PT. Great Giant Pineapple

BIODIVERSITY RISK & IMPACT ASSESSMENT REPORT

WITH TASKFORCE ON NATURE-RELATED FINANCIAL DISCLOSURE (TNFD) FRAMEWORK

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Introduction of Disclosure Methodology

The Task Force on Nature-related Financial Disclosures (TNFD) emerges as a pivotal initiative aimed at addressing the growing recognition of environmental risks, specifically those related to nature and biodiversity. TNFD endeavors to standardize and enhance the disclosure of nature-related risks and opportunities by businesses and financial institutions.

As global stakeholders increasingly prioritize environmental sustainability, TNFD's efforts are crucial in fostering a more informed and responsible approach to promote transparency and accountability, TNFD aims to catalyze a shift towards a more sustainable global economy that values and protects biodiversity for future generations.

This disclosure not only employs the TNFD methodology with a focus on the Locate, evaluate, assess, prepare (LEAP) approach but also integrates the WWF Biodiversity Risk Filter 2023 for analyzing risks and impacts.

About PT. Great Giant Pineapple

PT Great Giant Pineapple's (GGP) has become the largest private label manufacturer of canned pineapples in the world and a prominent source of premium pineapples and fresh fruits. The company currently exports more than 15,000 containers to over 60 countries worldwide and has a representative company in the USA, Singapore, Japan, and South Korea. Boasting extensive plantations, one in every four canned pineapples in the world today originates from GGP. Aside from canned pineapple, pineapple jam, pineapple cubes in cups, and pineapple juice concentrate, we also produce canned fruit cocktail.

At GGP, we recognize the critical importance of integrating nature-related considerations into our operational and financial strategies. As a member of the global business community, we understand the profound impact our activities can have on biodiversity and ecosystems. Therefore, we are dedicated to transparently disclosing our interactions with nature and the measures we undertake to mitigate risks and capitalize on opportunities related to biodiversity and ecosystem services.

Our participation in the Task Force on Nature-related Financial Disclosures (TNFD) underscores our commitment to enhancing disclosure standards concerning nature-related risks and opportunities. By adhering to TNFD guidelines, we aim to provide stakeholders with comprehensive insights into how GGP manages and navigates nature-related risks, thereby fostering trust and accountability.

Through robust disclosure practices, GGP seeks not only to safeguard natural resources but also to contribute positively to biodiversity conservation efforts. By aligning our business practices with sustainable development goals, we strive to create long-term value for our stakeholders while promoting environmental resilience and biodiversity conservation.

In summary, GGP remains steadfast in its commitment to transparency, sustainability, and responsible environmental management. Our participation in TNFD represents a proactive step towards fostering a resilient and sustainable future where business success harmonizes with environmental stewardship.

Scope of Disclosures

This disclosure assesses risks and impacts on biodiversity across various areas, including its **own operations, adjacent areas, upstream activities, and downstream activities.**

Governance

At PT Great Giant Pineapple, we prioritize sustainability and ESG (Environmental, Social, and Governance) practices at every level of our operations. Central to our commitment is our dedicated oversight board for sustainability and ESG initiatives. Led by the Sub-Division Head, our specialized division is entrusted with managing these critical issues.

Every six months, we provide comprehensive reports on our sustainability performance directly to the CEO. Additionally, on a monthly basis, we ensure transparency and accountability by presenting updates to our esteemed Board of Directors. These regular assessments enable us to uphold our standards and drive continuous improvement across all facets of our business.

At PT Great Giant Pineapple, sustainability isn't just a goal; it's a cornerstone of our corporate philosophy, guiding our decisions and actions towards a more sustainable future.

Sustainability Sub-Division Organization Structure

The Sustainability Subdivision consists of three departments, each handling distinct aspects of sustainability. The Energy and Climate Department focuses on strategies and implementation related to energy and climate, including emission reduction strategies for the company. The Sustainable Development Department addresses various aspects such as overall ESG (Environmental, Social, and Governance) concerns, community engagement, and data disclosure for reporting and transparency purposes. Recognizing that as an agro-industrial company, we are highly dependent on natural conditions, the Sustainable Farming & Business Circularity Department is dedicated to sustainable agricultural systems and resource management, ensuring optimal use and value creation.

Strategy

Integrating Biodiversity Risk Management into Corporate Risk Assessment

GGP has conducted a Sustainability Risk Assessment (SRA) to identify business risks and opportunities in order to strengthen the long-term vision of the Company and align its sustainability goals. The SRA will be integrated into GGP's Enterprise Risk Management (ERM) process, capturing risks that have not been previously identified. Two standards were referenced during the SRA process: the first being ISO 26000:2010, which relates to Social Responsibility and is used as a reference for setting context, and the second being ISO 31000:2018, which provides guidelines for Risk Management processes.

Integrating Biodiversity Risk Management into Corporate Risk Management

The assessment focuses on identifying risks in three major aspects of People, Profit, and Planet (3P). By conducting this assessment, GGP is taking proactive measures to identify potential risks and implement measures to mitigate them, ensuring the long-term sustainability of the Company and its operations. In addition, GGP has identified processes as well as recommendations from Task Force on Nature-Related Financial Disclosures. This nature-related risk assessment is an important step in demonstrating an understanding of the risks and our efforts to take steps to mitigate the impact of climate change and nature-related on business operations. This strategic approach will remain our main focus in the future.

Risk and Opportunity Management

PT. Great Giant Pineapple places importance on managing risks and opportunities related to biodiversity in accordance with LEAP (Locate, Evaluate, Assess, Prepare) principles based on TNFD guidance as follows:

Locate

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

In 2024, PT. Great Giant Pineapple has conducted an exploration and mapping of biodiversity across its entire Lampung site, Indonesia for our own operational sites which accounts for over 95% of the company's total operational area. This region, comprising Plantation Groups 1 through 4 and a central area which consist of our factory, employee housing & office building, spans around 33.000 hectares. Other than that, we also identified risk related to adjacent areas, upstream activities, and downstream activities.

1. The area with the highest potential impact on biodiversity is the central region, as it includes activities such as those at the canned pineapple factory.
2. The areas with medium risk are the Plantation Groups 1-4, which consist of large plantation areas.
3. These areas pose a potential risk to biodiversity due to monoculture practices and chemical usage. The central region, including employee housing and office areas, is considered to have low risk. This is because the activities of employees have minimal impact on the environment and are less likely to disrupt local biodiversity around the residential areas.

Evaluate

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

In 2024, PT. Great Giant Pineapple has conducted an exploration and mapping of biodiversity across its entire Lampung site, Indonesia for our own operational sites which accounts for over 95% of the company's total operational area. This region, comprising Plantation Groups 1 through 4 and a central area which consist of our factory, employee housing & office building, spans around 33.000 hectares. Other than that, we also identified risk related to adjacent areas, upstream activities, and downstream activities.

Corporate's Dependence on Ecosystem

1. **Water Resources**: Pineapple cultivation requires substantial water for irrigation. Reliable access to clean water sources is crucial for maintaining healthy crop growth and ensuring consistent production levels.
2. **Soil Health**: Fertile soil is essential for growing pineapples. The health of the soil, including its nutrient content and structure, directly affects crop yields and quality.
3. **Pollination**: Pineapple plants benefit from natural pollinators, such as bees and other insects, which help in the reproduction process and improve fruit development.
4. **Climate Stability**: Pineapples need a stable climate with specific temperature and humidity conditions. Any significant changes in climate patterns can impact crop productivity and quality.
5. **Biodiversity**: Healthy ecosystems support diverse plant and animal life, which can help in pest control and disease management. Biodiversity also contributes to the overall resilience of agricultural systems.
6. **Land Use Management**: Sustainable land management practices are essential for maintaining soil fertility and preventing land degradation, which impacts long-term agricultural productivity.

Assess

Evaluate : Assess risks and opportunities related to biodiversity and appropriate risk management

Biodiversity Risk Level Based on WWF Biodiversity Risk Filter 2024

Risk Indicator	Score of Site PG 1- 3 and Central (Lampung Tengah)	Score of Site PG 4 (Way Kambas Lampung Timur)	Potential impacts on our businesses, strategy and financial planning (For top 10 key risk indicators Based on WWF Risk Filter)	Management Plan & Response Strategy (For top 10 key risk indicators Based on WWF Risk Filter) 2 sites in Lampung Tengah & Lampung Timur (33.000 Ha)
Scape of Physical Risk	**4,31**	**3,62**		
1. Provisioning Services	**3,1**	**3,2**		
1.1 Water Scarcity	3,2	3,4	The sufficient supply of water required to maintain plantation and factory activities is essential, especially in dry periods marked by increased demand or ecological strain	Great giant pineapple focus on efficient water usage with wastewater recycling. The following is the division of labor for water needs: 1. Irrigation using a drip system on crystal guava plants and a gun sprayer on pineapple plants. Water sources are obtained from 2 types, namely reservoir storage and also boreholes. By using IoT sensors, water usage is adjusted to the needs

				2. Water usage at the central office of PT. GGP uses the ISO 14001 standard to carry out water usage reduction targets. 3. Waste water generated by factories and coal generators is collected at the wastewater plant to carry out comprehensive actions such as aeration, carbon filters, precision filters, ultra filtration filters, high pressure pumps, and demineralization to produce water according to the quality of use.
1.2 Forest Productivity and Distance to Markets	No dependency or impact	No dependency or impact		
1.3 Limited Wild Flora & Fauna Availability	3	3	As a plantation business, PT. GGP contributes to the risk of deforestation and fragmentation that occurs due to land expansion. In addition, there is a risk of biodiversity loss due to monoculture farming and conflict between humans and natural flora and fauna.	PT GGP has made several milestones in sustainable farming practices and also collaborated with several academics to assess the risks posed by plantation operations. Some of the results that have been obtained include: 1. Achieving Global GAP (Good Agricultural Practices) certification, making 5 improvements starting from Food Safety & Tracebility, Worker health & welfare, Animal Welfare, and Quality Management. 2. Achieving Rainforest Alliance certification, practicing regenerative agriculture, starting from the use of biological fertilizers, creating buffer zones with conservation areas and water bodies, to prohibiting the use of chemicals harmful to plants and animals. 3. Identification of endangered birds, mammals, heterofauna in the plantation based on plant land cover with UNILA academics, establishing an action plan to protect animals.

1.4 Limited Marine Fish Availability	NA	NA		
2. Regulating & Supporting Services - Enabling	**4,5**	**3,5**		
2.1 Soil Condition	4,5	3,5	Poor soil conditions can lead to inconsistent crop yields, affecting overall productivity and the ability to meet market demands.	Our current focus on regenerative agriculture emphasizes soil sustainability which consist of : 1. Maintaining or Enhancing Organic Carbon (C-organic) in soil 2. Reducing Land Preparation Steps 3. Planting Productive Crops in Marginal Areas 4. Crop rotation to maintain soil health.
2.2 Water Condition	3,5	3,5	Limited water availability can lead to reduced crop yields and lower quality produce due to water stress, which affects plant growth and development.	At the core of regenerative agriculture lies a profound understanding of water's significance and its crucial role in enhancing soil health. Our strategy include : 1. Catchment Area-Based Land Design 2. Water Use Efficiency 3. Improving Water Quality
2.3 Air Condition	3,5	3,5	1. High temperatures can stress plants, reduce photosynthesis rates, and lead to poor crop yields. Conversely, low temperatures can delay growth, freeze crops, and damage yields. 2. Pollutants such as ozone, sulfur dioxide, and nitrogen oxides can damage plant tissues, reduce growth rates, and negatively impact crop quality and yields.	High temperatures can lead to poor crop yields because of inadequate water levels in the soil and plants. Consequently, sufficient irrigation is essential. To ensure adequate irrigation, it is important to maintain surface water levels by preserving existing reservoirs.
2.4 Ecosystem Condition	2,5	2,25		
2.5 Pollination	4,5	3,5	Successful pollination ensures the formation of fruits and seeds. Poor pollination can lead to	Pesticide Management: Use pesticides responsibly to minimize harm to pollinators. Opt

			fewer or deformed fruits and reduced seed production.	for targeted application methods and avoid using chemicals during flowering periods.
3. Regulating Services - Mitigating	**3,88**	**3,88**		
3.1 Landslides	3,5	3,5	Pineapple plants have shallow, fibrous roots (unlike deep-rooted trees) that do not strongly bind soil, makin slopes more prone to erotion. Besides that, unpredictable climate i.e high intensity rain causing risk of landslides. Managing landslides with land-use planning & zoning, contour farming, and proper drainage system is a key to produce a high productivity plant without causing drought.	PT Great giant pinepple has implemented several landslide management measures, including: 1. **Conducting contour mapping** using Drone namely Lidar, for each plantation location area. 2. **Planting bamboo, gamal, albasia** plants in the buffer zone to strengthen the soil foundation and minimize landslides 3. **Conducting land levelling** using john deere with sensor to flatten the soil to avoid inundation that is at risk of causing landslides
3.2 Fire Hazard	3,5	2,5	The risk of fire hazard can be caused by 2 factors, namely environmental factors and human & natural resource factors. PG 1-3 located in Central Lampung has hot, oppressive and overcast weather with unstable weather fluctuations. Meanwhile, PG 4 located in East Lampung has better weather with high rainfall intensity. In addition, human & natural resouce factors in Central Lampung is known for its agricultural land use, especially sugarcane and grasses, which are prone to the land clearing method of burning, and factory areas that have a risk of industrial hazards.	PT Great giant pineapple has implemented several fire hazard managements, including: 1. **Worker awareness & training:** capacity building to worker by doing fire drills and online training, test, & certification for Safety, Health, and Environment 2. **Land clearing & waste management:** certified rainforest alliance to ban slash & burn and use mechanical clearing. Convert biomass waste into non-flammable material 3. **Buffer zones & moisture retention:** maintain green belts using bamboo and install water sprinklers in high-risk zones 4. **On-site fire brigades:** fire hazard redemption rapid response

3.3 Plant/Forest/Aquatic Pests and Diseases	4	4	As an agriculture company, PT Great giant pineapple has developed several superior commodities, including pineapple, banana, crystal guava, and papaya. Even so, the cultivation system carried out in the plantation is monoculture. Monoculture has the risk of disease and pest resistance that can affect fruit productivity.	PT Great giant pineapple has implemented several plant pest & disease control: 1. **Clean Tools & Equipment** - Disinfect land preparation tools & harvest tools to prevent pathogen spread 2. **Quarantine infected plants -** isolate infected plants and controllize pesticide usage 3. **Healthy soil management –** use premium compost consist of biochar and processed vermicompost. 4. **Biofertilizer** – use biofertilizer that consist of living microorganism that colonize the rhizosphere or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients 5. **Crop rotation** – rotate crops to disrupt pest and disease life cycles 6. **Sanitation:** remove plant debris, weeds, and infected material by mechanical or physical treatment to reduce pathogen 7. **Resistant Varieties** – Research and development of commodity to provide resistant varieties
3.4 Herbicide Resistance	3	3	Herbicide-resistant weeds pose a significant threat to plantations, causing diminished crop yields, higher production expenses, and persistent management difficulties. These weeds compete with crops for essential resources, reducing the effectiveness of fertilizers. Additionally, controlling resistant weeds often requires costly mechanical methods like tillage and hand-weeding. Frequent tillage can degrade soil health, leading to erosion, moisture depletion, and loss of organic carbon.	
3.5 Extreme Heat	4	4	Extreme heat poses a critical threat to plantations, causing crop stress, yield losses, and long-term agricultural disruptions. Not only that, heat stress can be dangerous for operational workers, namely heat stroke, dehidration, and machine breakdown.	Extreme heat is unavoidable, but PT. Great giant pineapple manage to do adaptation to minimize losses in 2023 when La Nino hit Central and East Lampung, such as: 1. **Create a land drought management team** - the team focuses on analyzing the water availability in the land, and mapping out areas that need additional attention. 2. **Building a biochar machine** - utilizing the company's organic waste into biochar that is applied to the land to maintain water availability 3. 3. **Drip irrigation & soil moisture sensors** - building irrigation

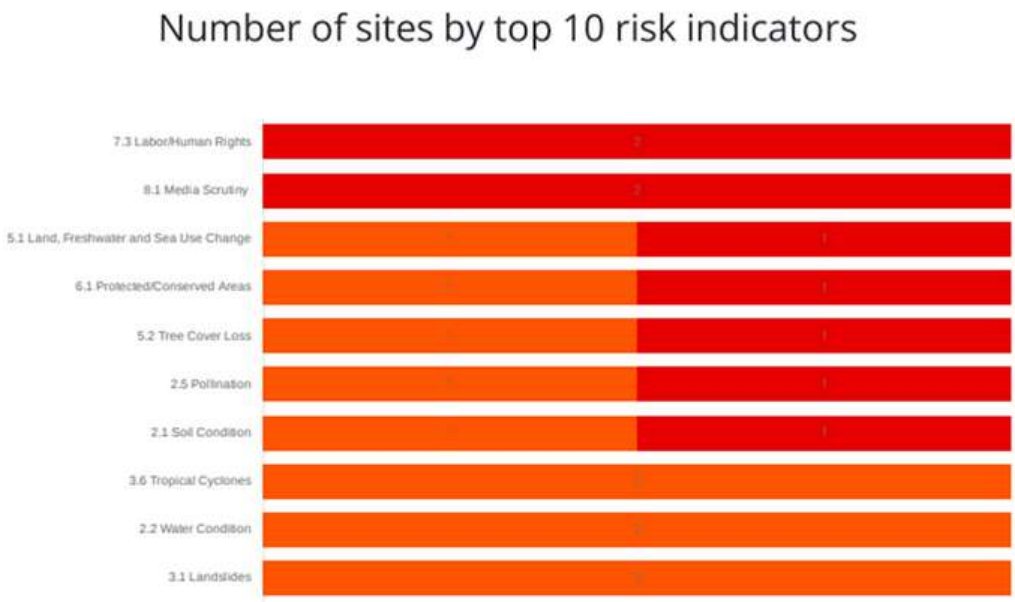
				methods that can be applied in the guava crystal garden, and maintain soil moisture
3.6 Tropical Cyclones	3,5	3,5	Tropical cyclone is a natural disaster that has destructive damages from its wind, storm, flooding, and landslides. The meteorology, climatology and geophysics agency regularly releases warnings about the potential for extreme weather and high waves in Lampung caused by two tropical cyclones, namely cyclone Vince and cyclone Taliah.	PT Great giant pineapple maintains drainage and water infiltration by identifying drainage water flow on the land using drone satellite imagery called Lidar before land preparation.
4. Cultural Services	**No dependency or impact**	**No dependency or impact**		
4.1 Tourism Attractiveness	No dependency or impact	No dependency or impact		
5. Pressures on Biodiversity	**4,31**	**3,62**		
5.1 Land, Freshwater and Sea Use Change	4,25	3,5	Ecosystem Health: Changes in land, freshwater, and sea use collectively affect ecosystem health and resilience. Alterations in one area can have cascading effects on others.	We are committed to implement regenerative agriculture which is consist of 4 strategies : 1. **Soil availability** Focus on enhancing soil defiisi dahealth for long-term productivity. 2. **Biodiversity** Minimize soil disturbance while enhancing soil biodiversity and biomass activity. 3. **Water availability** Enhance on-farm water management to increase water efficiency and optimize channel and irrigation operations. 4. **Climate Resillience** Utilize eco-friendly agro-materials, increase carbon sequestration capacity, and practice minimum land preparation.
5.2 Tree Cover Loss	4,5	3,5	1. Biodiversity loss 2. Climate Change 3. Soil health	
5.3 Invasives	3,5	3,5	Invasive species are foreign organisms introduced intentionally or unintentionally that can cause ecological, economic, or health damage to humans and nature. Several pests and diseases are caused by invasive species in	PT Great giant pineapple is included in a bonded area with the Indonesian Customs. This allows the company to tighten the licensing of goods entering and leaving the company. In addition, the company implements pest & disease control

			Lampung, such as the fungal microorganism *Fusarium* sp. to the pest *Spodoptera frugiperda*.	using biological agents, which leads to reduced spread of pests and diseases.
5.4 Pollution	4	4	Pollution can be caused by human activities both water and gas waste. Air pollution is caused by several concentrations of pollutants, ranging from PM2.5, PM10, NO2, SO2, O3, and CO according to the AQI (Air Quality Index) calculation. The risks generated by a high index can impact human health, environment, social & economy. The AQI index in Central Lampung and East Lampung is at a **moderate** level.	PT Great giant pineapple has implemented pollution management through: 1. **Wastewater treatment** - converting factory wastewater according to KLHK quality standards 2. **Energy use management ISO 50001** - improving energy efficiency, reducing energy consumption, and lowering carbon emissions in every line of flow process business 3. **Environmental management ISO 14001** - Reduce the environmental impact of the company's operations, both in the form of waste, pollution, and resources
Scape Reputational Risk	**3,5**	**3,75**		
6. Environmental Factors	**3,5**	**4**		
6.1 Protected/Conserved Areas	3,5	5	Human/animal conflict within company and community/environment around company. It can be happen because our PG 4 site is located near by Taman National Way Kambas (TNWK) Lampung Timur. Some of elephant who conserved in TNWK are potentially have conflict with company's land.	We collaborate with the TNWK government on animal welfare initiatives, including providing GPS devices for elephants that might enter company areas, supplying security guards, establishing elephant posts, and training security guards on elephant management.
6.2 Key Biodiversity Areas	3,5	4	Key biodiversity areas are sites of global significance for the conservation of biodiversity, identified using internationally standardized criteria. Although they do not have the stance of legal protection, these areas must be protected as they are the habitat of several IUCN red list animals. Even though PG4 located near Way Kambas,PG1-PG3 are located far from the KBA areas in Lampung, namely Rawa Tulang Bawang, and Gedong Wani. However, as a plantation company, it is the company's responsibility to identify the impact of its operations on migratory animals or nearby biodiversity hotspots.	PT.GGP has a commitment to do an analysis of the diversity of Avifauna, Small Mammals, Herpetofauna, Insects, Dung Beetle, and vegetation in several habitats in PG1-PG4. Our approach to conserve will be based on the certain areas that have high conservation value by increase worker awareness and continuous monitoring

6.3 Other Important Delineated Areas	3,5	3,5	Beyond protected areas and key biodiversity areas, several other types of delineated areas play crucial roles in conservation, ecosystem services, and sustainable development. National parks such as Way Kambas National Park are large scale conservation areas managed for ecosystem protection, species conservation, research, and ecotourism	At PT.GGP, we strive to maintain the boundaries between corporate and ecological needs. We conduct regular environmental impact assessments. Not only that, we build water bodies that are not only used for irrigation but also to serve as springs for migratory species.
6.4 Ecosystem Condition	3,5	3,75	PG1-PG3 located in Lampung Tengah that in between Sumatra's western rainforests and eastern agricultural lowland, hosting unique ecosystem. Majority of it's land dominated by agriculture, where could lead agricultural runoff and risks of fire hazard during dry season. Meanwhile, PG4 located in a mix lowland rainforests, wetlands, and agricultural landscapes and unique biodiversity, make it more challenging to conserve it's ecosystem.	While PT.GGP operates under a monoculture system, we have integrated circular economy principles into our operations to minimize environmental impact and support ecosystem restoration. Our waste management system categorizes and tracks all waste streams—from non-hazardous to hazardous—applying the 3R framework (Reduce, Reuse, Recycle) to ensure responsible resource utilization. Additionally, we are committed to reducing reliance on chemical agricultural inputs through soil health enhancement programs, including the cultivation of beneficial native microorganisms across our plantations
6.5 Range Rarity	3,5	3,5	Our operations have intersected with the migratory routes of various animals globally. As a result, some birds listed on the IUCN Red List are found in GGP during their migration season.	Continue to provide a suitable environment for those species requiring protection by preserving the existing natural habitat.
7. Socioeconomic Factors	**3,5**	**3,5**		
7.1 Indigenous Peoples (IPs); Local Communities (LCs) Lands and Territories	NA	NA		
7.2 Resource Scarcity: Food - Water - Air	2,5	2,5	Lampung is one of the largest food producing area in Indonesia, producing the highest rice production during Covid-19. Not only that, accompanied by quite a lot of downstream industrial areas, it makes access to social assistance easier, providing food-water-air improvement through community development.	In PT.GGP, we have the GREAT Indonesia program, which is a program that is tasked with improving the welfare of the surrounding community through the provision of fruits and milk produced directly from the factory for the prevalence of external and internal stunting. In addition, we conduct sanitation checks in areas of high stunting rates, in collaboration with the surrounding health centers, to evaluate the livability of the community.

7.3 Labor/Human Rights	4,25	4,25	**Poor Labor Conditions:** In regions with poor labor practices, workers might engage in unsustainable land clearing or deforestation due to inadequate wages or working conditions. This can lead to habitat destruction and loss of biodiversity.	Develop a Standard Operating Procedure (SOP) related to land degradation and enforce strict legal sanctions.
7.4 Financial Inequality	2,5	2,5	Income inequality refers to how unevenly income is distributed throughout a population. It comes in a 2 form, income inequality or wealth inequality. Financial inequality describes the social and economic disparity between the upper and lower classes, illustrating the lack of prosperity in a region.	PT Great Giant Pineapple is the largest fruit company in Indonesia, contributing more than 29,000+ workers consisting of daily laborers, non-permanent employees, and permanent employees. We are committed to providing minimum wage and above in accordance with Law No.11 of 2020 on Job Creation and Government Regulation No.51 of 2023.
8. Additional Reputational Factors	**3,5**	**3,5**		
8.1 Media Scrutiny	5	5	Media scrutiny can significantly impact an agriculture company by damaging its reputation through negative publicity, leading to decreased customer trust and sales. Financially, it can result in increased costs for crisis management and legal issues.	Transparency and reporting is one of key to be more transparant to the public through publicly report our Sustainability Report in 2 years period.
8.2 Political Situation	3	3	Political risks can significantly impact business operations, especially in emerging markets like Indonesia. Companies must assess potential political threats and implement mitigation strategies to ensure sustainability. There are several cases in Indonesia that affects operations, such as Omnibus law revisions that affecting labor and investment rules, protests & strikes from labor unions, environmental activists or political groups/	In PT Great giant pineapple, we build a healthy and sustainable political situation, with several strategies: 1. Active in building a centralized union in one party SPSI (union of workers throughout Indonesia) 2. Conducting stakeholder engagement to analyze power & proximity, maintaining the stability of social issues in the community 3. Building corporate shared values (CSV) & corporate social responsibility (CSR) as a commitment to community empowerment

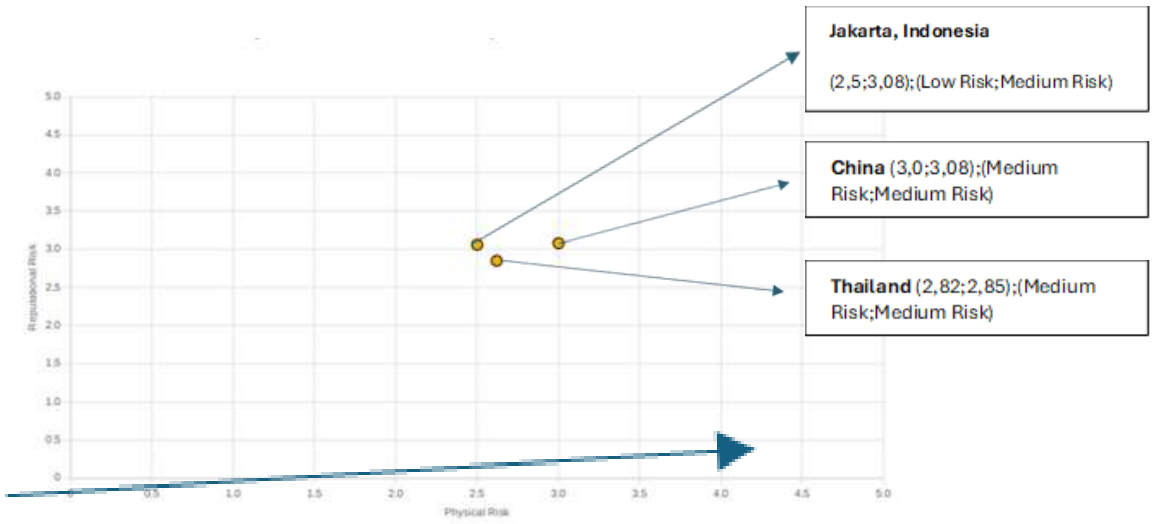
8.3 Sites of International Interest	2	2	Sites of International Interest refer to locations that attract global attention due to their strategic, economic, cultural, or geoplotical significance.	PG1-PG4 are situated within an industrial zone, not in a culturally or environmentally protected area. To address potential risks, PT. GGP implements robust cybersecurity measures, secures legal safeguards, and maintains strong physical security protocols
8.4 Risk Preparation	2	2	All businesses inevitably face risks and their potential consequences, along with the need for strategic solutions. Maintaining structured control documents for each risk category—operational, financial, legal, reputational, and others—is critical to ensuring long-term organizational resilience and sustainability.	PT Great Giant Pineapple has a special department to carry out risk & control and internal audit within the company. The series of work carried out starting from risk mapping, impact analysis, mitigation plan, to testing & review is carried out on each department line that has an impact on operations.



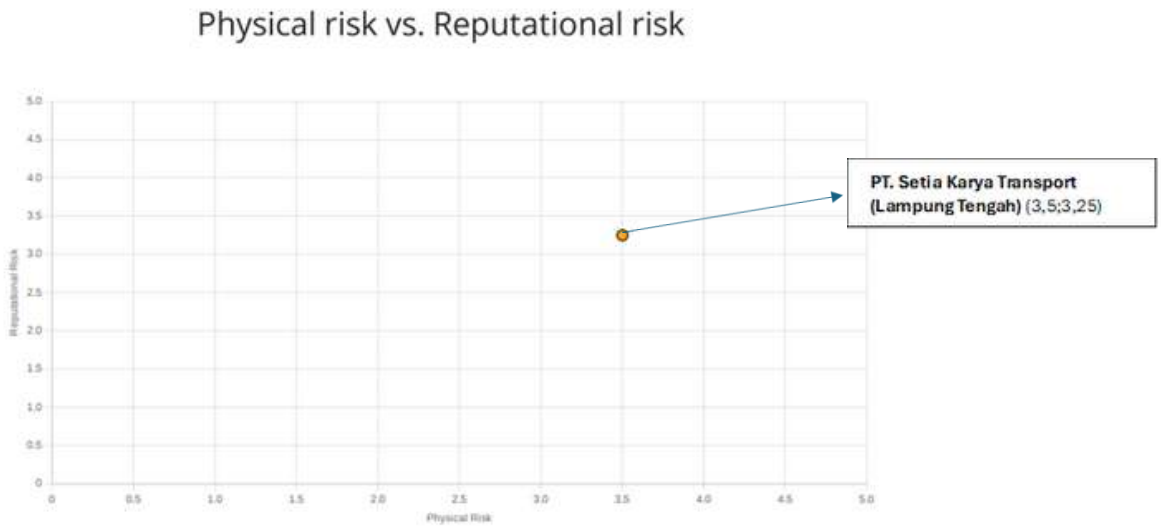
Based on the Top 10 Risk Indicators with Significant Biodiversity Impact, our 2 sites (Lampung Tengah & Lampung Timur) with 33.000 ha approximately of area. These area have the significant impact to biodiversity. The projects of management plans are also include the 2 sites in Lampung Tengah & Lampung Timur.

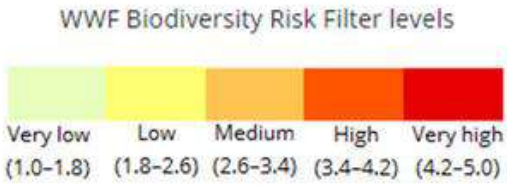
Biodiversity Risk Level Based on WWF Biodiversity Risk Filter 2024 for Upstream & Downstream Activities

Physical Risk vs Reputational Risk Upstream Activities by Country



Physical Risk vs Reputational Risk Downstream Activities





Upstream activities are categorized based on the top 3 countries with most critical tier-1 suppliers, who primarily handle manufacturing, logistics, or significant purchasing of their products and services based on their city & country location-based. For downstream activities, classification focuses on key partner who offer essential customer engagement channels or transportation services for our products based on location.

Prepare : Metrics & Target

Overall Biodiversity Mitigating Actions

PT. Great Giant Pineapple has established strategies to support biodiversity-related actions as follows:

- **Avoid**

  Objective: Prevent activities that negatively impact biodiversity.

Actions:
Chemical Use: Minimize or eliminate the use of harmful pesticides and fertilizers that can negatively affect local flora and fauna.

Example of Actions:

Strictly controlled physical (mechanical), biological (natural enemies), and chemical (pesticide) control methods.

The process of physical-mechanical control begins when cultivating land by chopping crop residues, plowing by immersing plant residues and weeds into the ground and turning the soil over, imposing a fallow period of more than 2 months, and carrying out crop rotation with other commodities that can break the life cycle of pests (OPT).

Meanwhile, biological control is carried out by monitoring natural enemies, protecting natural enemy habitats such as conservation areas (bamboo and bamboo shoots) around gardens, and breeding natural enemies such as owls (Tyto Alba) in controlling rat pests. GGF has also succeeded in minimizing water pollution due to pesticides and product waste by making Waste Water Treatment (WWT). Control with chemical pesticides is limited by the existence of control thresholds, this is based on OPT monitoring data and the number of incidents of attacks on plants. Chemical pesticides that are used taking into account the level of hazard refer to WHO provisions so that there is no longer the use of chemical pesticides with Extremely Hazardous and Highly Hazardous levels of danger. In addition, a risk mitigation program has been carried out for pesticides that have the potential to kill pollinators, pollute waters and disturb wild animal ecosystems.

• Reduce

Objective: Minimize the negative impact on biodiversity through operational efficiencies and better practices.

Actions:

- Resource Efficiency: Implement practices to use water, land, and other resources more efficiently, reducing the strain on local ecosystems.
- Waste Management: Reduce waste and pollution by improving waste management practices, including recycling and proper disposal of agricultural by-products.
- Energy Use: Enhance energy efficiency in production processes through energy management system and explore renewable energy sources to lower the carbon footprint.

Example of Actions:

- **Resource Efficiency**

GGF has implemented precision agriculture as a cornerstone of our farming practices. Precision agriculture is an approach to farm management that uses technology and data analysis to optimize various aspects of crop production. We believe that technology can support sustainable and efficient operations by integrating the latest technology and advanced data analysis into our agricultural processes. This data-driven approach allows us to make informed decisions, optimize resources and implement the right interventions to increase productivity, efficiency and minimize environmental impact. By adopting precision farming, we not only increase crop productivity and yields but also reduce the use of inputs such as water, fertilizers and pesticides.

- **Waste Management**

Through our circular economy commitment, GGF has put in considerable effort to contribute directly in response to the problem of food loss and food waste in Indonesia. GGF defines food loss as the management of various food products produced by GGF, such as fruits, milk, and canned pineapples, that do not meet food quality requirements for distribution to the market. One of the examples is reducing intolerance defects and fruits that are unsuitable for consumption and optimize processes during processing production.

- **Energy use**

GGF implements energy efficiency and emission reduction programs that focus not only on production and operational processes, but also to support facilities related to operational processes, such as offices and housing where employees live. In addition to utilizing biogas as fuel in operating the Biogas Plant, GGF's efforts to reduce energy consumption are also carried out through a shifting program from the use of diesel fuel for transportation and operational purposes of heavy equipment in plantations towards Gas Fuel (BBG).

• Regenerate

Objective: Safeguard and enhance the health of existing ecosystems.

Example of Actions:

- **Soil Sustainability** : Through the implementation of regenerative farming practices, GGF seeks to conserve soil to maintain the productivity level of GGF's plantations in the long term, especially those located in Lampung. At that location, GGF implements a Soil Conservation program to ensure that GGP's plantation land can always achieve high productivity, high fruit quality, and low costs.
- **Water Sustainability** : GGF implements an irrigation system designed to optimize the efficient use of water in plantations by setting irrigation priority standards. Hence, GGF continuously increases rainwater harvesting points to increase surface water sources and enrich biodiversity.

• Restore

Objective: Restore and rehabilitate degraded ecosystems.

Actions:

- **Environment restoration projects** : Support restoration projects in areas impacted by past agricultural activities, to restore ecological balance.
- **Soil Health** : Enhance soil health through organic farming practices, cover cropping, and agroforestry to improve ecosystem functions.

Example of Actions:

- **Environment restoration projects:** Bamboo re-planting as part of restoring natures. Other than that, utilization of marginal area also restoring ecological balance. The example of utilizing marginal area are planting cover crop in newly-build reservoir and planting cassava in land-perrimeter.
- **Soil Health:** Apply enriched organic fertilizer in plantation to maintain its health. Not only that, classification of soil quality status are currently applied to each location in the plantation. Hence, knowing detailed information led to suitable initiatives. The initiatives ranging from application of organic fertilizer to having land rotation.

• Transform

Objective: Knowledge, understanding, and awareness of biodiversity stewardship among employees, suppliers, customers, and communities.

Actions:

- **Collaboration:** Partner with local conservation organizations, research institutions, and stakeholders to support biodiversity initiatives and share knowledge.

Example of Actions:

- **Collaboration:** Engage with local university to understand and measure the existing biodiversity around operations.
- **Collaboration:** Raise awareness to management regarding current biodiversity and its rarity status.

APPENDIX