

Response to Climate Change

Why this Issue is Important to Tsumura

Crude drugs are substances that come to us directly from nature. The Tsumura Group employs crude drugs as raw materials. As such, in order to grow sustainably, we need to be extremely sensitive to changes in the natural environment as well as any potential crises it may face. To ensure the future continuation of the abundant natural environment that forms a pillar of our business, we are focusing in particular on our responses to climate change and water risk. In order to reduce these risks, the Company is promoting initiatives for carbon neutrality, while focusing on the development of new technologies in the areas of crude drug cultivation and production technology.

Corporate Governance System Related to Climate Change

The Board of Directors is responsible for making the most important decisions on matters based on the risks and opportunities associated with climate change and other factors with a view to ensuring the sustainable growth of the Group. The Sustainability Committee, which is chaired by the Co-CEO, receives the decisions made by the Board of Directors and sets out policies related to sustainability, GHG emission reduction targets and measures, and so forth. The committee also reports regularly to the Board of Directors on matters such as the status of activities and new issues arising, and reflects the feedback and advice from the board into targets and measures. The Sustainability Committee and Risk Management Committee share information and are responsible for the

assessment and control of risks associated with climate change. Important matters are reported to the Executive Committee and the Board of Directors.

The Company is taking initiatives to reach the goal of reducing Scope 1 and 2 GHG emissions by 50% from fiscal 2020 levels in fiscal 2030. In fiscal 2023, we made some pathways for achieving this goal, such as introducing off-site PPA, phasing in solar power generation at all sites, and incorporating systems for hydro power generation in the wastewater treatment facility of our new Shizuoka Plant, which is currently under construction.



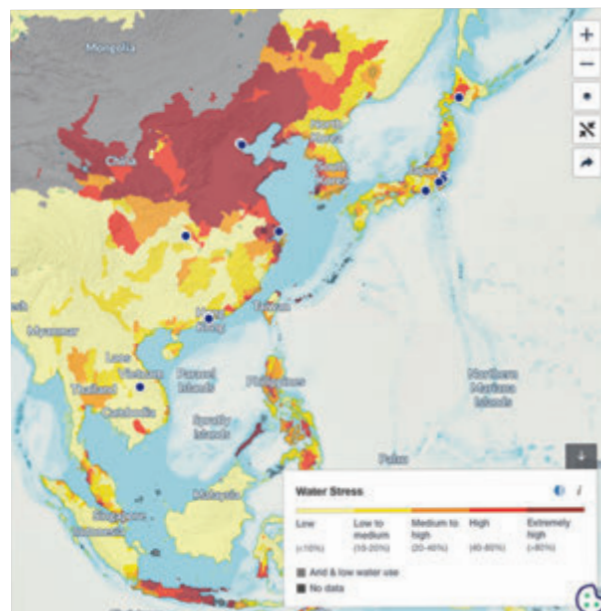
Solar panel at Shizuoka Plant Solar car ports at Ibaraki Plant

Response to Water Risk Due to Global Warming

The Tsumura Group has conducted a scenario analysis*1 envisaging the world in 2050 based on the TCFD recommendations. Among the major risks under the 4°C scenario, in fiscal 2022 we held a detailed discussion*2 of our response to water risk. Currently, at the No. 3 SD Building of our Ibaraki Plant, we have installed new equipment for reusing the water used in manufacturing, and we are examining strategies to mitigate water risk, such as applying the expertise we have acquired there elsewhere. Moreover, some of our crude drug cultivation sites are under high water stress, and we are responding by innovating crude drug cultivation techniques, diversifying cultivation sites, and securing appropriate inventories.

*1 For more details, please refer to the Company's website. Responding to climate change: Information disclosure based on the TCFD recommendations <https://www.tsumura.co.jp/english/sustainability/tcfd/index.html>

*2 Evaluation of water stress using the "Aqueduct Water Risk Atlas" developed by the World Resources Institute



Source: WRI Aqueduct, <https://www.wri.org/aqueduct>

Water stress at Head Office and manufacturing sites: Risk evaluation results

- Japan: six sites, all with no risk *3
 - China: nine sites, of which three have risk (Tianjin, Shenzhen, Shanghai)
 - Laos: one site, no risk
- Evaluation period: 2040

*3 Some sites were deemed to be extremely high or high risk. However, having considered factors such as the status of water usage at the sites, it was judged that no significant risk existed.

Respect for Human Rights

The Tsumura Group supports global norms such as the International Bill of Human Rights and is taking measures to respect human rights. We consider any violation of human rights in our supply chain unacceptable, for example, at companies and suppliers in production areas where we procure raw material crude drugs. We have therefore been conducting periodic audits of production area companies and suppliers for some time. To date, we have not found any significant issues relating to the human rights of employees, such as forced labor. In April 2022, the Group formulated the Tsumura Human Rights Policy and the Tsumura Procurement Policy, which cover all of the Group's officers and employees, production area companies and production groups, and all suppliers with direct contracts.

Furthermore, the Procurement Division conducts human rights due diligence for analysis and prevention of human rights risk in the supply chain. With regard to production groups from which the Group procures crude drugs, we conduct observation and interviews from an occupational health and safety perspective using a checklist when conducting GACP audits*4, based on the Tsumura

Procurement Policy. The results are evaluated by the Sustainable Procurement Subcommittee and the Sustainability Committee, then reported to the Board of Directors. In fiscal 2022, we conducted explanation meetings to local production groups in Japan, China, and Laos, to promote understanding of our procurement policy.

The Sustainability Committee is at the center of our human rights risk management structure, supervising initiatives related to human rights policies and making reports to the Board of Directors. The Human Resources Department undertakes human rights training, human rights risk analysis and prevention, and the creation and improvement of various systems. The Legal/Compliance Control Department operates a contact desk to respond to consultation requests from employees.

In fiscal 2022, we conducted study sessions on human rights and harassment at all business sites for all employees. We will promote initiatives such as the production of materials related to human rights and utilize them in ongoing training for all employees.

*4 Tsumura's own audit method based on the Tsumura GACP Guidelines

Resource Circulation

The Tsumura Group is working to renew the 3Rs (reduce, reuse, recycle) and create mechanisms for resource circulation.

Most of the industrial waste generated by the Group is residue left over from extract produced during the Kampo formulation manufacturing process (crude drug residue). Some of this material is traded for value, and the Group sells it for uses such as biomass fuel, which helps to reduce CO₂ emissions from thermal power stations. Other residues are also 100% recycled by composting and so forth.

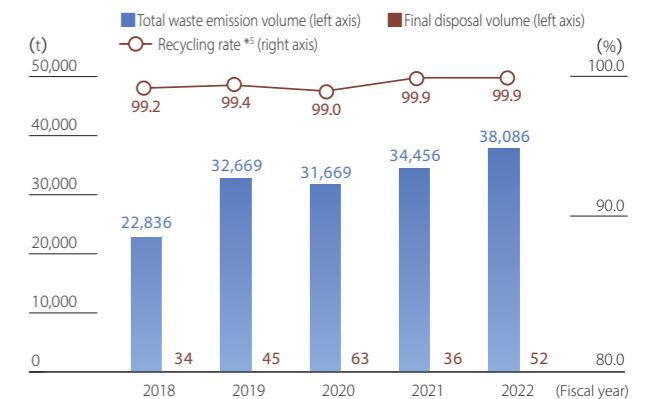
In parallel with resource recycling, we are also focusing on creating better mechanisms for resource circulation. Crude drug residue contains about 80% water. Although we utilize residues for recycling as described above, because they are carried to external processing facilities with a significant volume of water in them, they incur an environmental burden and an economic cost. Currently, the Company is researching and examining methods of applying fertilizer manufacturing technology to reduce the water content of residues without placing a load on the environment.

As an initiative to assist with circular use of water resources, we have implemented a system for reusing cooling water from the extracted liquid condensation process for Kampo extract at four plants in Shizuoka, Ibaraki, Shanghai,

and Tianjin. In fiscal 2022, these four plants accounted for around 96% of the entire wastewater volume for the Group.

In addition, we are looking at switching to environmentally friendly packaging materials considering the strengthening regulations, such as the enforcement of the Act on Promotion of Resource Circulation for Plastics.

Total waste emissions, final disposal volume, and recycling rate



Note: Waste includes industrial waste (including ones under special management), as well as municipal solid waste. *5 Recycle rate = recycled volume/total waste emission x100

Preservation of Biodiversity

Why this Issue is Important to Tsumura (Approach Since our Foundation)

Depletion of natural resources, such as wild plants, poses a direct management risk to the Tsumura Group, since its business uses crude drugs as raw materials. Given this background, we have a long history of working to preserve biodiversity, from our earliest days. The first president, Jusha Tsumura, considered the identification of varieties that can be used as raw material crude drugs, 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. In 1924, we founded Tsumura Research Institute for Pharmaceutical Science for the purpose of conducting scientific research and analysis of botanical compounds and Kampo medicines. In subsequent years, the results from the institute have contributed significantly to the rise of Kampo medicines. Furthermore, at the same time as the foundation of the institute, Jusha also started work on establishing the Tsumura Medicinal Plant Garden.

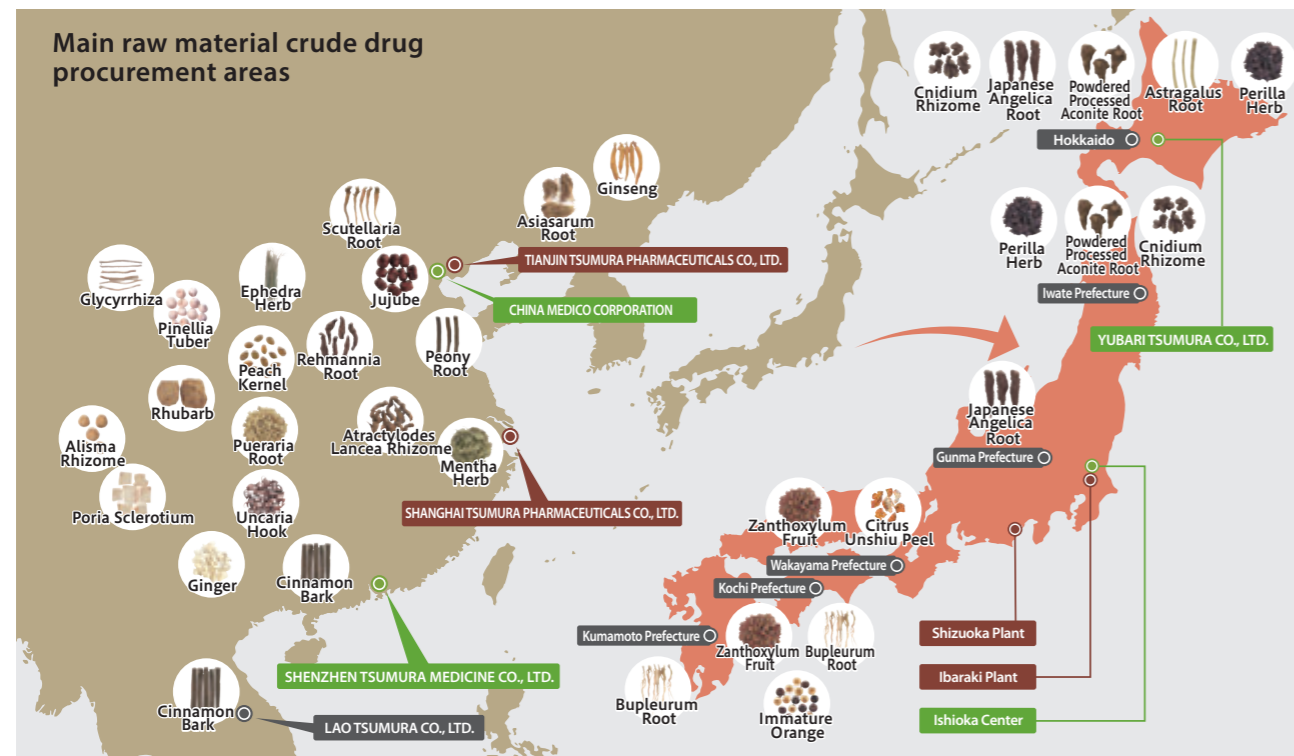
Around the time, Dr. Tomitaro Makino, Japan's leading authority on plant taxonomy, was in charge of the Journal of Japanese Botany, an international academic journal that was concerned with the survey and study of wild plants. In 1926, Jusha approved of Dr. Makino's activities and decided to support him, and so Tsumura Research Institute for Pharmaceutical Science took over publication of the journal.

The two men collaborated through the creation of the journal, working for many years to bring to light the diversity of Asian plants and promote the taxonomic and pharmacognostical evaluation of medicinal plants, which are the foundation of Kampo medicines, as well education.

Over the past few years, the Group has been focusing on the development of advanced appraisal technology for plant varieties, building a plant variety library, and developing expert human resources in order to pass on bountiful ecosystems to the next generation. In addition, the Group has analyzed and evaluated variations in quality caused by differences in the production environment and harvest timings of raw material crude drugs (medicinal crops), accumulating production expertise for ensuring consistency. Currently, Tsumura has indicated consideration for biodiversity in the Sustainability Charter formulated in 2022, and is actively implementing a range of measures, such as appropriate harvesting of wild crude drugs, careful management of crude drug production based on the Tsumura GACP, and appropriate use and testing of agrochemicals.



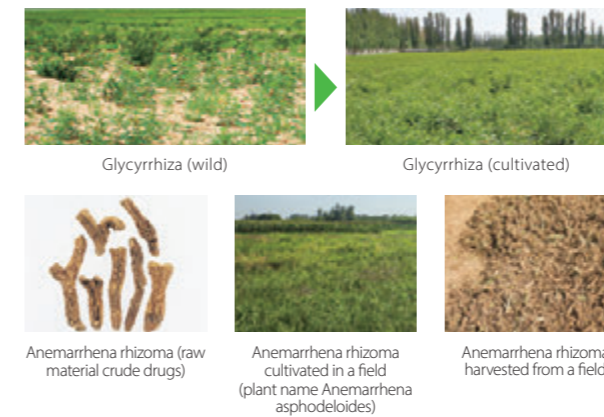
Tsumura Medicinal Plant Garden at the time of its establishment (Tokyo)



Cultivation of Wild Crude Drugs

With a view to preserving biodiversity, the Group has included a target of reducing the number of wild crude drugs it uses within its medium- to long-term environmental targets for fiscal 2031. Among the raw material crude drugs that we use, 110 are derived from plants, and 34 of these are wild plants. By introducing cultivation of these going forward, we aim to reduce the number of wild products used to 11 by fiscal 2031.

In fiscal 2022, we switched completely to cultivated products for a crude drug known as Anemarrhena rhizoma. Until now, we have needed a certain quantity of wild Anemarrhena rhizoma with a high level of standard ingredients, but improvement of the production method of the cultivated product has proved successful in increasing the level of standard ingredients, and through practical production testing, we are on course to be able to build a production system that does not depend on wild products.



Glycyrrhiza (wild) Glycyrrhiza (cultivated) Anemarrhena rhizoma (raw material crude drugs) Anemarrhena rhizoma cultivated in a field (plant name Anemarrhena asphodeloides) Anemarrhena rhizoma harvested from a field

Tosa Tsumura Forest

One of our main cultivation areas in Japan is the town of Ochi in Kochi Prefecture. Here, we are engaged in a joint forest project called the Tosa Tsumura Forest. The project is operated by four partners: Kochi Prefecture, Ochi Town, Human Life Tosa, and the Tsumura Group. 2023 marked the 16th year of the project, which was initiated in 2008 for the purpose of protecting the natural environment and revitalizing the region of the cultivation area. Tosa Tsumura Forest covers an area of approximately 77 ha., or around 16 times the area of the Tokyo Dome. In addition to preserving the water source for the Niyodogawa river system, Human Life Tosa members conduct medicinal plant harvesting and processing experience lessons for local junior high school students, while the Company's employees contribute to systematic learning by providing visiting lessons and so forth.

Initiatives in Laos

In Laos, we cultivate raw material crude drugs in our own managed gardens. In 2011, we proposed a survey and removal of unexploded ordnance to ensure the safety of the land for the cultivation of crude drugs as a public-private partnership project.*6 The proposal was accepted under the "Public-Private Partnership for Accelerating Growth" promoted by the Japanese government. Through this project, we are promoting expansion of local employment along with the transfer and diffusion of agricultural technologies.

*6 A governmental program begun in April 2008 to accept proposals from private companies for the purpose of contributing to the expansion of job opportunities, technology transfer, and trade and investment promotion, which ODA (Official Development Assistance) cannot pursue alone, through the cooperation between private companies' activities and the ODA in developing countries.

Other activities

In cultivation areas in China, we are contributing to increased standards of living through the cultivation of crude drugs. In Sichuan Province, we are implementing a project with a local company to cultivate wild rhubarb. We have built an industrial chain of cultivation, harvesting, and processing, contributing to increased income for farmers and reducing uncontrolled harvesting of wild rhubarb. In Jilin Province, a large-scale ginseng processing plant is run by a local company. Strict quality management and inspection for agrochemicals residue and so forth have increased the brand reputation of the products, creating an exemplary model for sustainable local industry.

Cooperation with Local Community through Crude Drug Cultivation

The Tsumura Group considers diversification of cultivation areas an important strategy for sustainable crude drug procurement. Among other advantages, this strategy helps to preserve the natural environment in cultivation areas, contributes to regional revitalization, and increases the productivity of farmers by transferring technologies to them.

Years of Cultivation of Main Crude Drugs

