

LEAP Analysis in Response to TNFD Recommendations

Importance of Natural Capital and Response to TNFD Recommendations

Loss of natural capital, including biodiversity, poses a direct management risk to the Tsumura Group, since its business uses crude drugs, which are the gifts of nature, as raw materials. It is because of this that we have a long history of working to preserve natural capital from our earliest days. The first president, Jusha Tsumura, considered the identification of varieties that can be used as raw material crude drugs for Kampo medicines, their cultivation backed by science, and the preservation of varieties as important priorities from the time of the Company's foundation, and made a tremendous

effort in this area. We have carried this idea down through the generations, and we continue our initiatives to create a recycling society.

The Group is not only striving to minimize its negative impact on natural capital, but to be nature positive. The Group has endorsed the recommendations of the Taskforce on Nature-related Financial Disclosures (TNFD), and has conducted a nature-related risk and opportunity analysis using the LEAP approach.*1

*1 Locate, Evaluate, Assess, and Prepare: A four-step approach provided as guidance by the TNFD for evaluating nature-related risks and opportunities

Analysis Target*2

Value chain	Sector*3	Sub-industry	Business process
Upstream (crude drug production areas)	Consumer staples	Agricultural products	Large-scale irrigated crops*4
Midstream (Company locations*5)	Healthcare	Biotechnology manufacturing	Life science, pharmaceutical manufacturing, biotechnology manufacturing

*2 Downstream (distribution) is excluded from this analysis as the impacts of risks and opportunities are expected to be smaller than for upstream and midstream.

*3 Classified based on the Global Industry Classification Standard (GICS)

*4 Crude drug cultivation includes numerous "large-scale rain-fed crops," but we referred to the category of "large-scale irrigated crops," which has many similarities in the level of dependence and impact on natural capital.

*5 In addition to the head office and the Group's own plants, this also includes large-scale crude drug production sites (Pingcun Zhongying (Hebei) Pharmaceutical Co., Ltd., etc.).

Locate

Locating our interface with nature

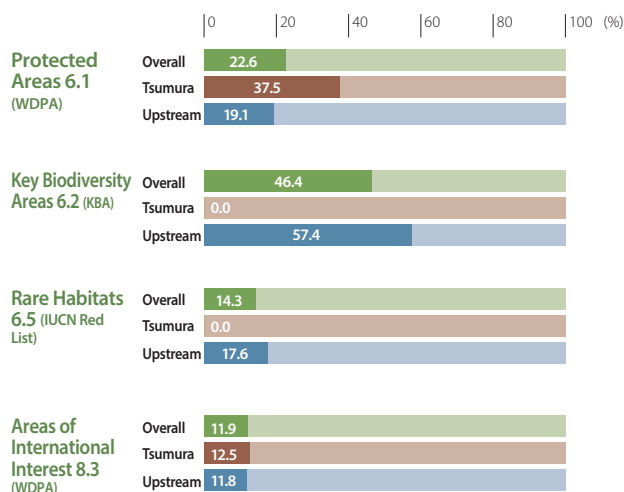
Analysis of Sensitive Areas and Biomes*6

The Tsumura Group procures raw material crude drugs directly from production areas, and ascertains the status at the highest upstream locations using the Tsumura GACP. The Group utilized these strengths in this analysis to select priority areas from 81 locations, combining its own locations (16) and those of key suppliers (65). Based on three judgment criteria—key areas for biodiversity, areas

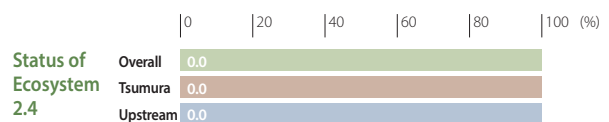
with a high level of ecosystem integrity, and areas with high physical water risk—the Group identified locations in sensitive areas using an analysis tool.*7 From the published biome distribution data, we found that many of the locations corresponded to rivers, artificial fresh water, subterranean caves and rock, temperate and boreal forests, and biomes with concentrated land use.

*6 Geographical regions categorized by the types of plants that grow in them based on rainfall, temperature patterns, and other factors, such as tropical rainforests, open oceans, deserts, and lakes
*7 WWF Biodiversity Risk Filter

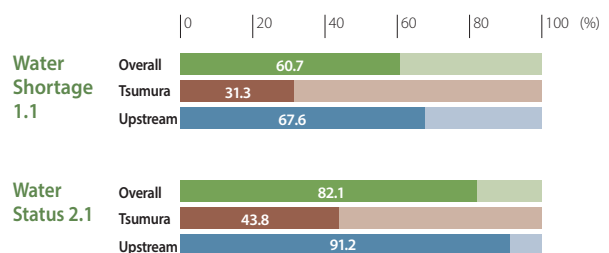
Key Areas for Biodiversity



Areas with a High Level of Ecosystem Integrity

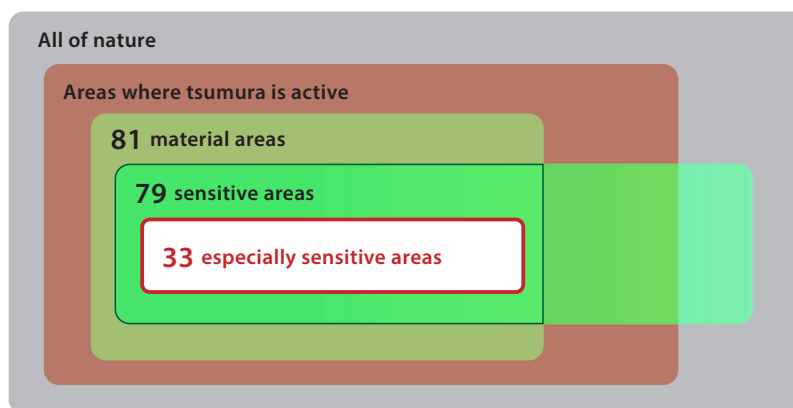


Areas with High Physical Water Risk



Especially Sensitive Areas

We designated 33 locations as “especially sensitive areas.” These were designated “sensitive areas” that were deemed to have an extremely high risk in at least one of the following: “protected areas,” “key biodiversity areas,” “rare habitats,” “areas of international interest,” “status of ecosystem,” “water shortage,” and “water status.”



Note: Figures are for the number of relevant locations.

Evaluate

Evaluating dependencies and impacts on nature

Identification and Evaluation of Dependencies and Impacts Using ENCORE^{*8}

The Tsumura Group’s business processes in upstream crude drug production areas and at midstream Company locations depend on ecosystem services. We used the ENCORE tool to ascertain which ecosystem services they depend on, and the degree of dependence. From these results, we recognized that we have a wide scope of dependence and impact on natural capital, particularly in crude drug production areas.

^{*8} A tool for visualizing the dependencies and impacts of economy on nature, and how changes in the environment can create risks for business.

Result of Analysis by ENCORE

Value chain	Level of impact	Dependencies and impacts on natural capital
Upstream (crude drug production area)	Extremely high	Protection from high winds and rain, groundwater, soil stabilization and erosion prevention, use of freshwater ecosystems, use of terrestrial ecosystems, use of water
	High	Buffering and attenuation of material flows, disease control, protection from floods, protection from high winds and rain, global climate control, microclimate control, groundwater, soil stabilization and erosion prevention, pest control, pollination, weathering process, decomposition and fixation processes, surface water, water flow control, chemical status of freshwater areas, chemical status of saltwater areas, soil contamination, use of terrestrial ecosystems, water pollution
Midstream (Company locations)	High	Surface water, soil contamination, solid waste, water pollution, water use

Assess

Assessing nature-related risks and opportunities

We set out the main foreseeable future financial impacts to the Tsumura Group with regard to nature-related risks and opportunities that could arise from particularly high dependencies and impacts. We now plan to conduct a more detailed analysis based on this evaluation result.

Identification Process

Upstream (crude drug production areas)	Drawing from a list of risks and opportunities in the TNFD agriculture and food sector guidance, ^{*9} we extracted and listed the risks and opportunities that we consider relevant to the Company, making reference to the categories of TNFD risks and opportunities and based on items at the level of moderate or above in the dependencies and impacts heat map.
Midstream (Company locations)	We extracted and listed the risks and opportunities that we consider relevant to the Company, making reference to the categories of TNFD risks and opportunities and based on items at the level of moderate or above in the dependencies and impacts heat map.

^{*9} Draft sector guidance – Food and agriculture: https://tnfd.global/wp-content/uploads/2023/12/Draft_Sector-Guidance_Food-and-agriculture_Dec_2023.pdf?v=1701945325

Nature-Related Risks and Opportunities

Category	Type	Number	Risks and opportunities	Upstream	Midstream
Physical risks	Acute	1	Increase in crop pests	○	
		2	Emergent need to maintain infrastructure due to the impacts of flooding, landslides, and other natural disasters in operation areas of the crude drug business	○	○
	Chronic	3	Decline in harvest resulting from decrease in land productivity and climate change mitigation function due to soil degradation	○	
		4	Emergence of a need to switch from locations with a high level of water pollution turbidity to those with a low level	○	
		5	Increase in need for mechanical and manual pollination due to decrease in natural pollinators	○	
		6	Emergence of a need for agricultural workers and suppliers to relocate due to loss of agricultural land productivity	○	
		7	Emergence of a need for water purification and desalination technology and soil remediation technology following an increase in the level of contamination and water stress	○	
		8	Suspension or stoppage of production processes due to increase in water stress	○	○
Transition risks	Policies, laws and regulations	9	Response to laws and regulations and certification related to production of raw materials and manufacturing of products	○	○
		10	Waste- and plastic-related regulations		○
		11	Request to shift production and procurement areas due to expansion into protected areas (GBF 30 by 30)	○	
		12	Joint land ownership claims by indigenous peoples and local communities	○	
	Technology	13	Request to transition to efficient, clean crop varieties, manufacturing technologies, and transport technologies	○	○
	Market	14	Increasing consumer preference for products produced and manufactured using sustainable methods with less impact on nature	○	○
	Reputation	15	Decrease in reputation due to increase in environmental load associated with business activities (pollution, deforestation, waste, etc.)	○	○
	Liability	16	Increase in impact on the surrounding environment associated with production processes		○
Opportunities	Resource efficiency	17	Transition to production processes with good production efficiency that use less resource inputs such as water and natural resources	○	○
		18	Improved market evaluation by using regenerative agriculture methods and increased ratio of natural cultivation by strengthening ecosystem services and environmental assets (e.g., increasing resistance to climate-related damage through soil structure)	○	
		19	Increase in reuse and recycling rate of natural resources		○
		20	Transition to production processes with low environmental impact		○
	Products and services	21	Product development based on reuse of waste and shift to substitute materials (e.g., upcycling and reuse of waste in products)	○	○
		22	Increase in supply of crude drugs with certified sustainable production processes		○

Prepare

Preparing to formulate new medium- to long-term environmental targets

Looking ahead, we will select appropriate management metrics and set appropriate targets for the formulation of medium- to long-term environmental targets starting from fiscal 2025. As part of this preparation, we have summarized the status of our initiatives on the nature-related risks and opportunities identified recently in the following table.

Status of Initiatives on Nature-Related Risks and Opportunities

◎ : Responding, ○ : Partially responding, Short to medium term: Expecting to implement in under 10 years, Long term: Expecting to implement in 10 years or later

Materiality	Response measures	Status of the Company's response			Number of corresponding risk or opportunity
		Recognition	Research	Implementation	
Sustainable procurement of raw materials	Diversification of cultivation areas	◎		○	1,2,3,4,5,7,8,11
	Adoption of cultivation methods that do not depend on soil, etc.	◎	◎	○	3,5,11,14,15
	Water saving and reuse (upstream)	◎	○	Short to medium term	6,7,13,14,15
Recycling use of resources	Development of varieties that are resistant to changes in the natural environment (pests, climate change, etc.)	◎		Long term	1,13
	Promotion of cultivation methods that reduce pests	◎	◎	○	1
	Water risk evaluation and assessment	◎	◎	◎	2,7,8
Preservation of biodiversity	Water saving and reuse (Tsumura's operations)	◎	◎	◎	8,13,14,17,19
	Setting rigorous environmental metrics and voluntary standards	◎		◎	13,14,15,16
	Timely and appropriate collection of regulatory information, etc.	◎		◎	9,10,22
Climate change countermeasures	Reputation risk countermeasures through timely disclosure and engagement	◎		◎	12,14,15

For more details regarding disclosure based on the TNFD recommendations, please refer to the Company's website. <https://www.tsumura.co.jp/sustainability/environment/biodiversity/tnfd/>