatively evaluated according to business

*1: Established as the degree to which the composition, structure and functions of the ecosystem are within the scope of natural fluctuation.
*2: Metric denoted as a percentage (%) that indicates the extent to which species are remaining relative to cases where the ecosystem has only been subject to the minimum disturbance. (Source: References[2)])
*3: Significant regions serving as a key to the conservation of biodiversity as selected according to international standards.
*4: Metric representing a quantification of the possibility that activities to reduce threats to species in that area contribute to the reduction of extinction risk around the world as a whole.
*5: Metrix indicating priority level based on the prevention of the extinction of biological species and the conservation of biodiversity in light of information on the distribution of biological species. (Source: References[3)])
*6: Metric indicating level of stress on water at basins based on percentage of water consumption relative to water supply volumes at the basins. (Source: References[4)])

Identification of priority locations for nature-related risks and opportunities

Ecosystem integrity Locations of offices, commercial facilities and city hotels in urban areas have low ecosystem integrity.
Locations of countryside resort hotels, leisure facilities and renewable energy facilities have medium-range to high ecosystem integrity.

Biodiversity importance: Out of all the sites, 114 sites are in close proximity to protected. There are numerous regions with a high conservation priority level, both in urban and countryside areas.
We assigned scores based on metrics and mapped relative importance within the Company.

Water stress: No properties are located in regions with considerably high (or high) water stress.

Based on the results of examining the dependencies and impacts on nature in the Group overall on p. 13 In addition to the analysis results for each metric, we sorted out locations (priority locations) that should be examined with priority based on the standpoint of nature-related risks and opportunities from the Group's perspectives. The results of this are shown in the following figure.

In this disclosure, as shown on pp. 16-28, we performed a detailed examination of the dependencies and impacts on nature and associated risks and opportunities in line with the LEAP Approach provided by the TNFD with respect to **Greater Shibuya area under the Urban Development Business, which constitutes one of our businesses of focus**.

Note that we will proceed to examine initiatives for other priority locations as we move forward.

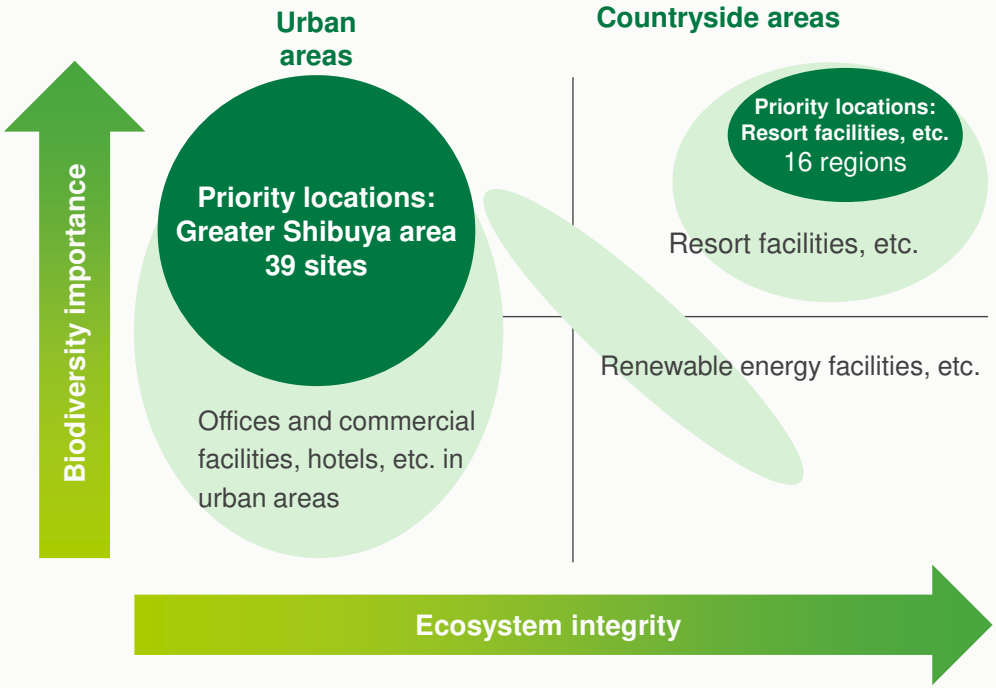
Priority location: Greater Shibuya area (Number of properties: 39)

*Area within a 2.5-km radius from Shibuya Station

According to the analysis of dependencies and impacts on p. 13, based on **business scale (sales volume)**, it is likely that **impacts on nature in the Urban Development Business are particularly large**.
Taking into consideration the fact that the Greater Shibuya area is an area of particular focus under the Urban Development Business as evidenced by the high concentration of Company properties there, the fact that the importance of biodiversity is high even in urban areas (See p. 17) and the fact that the Company **continued its investigations and research regarding ecosystems** up to this point, the Company established the greater Shibuya area as a priority location.

Priority location: Regions containing resort facilities, etc. 16 regions

While the relative importance of their impacts based on business scale is not higher than the Urban Development Business, sixteen regions with **high ecosystem integrity and high importance of biodiversity**, which include TOKYU RESORT TOWN TATESHINA, were established as priority location.



LEAP Approach in Greater Shibuya Area

Based on the LEAP Approach presented by the TNFD, we performed a more detailed **examination** of **dependencies and impacts on nature and accompanying nature-related risks and opportunities as they pertain to the greater Shibuya area, which we established as a priority location.** More specifically, we examined the below information.

Locate
Discovery of the interface with nature

Assessment of state and importance of nature with which businesses in the greater Shibuya area have points of contact

Evaluate
Evaluation of dependencies and impacts

Qualitative organization of **dependencies and impacts through the value chain** in urban development in the greater Shibuya area

Quantitative evaluations in cooperation with Think Nature Inc.

Assess
Assessment of risks and opportunities

Organization of external environmental factors such as direction of national government policy related to businesses in the Greater Shibuya area

Examination of risks and opportunities in Urban Development Business centered in the greater Shibuya area

Prepare
Preparation for response and reporting

Examination and organization of existing initiatives for risks and opportunities

Map of Greater Shibuya Area

State and Importance of Nature in Greater Shibuya Area

Ecosystem integrity

The greater Shibuya area is an ecosystem type centered on “the city and industries.” It is not a region with high ecosystem integrity.

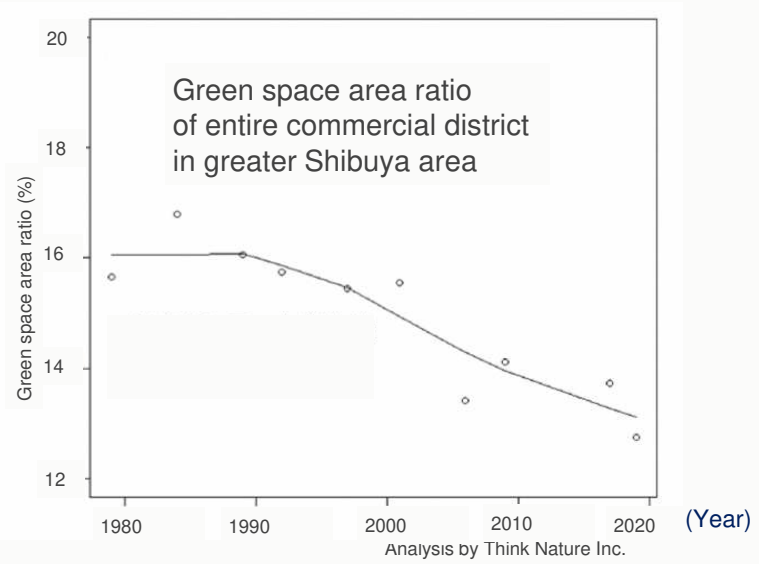
At the same time, since the 1980s, the green space area ratio of the entire commercial district in the greater Shibuya area has continued to decrease (as calculated according to aerial photographs). It is likely that the region’s **ecosystem integrity is trending further downwards**.

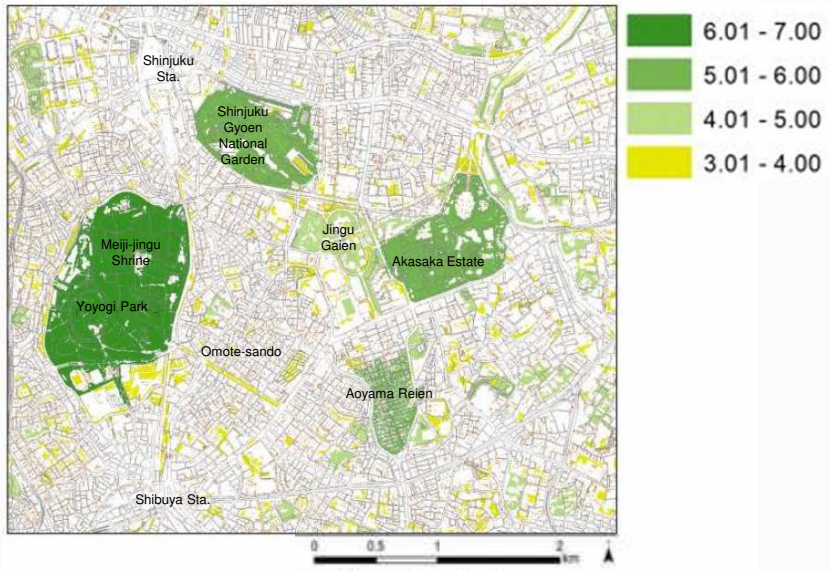
Biodiversity Importance

Between FY2016 and FY2018, three parties, TOKYO CITY UNIVERSITY and Group members ISHIKATSU EXTERIOR INC. and Tokyu Fudosan R&D Center Inc., performed a collaborative investigation and research[6] on the ecosystem in the greater Shibuya area. The greater Shibuya area is surrounded by large-scale green spaces that include **Meiji-jingu Shrine/Yoyogi Park, Shinjuku Gyoen National Garden and the Akasaka Estate**. Meanwhile, the downtown area that has large-scale green spaces surrounding it is widely dotted with smaller pockets of green. This and other characteristics make it an area that **coexists with nature, a rarity for a city center**.

It is believed that new and endangered species as well as plant and animal species not commonly found in urban areas inhabit those large-scale green spaces. The greater Shibuya area is therefore believed to be a **key region in forming an ecological network that links together such large-scale green spaces**.

- **Ecological network**
  An organic network of regions centered on those that host superior natural conditions. An ecological network yields the following effects: By making it possible to conduct foraging, nesting, breeding and other inhabiting stages within the region, this network contributes to preventing the extinction of populations and drops in genetic diversity. The establishment of relationships among various species also links to a recovery in the diversity of species in the region as a whole.





Distribution of green coverage area in greater Shibuya area
(Indicates the logarithmic value (Log 10) of the area of green coverage extracted using a Normalized Difference Vegetation Index (NDVI) of >=0.25)

Dependencies and Impacts in Greater Shibuya Area (Overall Picture)

An overall picture of dependencies and impacts through the value chain in the Urban Development Business in the greater Shibuya area is shown in the below diagram.

At the procurement stage for building materials, that business exerts dependencies and impacts on **building materials, lumber and other resources**. At the development and operation stage for real estate, while there is a possibility that the business will exert negative impact such as land modification and occupation, the business is dependent on nature from the standpoint of **regulating services*1 such as the mitigation of the heat island effect and disasters and cultural services*2 such as comfort, stress mitigation and recreation**. Also, aside from negative impact, the business, largely through its building greening initiatives, is also believed to exert a positive impact on ecosystems, such as by providing habitats for living things, as well as contribute to the increase in various ecosystem services that the Group and local communities depend on.

Dependencies and impacts that are believed to carry especially high importance are explained in detail starting on the next page.

Dependencies and impacts on nature in value chain *Bolded items are dependencies and impacts that are believed to carry especially high importance

Procurement of building materials

Negative Impacts

- Utilization of building materials, lumber and other resources

Dependencies

- Services for supplying building materials, lumber, etc.

Development and operation

Negative Impacts

- **Land modification/occupation**
- Soil contamination
- Air contamination/GHG emissions
- Waste discharge
- Introduction of alien species

Positive Impacts

- **Provision of habitats through building greening, etc.**
- **Formation of ecological network**

Dependencies

<Procurement services>

- **Climate regulation (Mitigation of heat island effect, etc.)**
- **Mitigation of disasters (Rainwater infiltration, mitigation of infiltration, etc.)**
- Decontamination and mitigation of noise/landscape impacts

<Cultural services>

- **Recreation, landscapes, stress mitigation, richness/leeway, improvement of wellness asset value, etc.**

Natural capital with relationships (“Environmental assets” under TNFD)

Mineral / energy resources | **Land** | **Terrestrial ecosystems** | **Air systems** | **Water resources**

*1: Regulation services: Services that control the environment through biodiversity. Examples are the effects gained through climate regulation, the mitigation of localized disasters, the inhibition of soil erosion, and the containment of pests and sickness within the ecosystem.

*2: Cultural services: Cultural services that people can obtain by coming into contact with nature and that impact them from aesthetic, spiritual, physiological and other aspects.

Positive Impact Through Provision of Habitats (Dependencies/Impacts ①)

Investigation of growth/habitat services in greater Shibuya area

As part of the collaborative research[7] conducted by TOKYO CITY UNIVERSITY, ISHIKATSU EXTERIOR INC. and Tokyu Fudosan R&D Center Inc., an investigation of butterfly species was conducted in the greater Shibuya area that targeted three biodiversity-considerate properties with rooftop gardens placed and their peripheral area. As a result, the presence of butterfly species was verified in the rooftop green spaces of each of those properties. **Of particular note is how it became clear that building greening by the Group may be functioning as part of an ecosystem network connecting Meiji-jingu Shrine to Harajuku and Omote-sando** to exert a positive impact on peripheral ecosystems through providing habitats.

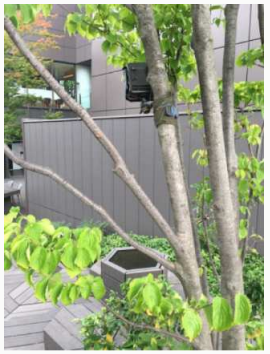
Ongoing implementation of biological monitoring in greater Shibuya area

<Method of investigation>

- Bird species study (Observational study/fixed-point photography and filming study)
  - ✓ For a total a three times in June, September and January, the “Omohara Forest “was arbitrarily surveyed, and the species names, population, behavior, etc. of bird species whose presence was verified based on visual observation, bird calls, etc. were recorded.
  - ✓ Using birdbaths use frequently by birds as the focus, birds were automatically photographed and filmed in flight with sensing cameras and video cameras.
- Insect species survey (Arbitrary observational study)
  - ✓ For a total a three times in June, August and September, the “Omohara Forest” was arbitrarily surveyed, and the species names, population, behavior, etc. of insect species whose presence was verified based on visual observation, insect calls, etc. were recorded.


Tokyu Plaza Omotesando Harajuku


Observational study


Fixed-point photography and filming study of bird species

At “Tokyu Plaza Omotesando Harajuku,” which is located in the greater Shibuya area, **monitoring studies of bird and insect studies at the “Omohara Forest” rooftop garden** have been conducted yearly since FY2012 (except for certain periods such as the COVID-19 pandemic) to assess changes in the inhabiting and flying situation of living creatures there[8].

*Continued on next page

Positive Impact Based on Provision of Habitats (Dependencies/Impacts ②)

Ongoing implementation of biological monitoring in greater Shibuya area

Regarding bird species, between FY2012 and FY2019, the presence of 10 to 16 species was verified every year, or 22 species cumulatively.

For example, *Parus minor*, pairs of *Passer montanus* and the like were verified to nest in next boxes, and various species of bird such as *Turdus naumanni* were verified to drink in birdbaths, feed/forage through planting, rest, and so forth. This made it clear that a number of bird species use “Omohara Forest” as a habitat on a constant basis.

Regarding insect species, between FY2012 and FY2019, the presence of 40 to 64 species was verified every year, or 151 species cumulatively.

In particular, the presence of 9 species that include *Papilio xuthus*, which has superior mobility; *Hyalessa maculaticollis*, whose source of food lies inside rooftop green spaces; and *Graphium sarpedon*, was continuously verified over that 8-year period.

Based on monitoring results as well, it is inferred that **building greening efforts, particularly those in “Omohara Forest,” are exerting a positive impact on the ecosystem through the provision of habitats for living creatures in the greater Shibuya area.**

The Company intends to keep on assessing the condition of nature by continuing monitoring going forward.

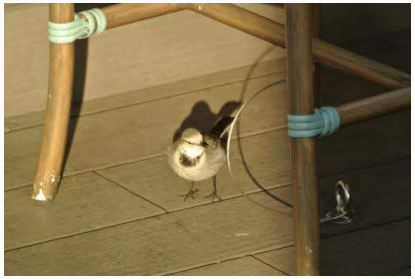
Omohara Forest

List of bird species over time and observation photographs (verification survey)

No.	Order Name	Family Name	Species Name	
			Japanese Name	Scientific Name
1	Columbidae	Columbidae	Kijibato	*Streptopelia orientalis*
2	Suliformes	Phalacrocoracidae	Kawau	*Phalacrocorax carbo*
3	Ardeidae	Pelecaniformes	Aosagi	*Ardea cinerea*
4	Accipitridae	Accipitridae	Ohtaka	*Accipiter gentilis*
5	Picidae	Picidae	Kogera	*Dendrocopos kizuki*
6	Passeriformes	Corvidae	Onaga	*Cyanopica cyanus*
7			Hashibosogarasu	*Corvus corone*
8			Hashibutogarasu	*Corvus macrorhynchos*
9		Shijukara	Shijukara	*Parus minor*
10		Tsubame	Tsubame	*Hirundo rustica*
11		Hiyodori	Hiyodori	*Hypsipetes amaurotis*
12		Mejiro	Mejiro	*Zosterops japonicus*
13		Mukudori	Mukudori	*Spodiopsar cineraceus*
14			Komukudori	*Agropsar philippensis*
15		Turdidae	Tsugumi	*Turdus naumanni*
16			Jobitaki	*Phoenicurus auroreus*
17			Ezobitaki	*Muscicapa griseisticta*
18		Passeriformes	Passeriformes	*Passer montanus*
19		Motacillidae	Hakusekirei	*Motacilla alba*
20		Fringillidae	Kawarahiwa	*Chloris sinica*
21	(Columbidae)	(Columbidae)	Kawarabato (Dobato)	*Columba livia*
22	Psittaculidae	Psittaculidae	Wakakehonseiinko	*Psittacula krameri manillensis*
7 Orders/16 Families/22 Species				

Note 1: Species names and classifications are in accordance with the “Check-List of Japanese Birds (7th Ed.)” (Ornithological Society of Japan, 2012).

Passer montanus (Nesting in pairs)



Hakusekirei

Graphium sarpedon

Shijukara

Turdus naumanni (Birdbath)

Coccinella septempunctata

Quantitative Evaluation of Impacts Based on Building Greening (Dependencies/Impacts ③)

Among the impacts on nature with a high degree of importance that were examined on p. 18, the impacts on the ecosystem based on land occupation and building greening of Group properties were quantitatively analyzed with the cooperation of Think Nature Inc.

Overview of quantitative analysis

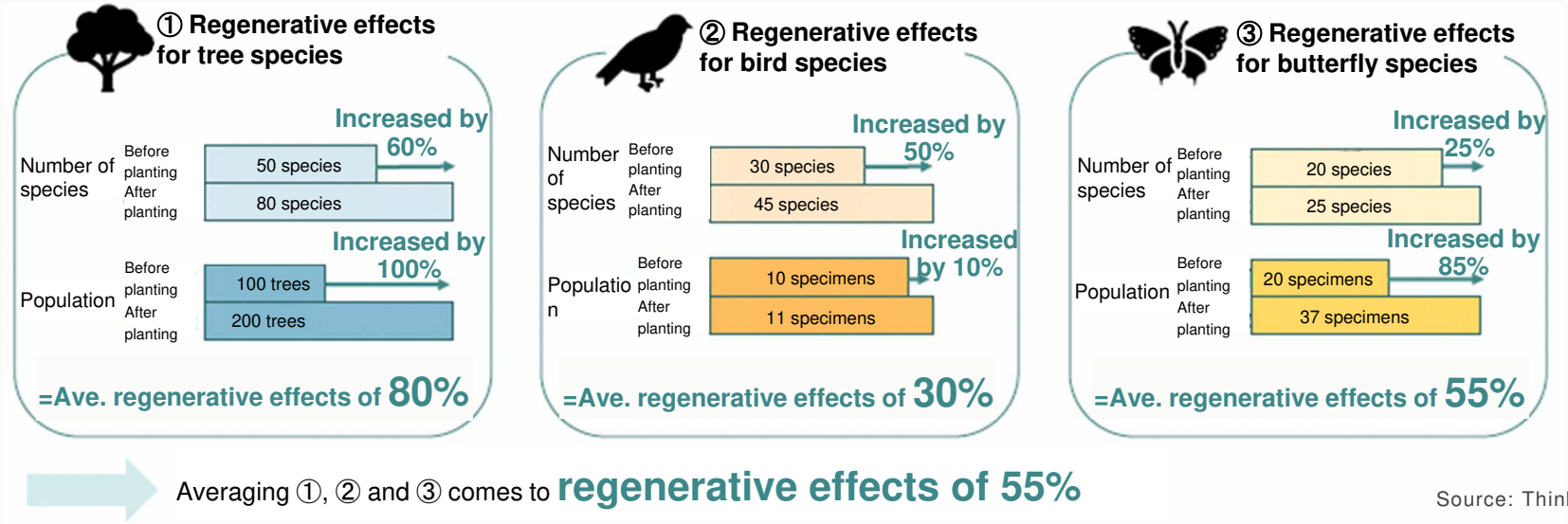
- Target: **39 Group office and commercial facility properties in the greater Shibuya area**
- Method: **Quantitatively analyzed biodiversity regenerative effects based on planting before and after the building of the properties**based on **Think Nature Inc.'s big data on biodiversity** while factoring in the quantified planting situation before building (tree species and number) and the current planting situation at each property (tree species and number) based on aerial photographs.

SHIBUYA SOLASTA

Biodiversity regenerative effects

The below diagram indicates the approach behind Think Nature Inc.'s analysis methods.

Based on the **relationship between planted tree species and the birds/butterflies that use them**, the percentage by which living creatures that inhabit the inside of a 1-km grid at the construction site increased or decreased before and after building was calculated for each number of species and populations across three classification groups, with the average of all six percentages used in results.



Averaging ①, ② and ③ comes to **regenerative effects of 55%**

Source: Think Nature Inc.

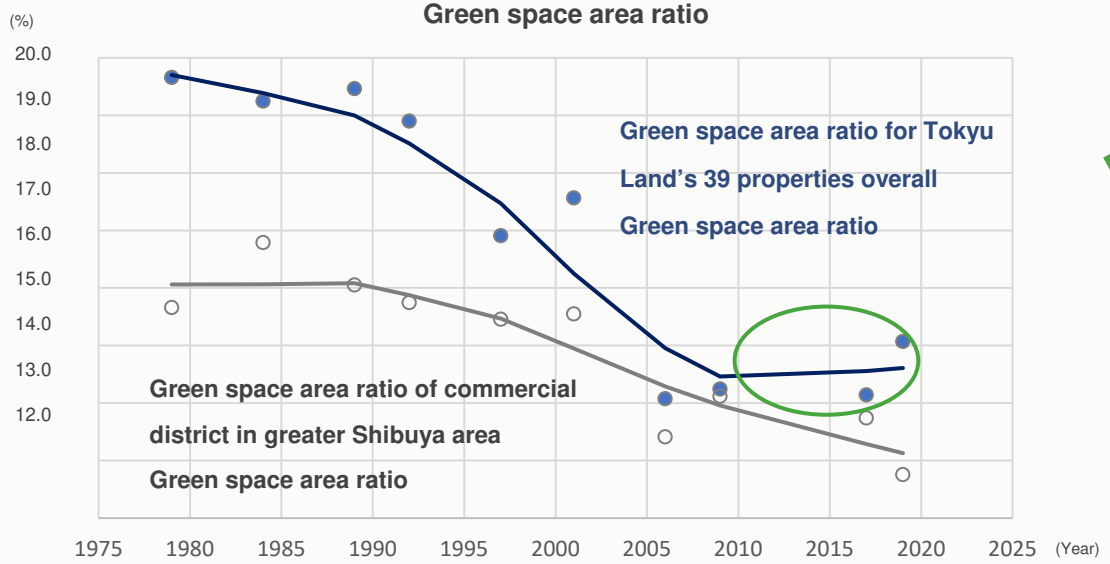
Quantitative Evaluation of Impacts Based on Building Greening (Dependencies/Impacts ④)

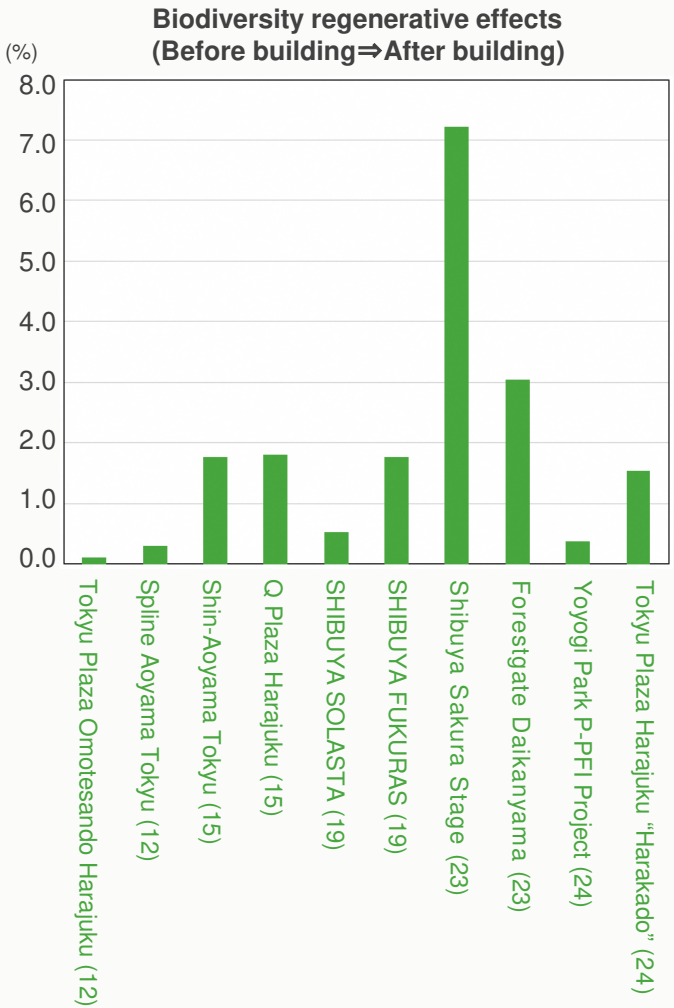
Contributions to nature positive in greater Shibuya area

Since the 1980s and particularly from 1990 up through the 2000s, the green space area ratio had been trending downwards before and after building. However, for the Group's 39 properties overall, the ratio has been t**rending above the average for the entire commercial district.** Furthermore, since 2010, which represents a global turning point that included the holding of the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10), **biodiversity loss was reversed to put nature on a path to recovery (nature positive)**.

Regarding biodiversity regenerative effects, said effects before and after building were positive at 15 properties out of all 39. In particular, biodiversity regenerative effects at properties completed in FY2012 and beyond are high. We believe these are **contributing to the recovery of biodiversity in the greater Shibuya area as a whole.**

In the Group's forte of planning communities that coexist with local communities, particularly those focused on target facilities under our Urban Development Business, we believe that engaging in development and operation that achieve a harmony between the securing of the quality and quantity of green space and the comfort of community visitors and facility users have linked to the high biodiversity regenerative effects shown in recent years.





*Year in parentheses is the year of completion

Quantitative Evaluation of Impacts Based on Land Utilization/Greening (Dependencies/Impacts ⑤)

Making the greater Shibuya area an environmentally advanced city from the aspect of biodiversity as well

The results of analysis performed by Think Nature Inc. on the species capture rate through planting at all 39 properties (the percentage of species inhabiting the entire greater Shibuya area that can be called to green spaces at Group properties) showed that planting efforts by those properties were capable of calling approx. 60% of bird species and approx. 90% of butterfly species. In particular, **properties where we conduct planting based on native trees** indicated a high capture rate, **The quality of green there is also contributing to higher biodiversity regenerative effects.**

For example, at **"Shibuya Sakura Stage,"** the planting of numerous tree species in large number, including species native to Tokyo, make it possible to call a large number of bird and butterfly species. This has led to a high species capture rate and **high regenerative effects (7.2%).**

As it is now clear that greening that includes the likes of the planting of native species, particularly that conducted at properties built in recent years, contributes to the regeneration of biodiversity, we believe that it is crucial for us to continue tackling greening that is conscious of the quality of green space as we move forward.

Shibuya Sakura Stage (Completed in Nov. 2023)

At Sakuragaoka located adjacent to Shibuya Station, we are pushing forward with the development of "Shibuya Sakura Stage," a large-scale complex to serve as a new landmark for Shibuya.

At this property, we have established "HAGUKUMI STAGE" as a richly-green relaxation sport to **promote three-dimensional greening that utilizes the ground, roof, wall surfaces and other elements** and also contributes to heat island countermeasures. In addition, we are also tackling the reduction of our environmental footprint through means such as using solar power generation and other forms of renewable energy and introducing next-generation technology.

Distant view of Shibuya Sakura Stage

Hagukumi STAGE

List of species analyzed by Think Nature Inc.

Planted tree species		Birds that can be called		Butterflies that can be called
Name of tree species	Number of trees	Determination of kind of native species	Species Name	Species Name
Aucuba japonica	1362	Species native to region	*Hiyodori*	*Polygonia c-aureum*
Vaccinium sect.	85		*Mukudori*	*Graphium sarpedon*
Cyanococcus	32	Species native to Japan	*Tsugumi*	*Arhopala japonica*
Acer pycnanthum	32	Species native to Japan	*Onaga*	*Papilio protenor*
Fraxinus griffithii	32		*Kijibato*	*Eurema hecabe*
Cornus kousa	32		*Turdus pallidus*	*Curetis acuta*
Magnolia grandiflora	28		*Mejiro*	*Lampides boeticus*
Lagerstroemia indica	26		*Eophona personata*	*Vanessa indica*
Acca sellowiana	26		*Shijukara*	*Argyreus hyperbius*
Cornus florida	24	Species native to region	*Passeriformes*	*Papilio bianor*
Quercus myrsinifolia	23	Species native to Japan	*Kawarahiwa*	*Hestina japonica*
Ulmus parvifolia	17	Species native to Japan	*Bambusicola thoracicus*	*Pieris rapae*
Ilex buergeri Miq.	16	Species native to region	*Phasianus versicolor*	*Pseudozizeeria maha*
Albizia julibrissin	16	Species native to region	*Coccothraustes*	*Celastrina argiolus*
Distylium racemosum	16	Species native to region	*coccothraustes*	*Papilio machaon*
Fatsia japonica	16	Species native to prefecture	*Lanius bucephalus*	*Parnara guttata*
Machilus thunbergii	16	Species native to Japan	*Hashibosogarasu*	*Anthocharis scolymus*
Fraxinus lanuginosa	16	Species native to Japan	*Bombycilla garrulus*	*Papilio macilentus*
Ilex latifolia	16		*Turdus chrysolaus*	*Lycaena phlaeas*
Stewartia monadelpha	16		*Garrulus glandarius*	*Potanthus flavus*
Callistemon speciosus	16		*Sittiparus varius*	*Colias erate*
Myrtus communis	16		*Komukudori*	*Vanessa cardui*
Viburnum tinus	16		*Spinus spinus*	*Cupido argiades*
Vitex agnus-castus	16		*Fringillidae*	*Pelopidas mathias*
Acer palmatum	6	Species native to region	*Emberiza spodocephala*	*Kaniska canace*
Cinnamomum camphora	2	Species native to region	*Jobitaki*	*Papilio memnon*
Cerasus jamasakura	1	Species native to region	*Periparus ater*	*Neptis philyra*
Neolitsea sericea	1	Species native to region	*Picus awokera*	*Antigius attilia*
Zelkova serrata	1	Species native to region	*Ficedula narcissina*	*Ypthima argus*
Lavandula	918		*Turdus celaenops*	*Argynnis paphia*
Rhododendron obtusum	492		*Turdus cardis*	*Byasa alcinous*
var. sakamotoi	459		*Turdus obscurus*	*Parantica sita*
Salvia microphylla	459		*Bombycilla*	*Nymphalis xanthomelas*
Thymus vulgaris	437		*japonicaBombycilla*	*japonica*
Mahonia confusa	328	Species native to Japan	*japonica*	*Neptis sappho*
Enkianthus perulatus	10			*Narathura bazalus*
Westringia fruticosa				

Quantitative Evaluation of Impacts Based on Land Utilization/Greening (Dependencies/Impacts ⑥)

Evaluation of ecological network formation

With the help of Regional Environmental Planning, Inc., an environmental consulting company that assists with biodiversity initiatives, **we analyzed the current situation of the formation of an ecological network in the greater Shibuya area and the direction of that formation.**

Based on analysis of the current situation surrounding topography and green space, it was verified that the topography of the greater Shibuya area has the lowlands of the valleys of the Shibuya River and Meguro River intertwining with the Musashino Plateau, and that much green space remains on slopes facing the valley formation and valley areas.

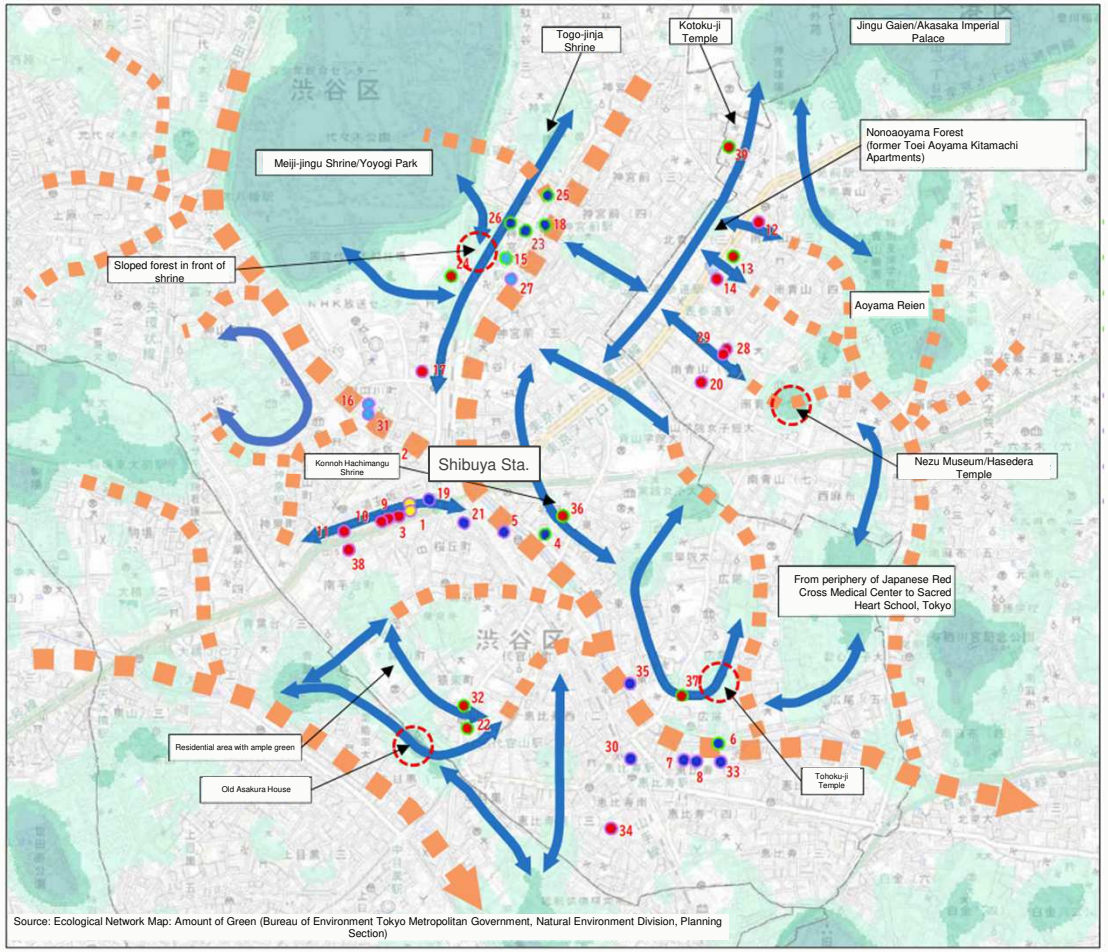
Additionally, the Company's properties are located at the red circles on the map to the right, which also constitute locations where fellow properties of ours are in proximity to each other or are concentrated.

We have found that focusing on the following three areas will likely prove beneficial for the purpose of further enhancing our future ecological network,

① Locations with large amounts of green are in proximity to each other
② Valleys, slopes along the valleys, etc. are topographically connected
③ Target properties are in proximity to each other/concentrated together

We plan on examining the future monitoring of living creatures and associated measures as we move forward.

Connection of valley configuration in greater Shibuya area and direction of ecological network formation



: Main peripheral green spaces located in valley areas and on slopes

: Axis of connection of valley configuration

: Axis of reinforcement/enhancement of ecological network

(Source: Regional Environmental Planning, Inc. (2023) "Survey on Ecological Networks that Contribute to Biodiversity in Greater Shibuya Area")

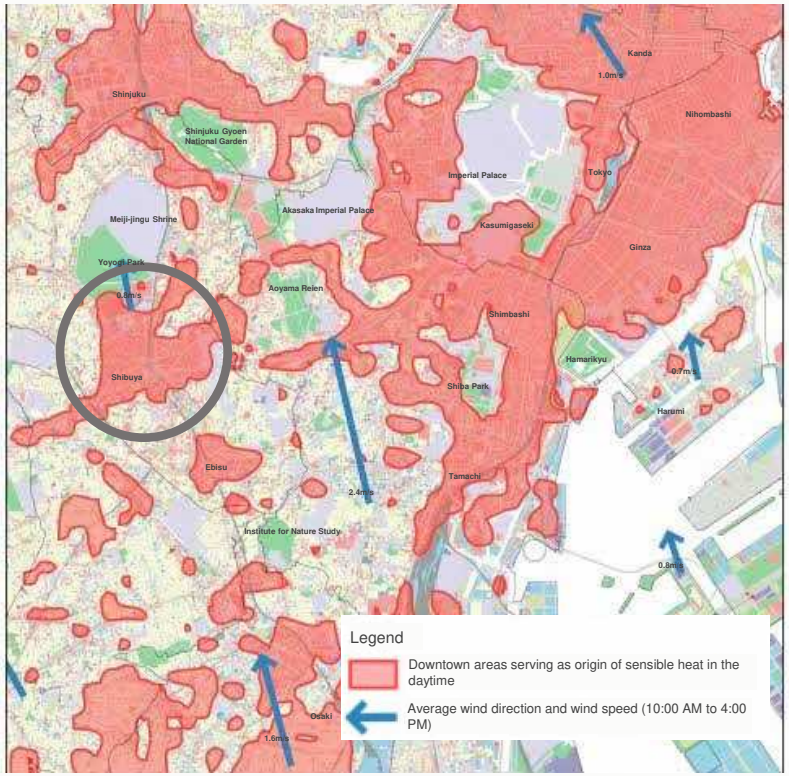
Dependencies on Regulating Services (Dependencies/Impacts ⑦)

Importance of climate regulation, disaster mitigation, etc. (regulation services in cities)

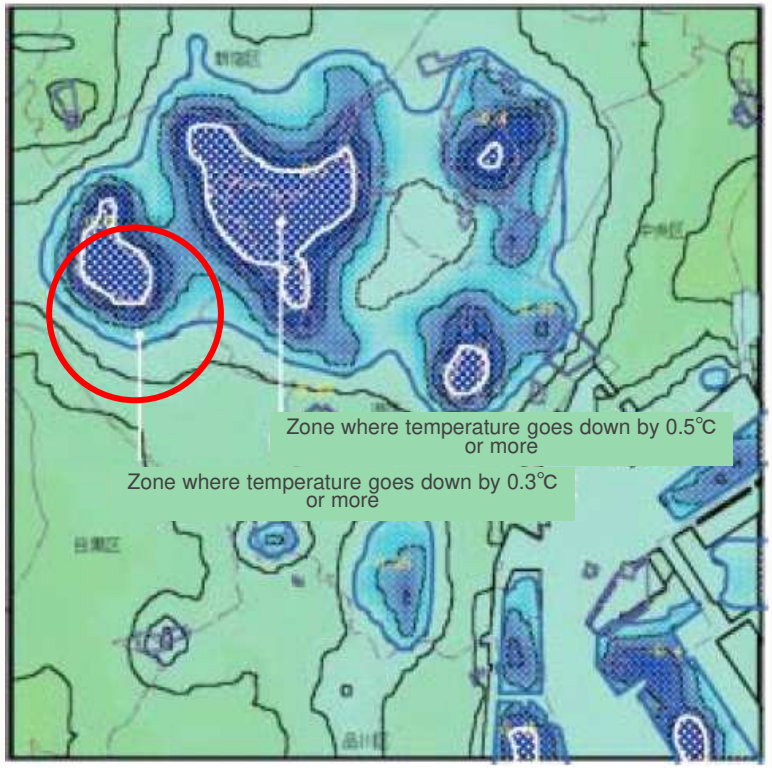
In the National Biodiversity Strategy and Machizukuri (Urban Development) GX Strategy by the Japanese government and the Regional Biodiversity Strategy by the Tokyo Metropolitan Government, functions such as t**he mitigation of the heat island effect through nature and the reduction of flood damage** are emphasized as key ecosystem services in cities. From the standpoint of dependencies, these ecosystem services for disaster mitigation and climate regulation are believed to be crucial. According to the Ministry of Land, Infrastructure Transport and Tourism, while the area surrounding the greater Shibuya area (the area circled on the map) is an origin of heat, it is believed to be a region that can be expected to drop in temperature should green space preservation and greening measures be comprehensively taken.

Additionally, under Shibuya City's "Green Development Policy," it is established that forming connections with large-scale green areas through building greening and other means contributes to the **creation of cool spots** that serve to mitigate the heat island effect in cities. This is believed to be important from the aspect of exerting a positive aspect on such regulation services as well as the aspect of dependencies.

Source of heat in daytime



Lowered temperature difference when green space/greening measures are taken



Source: Ministry of Land, Infrastructure Transport and Tourism
"Heat Island Effect Mitigation Effects through Promotion of Green Space Preservation and Greening"

(Circles added by the Company)

Dependencies on Cultural Services (Dependencies/Impacts ⑧)

Functions for nature-based stress mitigation and comfort (cultural services)

As part of the new “GREEN WORK STYLE” that it is promoting at its office buildings, the Group performed scientific verifications of **the impacts and effects that green (vegetation and nature) have on people.** For example, following a verification of the effects of breaks taken in rooftop spaces containing green, we found that stress levels after taking breaks where green was present were 6.0 points lower than those for indoor locations with no green present, and that levels of concentration rose considerably as well.

Based on these results, we can also conclude that in cities, the greater Shibuya area included, the importance of cultural services is high from the aspects of the effects on wellness in the form of **better landscapes, stress mitigation and comfort**; **improved productivity** coming from the likes of inspiration, invigorated communication and boosts in motivation for working individuals; and the appeal and higher asset value of office, commercial and other facilities.

- **Overview of demonstration experiment**

Purpose: To verify the impacts that taking breaks in spaces with vegetation have on stress and intellectual productivity following breaks

Subjects: 14 individuals (4 males in their 30s/3 males in their 40s; 4 females in their 30s/3 females in their 40s)/Date and time: Saturday, June 2, 2018

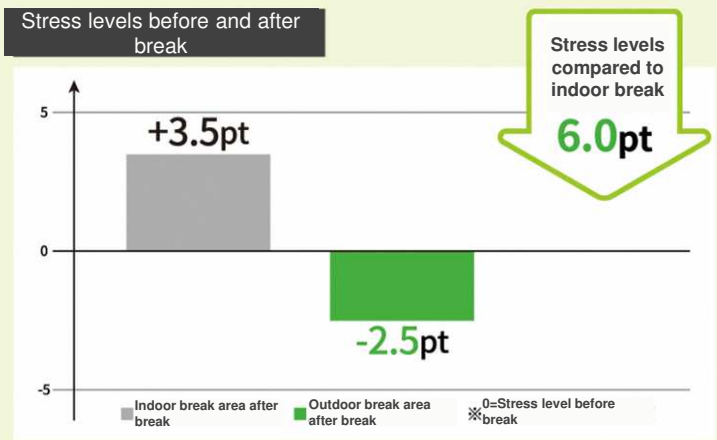
Location of implementation: Hibiya Park Front (Conference Room/Rooftop Terrace)

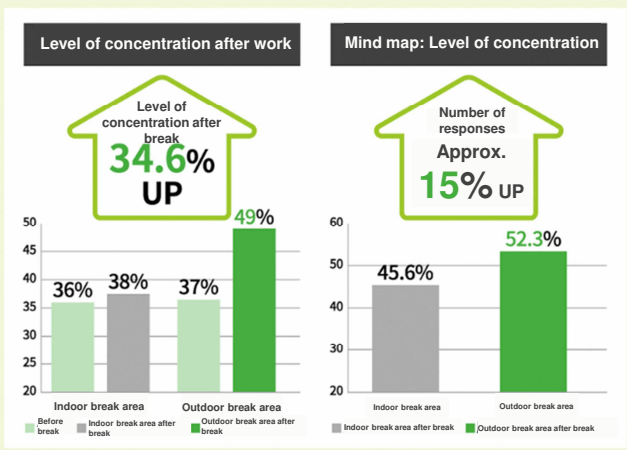
Data gathered: Brain waves, EEG, number of responses and correct answer rate for tasks for work purposes, and subjective evaluations

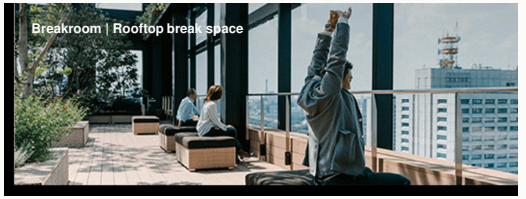
Equipment used: KANSEI Analyzer (© Dentsu Science Jam)

Details: After performing tasks for work purposes, subjects were asked to take a break in ① <Space with vegetation> or ② <Space with no vegetation>.
After taking a break, subjects were asked to perform tasks for work purposes once more,
and a verification was performed to see if there were visible differences in the stress values obtained from the KANSEI Analyzer and the impacts of work on task efficiency between ① and ②.

GREEN WORK STYLE







Hibiya Park Front

Evaluation of Significant Risks and Opportunities in Greater Shibuya Area

Based on dependencies/impacts on nature at the Group, after referring to information on the external environment such as related social trends and the direction of national government policy as well, we examined risks and opportunities envisioned in our Urban Development Business. Risks and opportunities believed to be important following a qualitative examination are as follows.

While physical risks due to the degradation of ecosystem services that we are dependent on, transition risks due to changes in regulations and the market environment and other risks are envisioned, we found that as shown on the next page, there is potential for **numerous nature-related opportunities** to arise.

Risk classification		Main dependencies and impacts	Description of risks in Urban Development Business
Physical risks	Acute Chronic	Mitigation of heat island effects (Dependencies on regulation services)	Increase in A/C costs, etc. and deterioration of living/stay environment in cities due to worsening of heat island effect in line with land development by the Company and its stakeholders
		Recreation; visual amenities (Dependencies on cultural services)	Deterioration of landscapes and other drop in appeal of community and fall in its asset value due to natural degradation in line with land development by the Company and its stakeholders
Transition risks	National policies/ laws	Procurement of building materials, lumber and other resources (Impacts on nature)	Shortage in building materials, lumber, etc. and increase in procurement costs due to stronger regulations related to land modification and resource extraction for the sake of protecting nature
		Land modification and occupation due to development and operation of offices, commercial facilities, and other properties (Impacts on terrestrial ecosystem)	Increase in costs to accommodate regulations due to stronger regulations calling for improved greening ratios at properties
			Increase in handling costs due to introduction and/or reinforcement of regulations/national policies calling for enhancement of green quality, such as through consideration towards ecological network formation or planting of native species
	Market		Growth in preferences of customers and tenants towards properties that exert positive impact on nature through limited negative impact on nature/enhanced quantity and quality of green, ecological network formation, etc. (risk)
	Technology	Utilization of water, building materials, etc. (Impacts from resource utilization)	Increase in costs for introducing building technology with high resource/energy efficiency and low environmental footprint
	Reputational	Negative impact from land modification/occupation, contamination, waste discharge, introduction of alien species, etc.	Criticism and/or litigation addressing development and/or operation that exerts negative impact on the community's ecosystem or landscape or on its cultural services involving nature

Evaluation of Significant Risks and Opportunities in Greater Shibuya Area

Classification of opportunities			Main dependencies and impacts Impacts	Description of opportunities in Urban Development Business
Opportunities	Market	Customers/tenants	Lowering of negative impact such as land modification/occupation, contamination and waste discharge Positive impact on ecosystems (and ecosystem services) such as provision of habitats through greening and ecological network formation	Growth in preferences of customers and tenants towards properties that exert positive impact on nature through limited negative impact on nature/enhanced quantity and quality of green, developments in greening technology, ecological network formation, etc.
		National policies/ laws		Gaining of national policy-based support and incentives for quality and quantity of green spaces under Urban Development Business
		Capital flow/ finance		Increase in investments in real estate that exert positive impact on nature through limited negative impact on nature/enhanced quantity and quality of green, developments in greening technology, ecological network formation, etc.
	Reputational Capital	Corporate value		Improvement in Company's reputation and corporate value through businesses activities that reduce negative impact on nature and exert positive impact through ecosystem-conscious real estate development, sustainable resource procurement, the reduction of contamination, etc.
		Engagement/ community value		Improvement in relationships with local community through development and operation efforts that exert positive impact on nature through development/operation with limited negative impact on nature/enhanced quantity and quality of green, developments in greening technology, ecological network formation, etc.
				Increase in appeal of entire community and improvement in its brand value and asset value through business operation that draws out the appeal of the nature in the community

Evaluation of Significant Risks and Opportunities in Businesses Other Than Urban Development

For business sectors other than the Urban Development Business as well, nature-related risks and opportunities such as those in the below table are envisioned based on an overview of dependencies and impacts. Alongside various risks, possibilities for seizing business opportunities are also envisioned. For that reason, the Company will proceed to assess the details of dependencies, impacts, risks and opportunities by pushing forward with detailed analysis centered largely on its Hotel and Leisure Business, which we operate in priority locations.

Classifications of risks and opportunities		Description of risks and opportunities in businesses
Physical risks	Acute Chronic	Increase in wind or flood damage, sediment or other disaster risk due to degradation of nature in line with development activities by the Company and its stakeholders [Hotel and Leisure Business, Renewable Energy Business]
		Decrease in demand due to degradation of ecosystems and biological species (forests, marine ecosystems, coral reef, etc.) that are important as tourism resources [Hotel and Leisure Business]
		Fall in power generation efficiency and impacts on ski slopes and other leisure facilities due to fall in natural climate regulation capability [Hotel and Leisure Business, Renewable Energy Business]
		Shortage of biomass fuel and price surges due to degradation of ecosystems at production sites [Renewable Energy Business]
		Supply shortages and price surges for ingredients due to degradation of nature, overexploitation, etc., starting with pollinator functions [Hotel and Leisure Business]
Transition risks	National policies /laws	Shortage of biomass fuel and price surges due to regulations for protecting forests [Renewable Energy Business]
		Price surges for ingredients, etc. due to mainstreaming of sustainable agriculture and livestock industries and fisheries and stronger related regulations [Hotel and Leisure Business]
	Reputational	Criticism of negative impact exerted by power plants on ecosystem [Renewable Energy Business]
Opportunities		Growth in appeal of local community as tourist destination through protection and regeneration of community's habitats and ecosystem [Hotel and Leisure Business]
		Expansion in revenues from growth in appeal of nature at tourist destination [Hotel and Leisure Business]
		Enhancement of competitiveness through differentiation in the form of appeal/brand value of business based on business development and operation conscious of appeal of nature in local community, activities that coexist with that community, etc. [Hotel and Leisure Business, Renewable Energy Business]

Revisions to Biodiversity Policy

In 2011, the year after the COP10 in 2010, the Group **formulated its Biodiversity Policy**.

In addition to promoting the planning of communities that coexist with nature, we endorsed the 30 by 30 initiative by the Ministry of the Environment in March 2022, joined the TNFD Forum in June 2023, and otherwise set our sights on **domestic and international social and policy trends and frameworks** that include the “Kunming-Montreal Global Biodiversity Framework” (GBF); the National Biodiversity Strategy, the Machizukuri (Urban Development) GX Strategy and guidelines by the Japanese government, and so forth. Based on **the Group’s history of environmental consideration and coexistence with nature up to this point,** we took this examination based on TNFD disclosure as an opportunity to revise the Group’s Biodiversity Policy in the following manner. Based on this, we will promote initiatives aimed at biodiversity going forward.

Biodiversity Policy (Summary)

<Commitment>

While respecting international goals that seek to realize “Living in harmony with nature” and “nature positive” as set forth in the “Kunming-Montreal Global Biodiversity Framework” (GBF), working together with our stakeholders, we will promote initiatives to circumvent and minimize our negative impact on biodiversity and expand our positive impact on biodiversity.

- Assessing the dependencies and impacts on biodiversity through our businesses, reducing/preventing negative impact on nature and extracting positive impact on nature
- Assessing ecosystems in local communities under the development, operation and management of real estate, circumventing and minimizing loss, and promoting land utilization that achieves harmony with the conservation and regeneration of biodiversity and the improvement of people’s comfort and resilience
- Promoting the preservation of ecosystems based on the GBF target of preserving 30% of land and sea areas
- Improving resource utilization efficiency based on sustainable resource procurement conscious of the environment and human rights and a circular economy approach
- Proactive engagement with stakeholders
- Education end enlightenment activities aimed at improving literacy regarding biodiversity and ecosystem services for various stakeholders as a whole

Risk and Impact Management ①: Identification and Evaluation Process

Under “risk and impact management” by TNFD, it is recommended that corporations integrate processes for identifying, evaluating and managing nature-related dependencies, impacts, risks and opportunities with companywide risk management processes, take concrete action in light of those management processes, and explain the involvement of stakeholders who are impacted.

An explanation of processes, specific initiatives and stakeholder engagement is provided below based on that.

Identification and evaluation process for dependencies, impacts, risks and opportunities

Regarding dependencies and impacts, after sorting out an overview of dependencies and impacts for each group business and value chain and their quantitative importance, in our Urban Development Business in the greater Shibuya area, we performed evaluations of quantitative and qualitative dependencies and impacts based on information unique to the local community.

Based on those dependencies and impacts as well as information on our external environment such as the National Biodiversity Strategy and Machizukuri (Urban Development) GX Strategy by the Japanese government and the Regional Biodiversity Strategy by the Tokyo Metropolitan Government, we identified nature-related risks and opportunities in our Urban Development Business centered in the greater Shibuya area. We disclose these risks and opportunities as those which are believed to bear a particularly high level of importance for the Group from a qualitative standpoint.

Going forward, to coincide with TNFD development efforts, we will continue to examine the ideal nature of scenario analysis and evaluations of the importance of risks and opportunities based on that analysis.

Analysis of dependencies and impacts

- Assessment of overview of dependencies and impacts in all businesses and value chain
- Detailed evaluation of dependencies and impacts in greater Shibuya area

Gathering of information regarding external environment

- Gathering of information on external environment such as direction of national policy

Identification of risks and opportunities

- Identification of risks and opportunities based on dependencies and impacts
- Identification of items with high qualitative importance

Risk and Impact Management ②: Management Process

Management process for dependencies, impacts, risks and opportunities

Tokyu Fudosan Holdings established a “Tokyu Fudosan Holdings Sustainability Committee” directly under the President & CEO that devises plans for nature- and biodiversity-related challenges and other material issues, verifies the results of those plans, and reports those results to the Board of Directors.

The Group Sustainability Promotion Department acting as the secretariat for the Tokyu Fudosan Holdings Sustainability Committee and each business department set targets for nature- and biodiversity-related issues, manage their results, share associated information and, in doing so, conduct proper reporting based on related laws and regulations. Simultaneously, they endeavor to reduce negative impact and expand the positive impact on nature and biodiversity through business activities.

Additionally, having formulated the “Sustainable Procurement Policy” in January 2021, outside of our business activities, we also work together with upstream and downstream shareholders in our value chain to address the reduction of the negative impact on nature and biodiversity.

Integration of nature-related risks into group risks

Tokyu Fudosan Holdings manages risks using the below individual risk units with risks that materially impact management set forth as particularly “main risks.”

- **Main risks**

① Investment risks ② Financial capital risks ③ Personnel affairs and labor risks ④ Legal affairs and compliance risks
⑤I IT strategy risks ⑥ Information leakage risks ⑦ Crisis management response ⑧ Climate change risks

The Company centrally manages ESG risks that include nature- and biodiversity-related issues as a subcategory of “main risks.”

- **Examples of ESG risks**

Climate change, biodiversity conservation, environmental contamination, reduction and appropriate disposal of waste, resource utilization, water resource conservation, protection of human rights and prevention of child labor Contributions to local communities and society, employee health, safety and human rights, corruption and bribery, corporate governance, etc.

Initiatives Regarding Nature-related Risks, Opportunities and Impacts

Here, we introduce specific initiative at the Group up to this point regarding risk, opportunities and impacts. Primary initiatives have been featured below.

(1) Urban development: : Community planning, greening technology and planting management
(2) Hotel and leisure business : Forest management and marine conservation
(3) Other: : Invasive alien species countermeasures, contamination reduction, waste reduction, resource circulation and water utilization reduction Supply chain and stakeholder engagement

(1) Urban development: Community planning

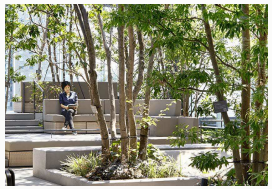
Community planning in greater Shibuya area

In the greater Shibuya area, which has Shibuya Station at its center, we further evolved upon and deepened our “Greater SHIBUYA 1.0” concept for the area to formulate our new community planning strategy “Greater SHIBUYA 2.0.” In addition to bringing together the three elements of workplaces, residences and entertainment, we will promote initiatives for “digital” and “sustainable” as the foundation of that strategy. Regarding “sustainable,” through efforts such as **developing richly-green environments**, promoting decarbonization and reinforcing resilience, we are engaging in the planning of a community in which anyone can spend time in safety, security and comfort, one that has cutting-edge environmental measures in place and will grow on a continuous basis.

GREEN WORK STYLE (previously described)

At our office buildings, we are currently expanding “GREEN WORK STYLE,” through which we seek to realize improved corporate value and the realization of worker well-being from the dual aspects of “the workplace” and “office solutions” through diverse green power while being mindful of health, safety, the environment, and sustainability. By realizing a work style through which workers interact with green, we will alleviate their day-to-day stress and draw out the productivity of each individual member to the fullest while also contributing to the smooth formation of a community.

SHIBUYA SOLASTA: A green terrace for tenants has been placed on every office floor of this facility. By having workers feel green and fresh air, which is normally lacking in an office environment, in their immediate surroundings, we will contribute to reducing their stress and improving their productivity. Additionally, at the top floor of the facility, we have set up a sky terrace and lounge (shown in photo to the right) that takes advantage of the rooftop space to provide “a place to work under the refreshing sky.”



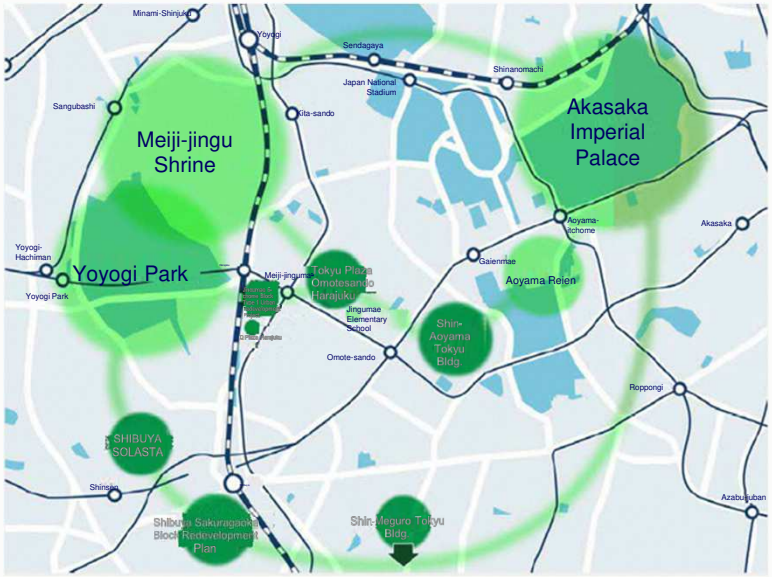
Rooftop sky terrace

Initiatives Regarding Nature-Related Risks, Opportunities and Impacts
(1) Urban Development: Community Planning

Formation of ecological network in greater Shibuya area and configuration of KPI for FY2030

Given the importance of biodiversity-conscious urban greening, in the greater Shibuya area, we are actively promoting the greening of areas such as rooftops and wall surfaces at our business sites in order to preserve the ecosystem. By connecting the green in the vicinity and acting as a relay point for the living creatures that inhabit those areas, we are tackling the formation of an ecological network in the greater Shibuya area.

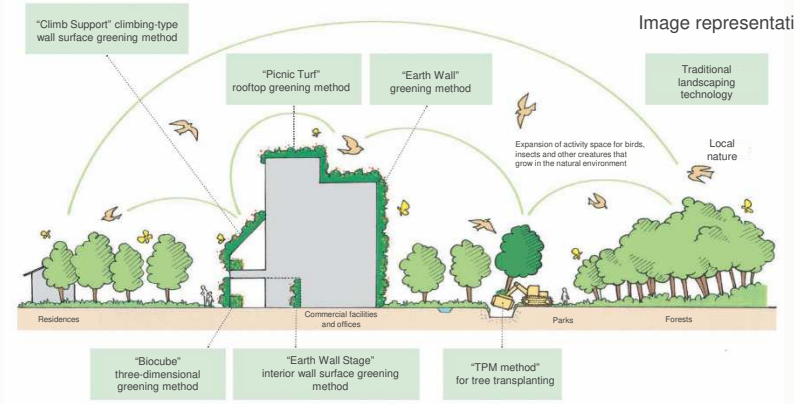
In particular, when we develop large-scale properties with considerable impact on the local community, we carry out ecosystem studies in the peripheral area at the planning stage, perform greening using vegetation that takes the bird and inspect species that inhabit the area into consideration, and pursue biodiversity conservation in that community.



Targets

Building greenery (rooftop, wall surfaces, etc.)* 100% actual in FY2020
Target of 100% for FY2030
*Newly-built large-scale office building/commercial facility properties

Image representation



The name of each process is the technique name at ISHIKATSU EXTERIOR INC.

Biological monitoring

At the "Omohara Forest" rooftop terrace at the "Tokyu Plaza Omotesando Harajuku" commercial facility, with the help of natural environment conservation specialist Regional Environmental Planning, Inc., we perform regular living creature studies throughout the year in order to assess trends in the ecosystem of the green space there. (Previously described)

Scene from living creature study

Participation in biodiversity certification systems

For properties that are especially surrounded by numerous natural environments and also have ample green space secured on site, we encourage the acquisition of certifications such as ABINC to back the securing of biodiversity.

SHIBUYA SOLASTA (ABINC-certified)

Initiatives Regarding Nature-Related Risks, Opportunities and Impacts
(1) Urban Development: Community Planning

Planning of community that coexists with nature at TOKYO PORTCITY TAKESHIBA

In the Takeshiba area located in Tokyo's Minato City, which constitutes a national strategic economic growth area, we are pursuing community planning that takes advantage of industry-academia cooperation and technology and are moving forward with **long-term continuous initiatives to enhance the appeal and vitality of the area of the whole**, including its environment (sustainability).

The office town serving as the core piece of the project is a large-scale complex with a total floor area of approx. 180,000m^2, 40 floors above ground, and two floors below ground. The higher floors consist of an office area, with the lower floors hosting a commercial area. The office lobby on the sixth floor provides a space that incorporates water and green and is in harmony with the local community.

On the southeast side of the second through sixth floors, the spacious "SKIP TERRACE" has been erected in a staircase pattern. There, the **"Eight New Views of Takeshiba"** made up of eight scenes represented by the sky, bees, a rice paddy, a vegetable garden, aromas, water, an island and rain are presented as a "**Satoyama"-like landscape**. By forming an ecological network linked to the Hamarikyu Gardens, the Kyu-Shiba Imperial Gardens and the rich green of the surrounding area, we aim to contribute to the biodiversity of the local community.

At the "Rice Paddy Scene" containing a 145m^2-wide rice paddy and the "Vegetable Garden Scene" where vegetables and fruits are grown, students at the nearby preschool, tenant-related individuals and people who reside in the residence tower can take part in rice-planting or harvesting events, which will be tied into **environmental education for stakeholders**.

Additionally, at the "Bees Scene" where beehives are placed and the "Sky Scene" with of nest boxes placed on wall surfaces that are hard for people on the fifth, eight, tenth and twelfth floors to catch sight of, **habitats for honeybees and raptor species such as falcons and kestrels will be supplied**. Through these, we will contribute to biodiversity in the city center.

TOKYO PORTCITY TAKESHIBA
Office Tower

Office lobby

Takeshiba Shin Hakkei (SKIP TERRACE)

Rice-planting featuring resident participation (Rice Paddy Scene)

Initiatives Regarding Nature-Related Risks, Opportunities And Impacts
(1) Urban Development: Greening Technology and Planting Management

Greening and planting management based on diverse technology

ISHIKATSU EXTERIOR INC., which handles the Group's Environmental and Greening Management Business centered on landscape gardening, is engaged in the production and conservation of nature and biodiversity, sustainable community planning, and property management for a variety of green spaces. In these endeavors, it makes full use of a myriad of techniques, starting with wall surface and rooftop greening and other forms of urban greening techniques.

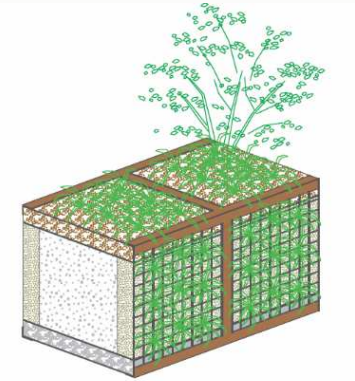
Ex.: Trans Planting Machine method

Short for "Trans Planting Machine," TPM is a technique that involves the use of specialized proprietary equipment by ISHIKATSU EXTERIOR, of which only two machines exist in the world, to enable the transplanting of large-diameter trees, which was considered difficult in the past. TPM enhances the degree of freedom of greening plans while protecting large trees as assets of the local community.

Ex: Three-dimensional greening method (Biocube)

This technique is used to perform planting on multiple surfaces in a three-dimensional shape. Involving a box-shaped configuration that makes it easy to handle, Biocube realizes multisided greening while also saving space.

Transplanting work using a TPM machine

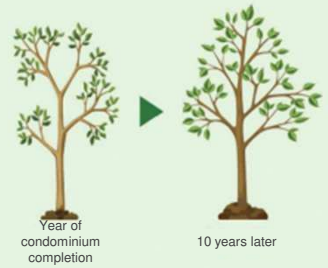


Biocube

GREEN AGENDA:

ISHIKATSU EXTERIOR is currently promoting "GREEN AGENDA," a proprietary planting and development management plan for condominiums. While the purpose of planting management is to maintain, control and manage trees without changing their height or horizontal spread from the time condominium construction is complete and with consideration accorded to stable maintenance and management costs, GREEN AGENDA is special in that it employs **development management to methodically nurture green.** By developing green, ISHIKATSU EXTERIOR aims to take full advantage of the green services gained from planting, such as the improvement of biodiversity, the mitigation of the heat island effect, and contributions to the image of the local community and to the enhancement of asset value.

Image representation of standard maintenance, control and management



Management method intended to "maintain and control" trees without significantly changing their height or horizontal spread from the time condominium construction is complete and with consideration accorded to stable maintenance and management costs

Image representation of GREEN **AGENDA** development management

Management method that aims to enhance green services by nurturing green

- Contributes to biodiversity with improved shade and amounts of green
- Fixes amount of CO_2 for growth purposes
- Mitigates heat island effects through shade and transpiration
- Improved biophilia: "Green that you can really feel"
- Contributes to enhancing image of local community

Initiatives Regarding Nature-Related Risks, Opportunities and Impacts
(2) Hotel and Leisure Business: Forest Management and Marine Conservation

Initiatives at TOKYU RESORT TOWN TATESHINA

At “TOKYU RESORT TOWN TATESHINA,” a resort complex that encompasses villas, a hotel, a golf course, a ski slope and more, as an initiative to contribute to biodiversity conservation and the local production of energy for local consumption, we process thinned wood from the local community into wood chips and use them as fuel for biomass boilers. Having drawn up **a forest management plan for an expansive forest with an area of 660ha**, we have been conducting conservative thinning since 2018. This has facilitated the nurturing of the forest as seen in its thickly-grown underbrush and stronger tree roots. In addition, the resulting firmer ground has also help to prevent landslides and other natural disasters.


TOKYU RESORT TOWN TATESHINA


Scene of thinning


Biomass boiler

Biodiversity Action Plan (BAP)

The Group has formulated a Biodiversity Action Plan (BAP) for regions it operates in that are especially important in terms of conservation. We have established our policy of tackling biodiversity conservation through this plan. At TOKYU RESORT TOWN TATESHINA, plans call for the **performance of monitoring surveys on the living and growth environment of animal and plant life in the villa areas, the peripheral woodlands, and other locations.** Should there be a threat to rare animal or plant species or to their living and growth environment, measures will be examined and subsequently incorporated into management plans for green spaces.

Support for 30 by 30 and Other Effective area based Conservation Measures (OECM)

The Group supports **30 by 30**, an international goal dictating that at least 30% of terrestrial and marine areas should be effectively preserved as healthy ecosystems by the year 2030. At TOKYU RESORT TOWN TATESHINA, we participate in the **challenge survey project for “Other Effective area based Conservation Measures” (OECM) certified by the Ministry of the Environment** as part of our initiatives to strive to reach 30 by 30, and are currently aiming to obtain certification.

Palau Pacific Resort

The beach in front of the “Palau Pacific Resort” hotel was once difficult for coral to inhabit due to mud runoff. Following renovations and construction made to that beach based on meticulous surveying, we succeeded in **regenerating it into waters teeming with life**.


Palau Pacific Resort

Initiatives Regarding Nature-Related Risks, Opportunities and Impacts
(3) Other: Invasive Alien Species Countermeasures and Contamination/Waste Reduction

Invasive alien species countermeasures

Under the Invasive Alien Species Act (Ministry of the Environment), invasive alien species refers to species of plant or animal that do not originally inhabit Japan and entered national boarders either with or without intention through human activity. These may harm or otherwise impact the ecosystem of local communities. In its endeavors to preserve the ecosystem of those communities, the Group has established a manual and set forth ways of dealing with highly invasive alien species when they are spotted.

(Invasive plant species) *Erigeron annuus*

(Invasive plant species) *Coreopsis lanceolata*

(Invasive alien species) *Parasa lepida*

Reduction of negative impact cause by contamination

Working together with design and construction companies and other stakeholders, the Group endeavors to reduce the effects of contaminants on the environment by preventing their discharge and refraining from using materials that cause that discharge.

Waste reduction

The Group also jointly tackles the reduction of waste discharge in collaboration with design and construction companies, customer users, and other stakeholders.

Targets	Reduce waste emissions at our business sites and in the real estate portfolio in our possession by 11% over FY2019 by FY2030

Initiatives Regarding Nature-Related Risks, Opportunities and Impacts
(3) Other: Resource Circulation

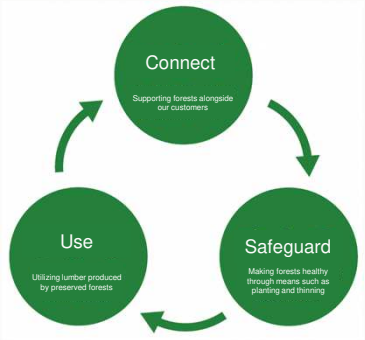
Resource circulation

Recognizing the need to effectively utilize the resources that go into its businesses, in collaboration with design and construction companies, customer users and other stakeholders, the Group endeavors to utilize resources properly and effectively.

The Green Connection Project to form a cycle of circulation in wood resource utilization

The Green Connection Project is an **initiative through which the Group preserves forests alongside its various stakeholders**. Linking up with the forest preservation activities conducted by the Village of Nishiawakura in Okayama Prefecture, which is currently pursuing the “100-Year Forest Concept,” we work to preserve forests in accordance with various forms of stakeholder use, such as a condominium purchase, property management, use of office, hotel or leisure facilities, or use of our real-estate sales agents for existing residences. The Group provides forest preservation funds in accordance with the sales results that it posts. An example would be funds to preserve 10m^2 worth of forest for each sale of a residential unit. In recent years, the Group is simultaneously purchasing J-Credits generated from the management of forests by the Village of Nishiawakura, thereby helping to popularize forest J-Credits. **Up to this point, the Group has successfully preserved over 2,000 hectares of forest,** and manages its progress yearly in this regard in the form of KPI with the goal of preserving 3,000 hectares of forest by FY2030.

The timber produced by the preserved forests is utilized in a number of Group businesses, then provided to customers to form a cycle of circulation. We are also proactively carrying out other initiatives in the form of purchasing thinned wood generated through the Village of Nishiawakura’s forest preservation activities and utilizing it in building work. In FY2022, we purchase 38m^3 of thinned wood from FSC CoC-certified vendors who engage in the processing and sale of FSC-certified timber from the applicable local forests, which we used as interior materials for renovation work on residences and three commercial facility buildings.



Locally-produced timber for local consumption

At Tokyu Harvest Club VIALA Kinugawa Keisui, which opened in December 2022, trees cut down in the development site were used in elements such as furniture in the common areas.


Shin-Aoyama Tokyu Bldg.


Abeno Q's Mall


COMFORIA Takashimadaira


Tokyu Harvest Club VIALA Kinugawa Keisui

Initiatives Regarding Nature-Related Risks, Opportunities and Impacts
(3) Other: Resource Circulation

Circular economy initiatives at Forestgate Daikanyama

Our Forestgate Daikanyama property will consist of two buildings: the MAIN Building, which will house rental housing, share offices and a commercial facility, and the TENOHA Building, which will provide a sustainable lifestyle experience. This complex is slated to open in late October 2023.

The TENOHA Building, in turn, will be made up of a cafe and event space. **In addition to providing a sustainable lifestyle experience, it will serve as a site of activity that bridges the local community and the city in cooperation with business operators who conduct circular economy activities and the local government.** While supplying points of contact with sustainable endeavors to consumers, we will link up with various stakeholders to realize a circular economy. The building itself is a **wooden construction** containing **thinned wood from the Village of Nishiawakura in Okayama Prefecture**, which contains one of the forests targeted by Tokyu Fudosan Holdings for preservation, as the building's structural materials.

MAIN Bldg.

TENOHA Bldg.

Promotion of circulatory construction and renovation

Through the implementation of regenerative and conservative construction, reforms and renovations, Tokyu Land Corporation, TOKYU LIVABLE and Tokyu Re・design contribute to the reduction of waste and resource circulation.

Exterior of Kudan-Kaikan Terrace (preserved area)

Banquet room

Initiatives Regarding Nature-Related Risks, Opportunities And Impacts
(3) Other: Resource Circulation and Water Utilization Reduction

Resource reduction through longer cycles of large-scale renovation and construction

TOKYU COMMUNITY CORP. now offers “CHOICE” for sale. This long-term warranty product allows the cycle of large-scale renovation and construction work at condominiums to be extended from its previously-quoted cycle of 12 years to up to 18 years.

Thanks to ideas for specifications, construction methods and other elements used in large-scale renovation and construction work, the warranty period for construction pertaining to building exteriors, which includes waterproofing and coating, has been extended by 1.5 to double its previous length. This has made it possible to reduce the frequency of performing large-scale renovation and construction work on buildings until they reach their second stage, which is marked as 60 years from their initial completion. **By reducing this frequency of large-scale renovation** and construction work, TOKYU COMMUNITY is doing its part to reduce resources used through condominiums’ life cycle and lower the total cost of that life cycle.

Lowering of negative impact through water resource utilization

In its endeavors to preserve water resources, the Group works together with design and construction companies, customers, local communities and other stakeholders to conduct proper management tailored to water resource problems unique to each community and to utilize water resources efficiently in its business activities and at the office buildings, commercial and resort facilities, and other buildings in its portfolio.

Targets Reduce water resource utilization per floor area at business sites and in real estate portfolio on year-on-year basis until FY2030

Reduction of water utilization through the introduction of water-saving equipment

“TOKYU Harvest Club ATAMI IZUSAN&VIALA,” which opened in 2013 as resort hotel in harmony with nature, is conducting **water resource-conscious initiatives** that include employing water-saving toilets to help reduce clean water use. At the “TOKYU Harvest Club HAKONE KOSHIEN” and “TOKYU Harvest Club VIALA HAKONE HISUI” properties as well, we are using onsite well water and are otherwise promoting the effective utilization of water.

TOKYU Harvest Club VIALA HAKONE HISUI

Initiatives For Nature-Related Risks, Opportunities and Impacts
(4) Other: Supply Chain

Sustainable Procurement Policy

In the business of real estate that the Group is involved in, given the process between development and operation for residences, office buildings, commercial facilities, hotel and leisure facilities and so forth spans a long period of time and that numerous parties have involvement in that process, we believe that it is necessary to work together with our stakeholders (design and construction companies, customers, etc.) to tackle nature-related issues in our entire supply chain.

The Company has **set forth at "Sustainable Procurement Policy"** that covers consideration towards the environment in the form of "compliance with and respect for international human rights and labor standards," as well as "combatting climate change," "biodiversity protection," "effective use of resources," "proper water use" and "ensure appropriate use of forest resources," and is promoting i**nitiatives for biodiversity conservation across its entire supply chain**.

The following initiatives are cited in the "Sustainable Procurement Policy" with respect to the preservation of the natural environment.

- In material procurement and other business activities, reduce the impact on the surrounding natural environment, biodiversity, and ecosystems.
- Do not use raw materials derived from endangered species of animals and plants for which measures have not been taken to conserve resources and ensure reproduction.
- Work to use resources in business activities effectively.
- Support the conservation of forests with high biodiversity and preservation value, while also respecting the cultures, traditions and economies of communities that coexist with forests. Comply with relevant laws and regulations in logging countries and territories and strive to procure forest products produced in a sustainable manner, including recycled and certified wood.

Supply chain due diligence

For the building companies that constitute our suppliers, we set forth compliance with our Sustainable Procurement Policy as a condition upon placing orders for building work, and regularly carry out due diligence questionnaires to verify the situation at each of those companies. We aim to establish a responsible supply chain by cooperating with building companies to respond to issues when they are present. In FY2022, in addition to obtaining responses from 50 companies through our regular questionnaire survey, **we held individual meetings for two of those companies to remedy problematic areas, share leading cases**, and so forth.

Performance of due diligence on suppliers

Initiatives For Nature-Related Risks, Opportunities and Impacts
(4) Other: Supply Chain

Initiatives for zero forest destruction

Most of the plywood panels for concrete formwork used upon building contain Southeast Asian materials as their raw material. It may be pointed out that environmental destruction in the forest of origination, the usurping of land from indigenous people or something similar may be involved. By handling this situation through cooperating with a building company that constitutes a primary supplier, the Group **set forth a target of 100% by FY2030 for the usage rate of sustainability-minded lumber (FSC- or PEFC-certified lumber as well as domestically-produced lumber, etc.) in raw materials for plywood panels for concrete formwork used in the building of buildings**, and pushed forth with initiatives in the following vein in FY2022.

[Examples of residences]

In FY2022, we used PEFC-certified lumber in plywood panels in building work for one condominium building (BRANZ Chiyoda Fujimi). For wood products other than certified lumber contained in the likes of interior materials, we verified the place of origin and legality to the extent we could through a hearing with building materials manufacturers.

Tokyu Re・design Corporation participated in a “Meeting on Carbon-Neutral Solid Wood Materials” and gathered information on lumber products used in residences.

BRANZ Chiyoda Fujimi

[Examples of office buildings]

At COERU SHIBUYA (completed in June 2022), which is located in the greater Shibuya area, we used larch materials produced in Nagano Prefecture, which were granted SGEC certification, as a wooden-hybrid fire-resistant laminated lumber. Legal timber produced in Finland was used in the wooden-steel muntins (the earthquake-resistant braces).

COERU SHIBUYA

Initiatives For Nature-Related Risks, Opportunities and Impacts
(4) Other: Stakeholder Engagement

Stakeholder engagement

Due to its wide-ranging business development efforts, the Group exerts considerable impacts on local communities and related parties. For that reason, we believe in the necessity of close cooperation with our various stakeholders. We pursue dialogue with those stakeholders, which include employees, local communities, business partners and customers.

In our Sustainable Procurement Policy as well, we have set forth engagement with local communities.

Impact on human rights or risk assessment

In either new project candidates or existing businesses, we endeavor to respect the human rights of the stakeholders involved in the project itself or in business activities in the local community by continuously evaluating risks related to respect for human rights in accordance with the Company's risk management process.

Dialogue on social issues with local communities

We are engaged in a Renewable Energy Business to address environmental and local community issues with the aim of resolving social issues through our business activities. As a comprehensive developer, we will leverage our knowhow from pursuing large-scale development efforts with the understanding of local communities to develop solar power plants, wind power plants and so forth across Japan and do our part for the realization of a sustainable society. Additionally, Tokyu Land Corporation serves as the Representative Director and Chairman of **The Association for Reciprocal Revitalization of Renewable Energy and Region (FOURE)**. In order to tackle issues in local communities in cooperation with them, it will aggressively engage in dialogue through means such as conducting workshops organized by municipal councils or prefectural governments and proceed to build long-term relationships with those communities.

Cooperation with local communities with TOKYU RESORT TOWN TATESHINA as center

Tokyu Land Corporation, Tokyu Resorts & Stays Co., Ltd., Chino City, Nagano and the **Suwa Regional Decarbonization Innovation Association** entered into a comprehensive cooperation agreement intended to contribute to carbon-neutral community planning through the creation of a sustainable, circular and ecological decarbonized society (Regional Circular and Ecological Sphere), and are implementing associated efforts alongside location communities.

Metrics and Targets Regarding Dependencies and Impacts on Nature

The Group has **formulated the below targets** with respect to nature-related dependencies and impacts.
Going forward, we will continue to examine the ideal nature of metrics and targets for managing nature-related dependencies, impacts, risks and opportunities in the Group based on TNFD's final recommendations and trends in SBT for Nature as well.

KPI (GROUP VISION 2030)

Targets related to land use	Building greenery (rooftop, wall surfaces, etc.)* 100% actual in FY2020 Target of 100% for FY2030 *Newly-built large-scale office building/commercial facility properties of Tokyu Land Corporation
Targets related to waste emissions	Reduce waste emissions at our business sites and in the real estate portfolio in our possession by 11% over FY2019 by FY2030
Targets related to water resources	Reduce water resource utilization per floor area at business sites and in real estate portfolio on year-on-year basis until FY2030
Targets related to resource procurement	Formwork wood materials containing 100% certified timber by FY2030

Trends in main environmental metrics

	(Unit)	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
CO2 emissions (Scopes 1 & 2)	Thousand t-CO_2	228.3	234.8	210.7	233.0	227.5	230.5	283.3	256.1	257.0	139.9
Basic unit	kg-CO_2/m^2	98.6	101.9	98.4	106.7	101.0	96.1	86.8	75.1	74.6	47.6
CO2 emissions (Scope 3)	Thousand t-CO_2	—	—	821.9	682.1	585.9	1,295.5	1,913.0	1,618.8	1,801.7	1,705.7
(Categories 1/2/11)	Thousand t-CO_2	—	—	—	—	—	—	1,792.5	1,511.2	1,700.9	1,597.1
Water use	Thousand m^3	3,042	3,141	2,811	2,650	2,548	2,612	5,751	4,582	4,867	5,087
Basic unit	m^3/m^2	1.33	1.39	1.32	1.23	1.14	1.10	1.8	1.3	1.4	1.7
Waste emissions	t	14,189	18,796	18,908	25,127	25,569	22,932	29,251	27,637	27,827	21,181
Basic unit	kg/m^2	10.3	10.2	10.1	12.5	12.6	10.2	9.6	8.3	8.5	7.4

・Scope changed starting in FY2019 due to setting of SBT-certified targets
・FY2022 for CO2 emission is prior to third-party verification. Will be disclosed on our website once updated.

(as of March 31, 2023)

Explanation of Terms

TNFD	Abbreviation for “Taskforce on Nature-related Financial Disclosures.” Launched in 2021 by four institutions: the United Nations Development Programme, the World Wildlife Fund, the United Nations Environment Programme - Finance Initiative and Global Canopy. Calls for the adequate assessment and disclosure of nature-related dependencies/impacts and risks/opportunities.
LEAP	Abbreviation for “Locate, Evaluate, Assess, Prepare.” Approach recommended by the TNFD to assist corporations and financial institutions with evaluating their nature-related risks/opportunities. Comprised of the four steps of “Locate” (locate the interface with nature), “Evaluate” (evaluate dependencies and impacts), “Assess” (assess material risks and opportunities) and “Prepare” (prepare to respond and report).
ENCORE	Tool for financial institutions developed by the UNEP Natural Capital Finance Alliance, or NCFA for short. Enables the assessment of the importance of dependencies and impacts on nature according to business category and the analysis of data such as distributions of ecosystem services.
SBT for Nature	Abbreviation for “Science Based Targets for Nature.” Initiative calling for the setting of targets with time limits that can be measured and executed based on the best available science with respect to the setting of nature capital-related goals by corporations.
Ecosystem integrity	Degree to which the composition, structure and functions of the ecosystem are within the scope of natural fluctuation.
KBA	Abbreviation for “Key Biodiversity Area.” Significant area serving as key to biodiversity conservation as selected according to international standards.
Biodiversity Intactness Index	Metric indicating remaining degree of biodiversity before and after land modification in the natural world when land utilization by humans and the accompanying effects on biodiversity are taken into consideration
Conservation priority level	Metric indicating level of conservation priority from the standpoint of biodiversity.
Water stress	Metric indicating level of stress on water at basins based on percentage of water consumption relative to water supply volumes at the basins.

Explanation of Terms

Ecological network	Approach through which locations hosting superior natural conditions in the target region are positioned as biodiversity sites (core areas) while said core areas are mutually linked using ecological corridors in order to enable the migration and dispersion of wildlife.
Cultural services	Cultural services that people can obtain by coming into contact with nature and that impact them from aesthetic, spiritual, physiological and other aspects.
Regulating services	Services that control the environment through biodiversity. Examples are the effects gained through climate regulation, the mitigation of localized disasters, the inhibition of soil erosion, and the containment of pests and sickness within the ecosystem.
Biodiversity Action Plan (BAP)	Abbreviation for “Biodiversity Action Plan.” Action plan for biodiversity conservation on a state or organizational (including corporate) level. In the case of states, nations that entered the Convention on Biological Diversity (CBD) are requested to formulate a BAP pursuant to Article 6.
30 by 30	Target of conserving 30% of terrestrial and marine areas by 2030. Stated as Target 3 under the “Kunming-Montreal Global Biodiversity Framework” (GBF) that was adopted at the 15th Meeting of the Conference of the Parties to the UN Convention on Biological Diversity (COP15) that convened in December 2022.
OECM	Abbreviation for “Other Effective area based Conservation Measures.” Area certified the Ministry of the Environment as one in which biodiversity conservation measures are being taken regardless of original targets by various entities such as business operators, private organizations, individuals and regional public bodies and through the initiatives thereof.
Urban redevelopment systems	Systems of the Tokyo Metropolitan Government to facilitate the enticing of positive development that contributes to the improvement of the environment in the downtown area by relaxing regulations on form stipulated under the Building Standards Act, such as limitations on floor area ratio and slants. In contrast to these systems are architectural plans to make public contributions, such as those to secure public spaces.

References

1) “Global Risk Report 2023,” World Economic Forum (2023)

2) Newbold et al. (2016) “Global map of the Biodiversity Intactness Index, from Newbold et al. (2016)”

3) Japan Biodiversity Mapping Project, Think Nature Inc.

4) WRI Aqueduct (See June 2023)

5) Tokyu Fudosan R&D Center Inc., ISHIKATSU EXTERIOR INC. and TOKYO CITY UNIVERSITY, Faculty of Environmental Studies (Yokota/Kitamura/Yoshizaki/Iijima)
(2019) “Guide to building greening for ecological network formation in greater Shibuya area”

6) Tokyu Fudosan R&D Center Inc., ISHIKATSU EXTERIOR INC. and TOKYO CITY UNIVERSITY, Faculty of Environmental Studies (Yokota/Kitamura/Yoshizaki/Iijima)
(2016) “Basic survey for ecological network formation in greater Shibuya area”

7) ISHIKATSU EXTERIOR INC. (2020) “Fiscal 2019 Tokyu Plaza Omotesando Harajuku “Omokado:” Report on Biological Survey”

8) Regional Environmental Planning, Inc. (2020) “Survey on Ecological Networks that Contribute to Biodiversity in Greater Shibuya Area”

WE ARE GREEN

Tokyu Fudosan Holdings

WE ARE GREEN — We strive to merge the power of various forms of green deployed by our Group to create a future where everyone can be themselves and shine vigorously.

Group Sustainability Promotion Department, Tokyu Fudosan Holdings Corporation https://www.tokyu-fudosan-hd.co.jp