Bumitama Agri Ltd.

Excellence Through Discipline

SUSTAINABILITY REPORT 2022

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ABOUT THIS REPORT

Reporting frameworks alignment

This is Bumitama Agri Ltd's fifth biennial sustainability report, covering the Group's sustainability performance for 2021 and 2022. The document has been prepared in accordance with the latest Global Reporting Initiative (GRI) Standards and the GRI 13 Sector Standards agriculture indicators. GRI disclosures are included throughout the document and referenced under headings or subheadings as GRI XXX-XX or GRI 13.X.X. This report also complies with the requirements of the Singapore Exchange Securities Trading Limited (SGX-ST) Sustainability Reporting Guide listing rules 711A, 711B and Practice Note 7.6 Sustainability Reporting Guide, including the 2021 Common Set of Core ESG metrics. The report also introduces our contributions to selected United Nations Sustainable Development Goals (SDGs) and relevant targets.

Readers are invited to view this report in conjunction with other sustainability-related disclosures in our annual reports, website, and Roundtable on Sustainable Palm Oil (RSPO) Annual Communications of Progress (ACOP).

- **GRI Content Index** (p60) ↗
- **Contributions to the SDGs** (p17) ↗
- **Bumitama AR2022** (Refer to our website) ↗

Report scope and boundaries

This report covers all Bumitama operations in Central Kalimantan, West Kalimantan and Riau, Indonesia. In addition to effects within our organisational boundaries, the report covers material aspects for all plasma smallholders and suppliers, including independent smallholders. Unless otherwise stated, data is representative up to 31 December 2022, and historical benchmark data is provided as available.

Assurance

Bumitama's internal audit department has provided limited independent assurance on selected disclosures in this report, including metrics related to implementing of commitments related to No Deforestation, No Peat and No Exploitation (NDPE), Greenhouse Gas (GHG) Emissions, fire & haze mitigation, health & safety, and FFB traceability and supply chain.

- **Internal Audit Assurance Statement** (p52) ↗

Responsiveness and engagement

We have provided an appropriate context for our performance throughout this report, mainly the unique social and environmental landscapes in Kalimantan and Riau, Indonesia. We collaborated with Helikonia, a consultancy with extensive palm oil disclosure experience, to determine the most material topics. We also engaged with selected stakeholders to ensure that we were responsive to pertinent issues. International and sector-wide platforms also guided our reporting. This includes referring to leading benchmarks such as the Zoological Society of London's Sustainable Palm Oil Transparency Toolkit (ZSL SPOTT).

- **Materiality** (p17) ↗

CHAIRMAN'S WELCOME

Welcome to the Bumitama Agri Ltd 2022 Sustainability Report.

It is a pleasure to introduce this report, as it provides an opportunity to reflect on our performance, achievements, and challenges in the last two years. Commercially, we have done well. Palm oil prices have been high, and we have made record profits during the unprecedented COVID-19 pandemic. These strong financial results have enabled us to plan improvements that will impact our business, our workers, and the communities around our operations.

To move forward, our business must continuously invest in modernising and optimising our operations. With little suitable land available for expansion, our primary avenue for growth is enhancing yields. Our improved financial performance will allow us to invest in advancing and accelerating the replanting of existing lands with higher-yielding crops.

We are working to advance mechanisation at our plantations and are trialling suitable approaches at five Central Kalimantan estates. Advancing mechanisation will enable us to offer high-tech jobs and attract skilled workers in a tight labour market. We are also looking to broaden the composition of our workforce by providing more opportunities for women. One of our initial projects is establishing husband and wife harvesting teams to create two-income households and increase job satisfaction. Over the coming year, I am also asking our management teams to improve plantation worker services and facilities, including education and infrastructure.

In recent years, regular weather patterns have been disrupted. Extreme weather threatens biodiversity and negatively impacts our operations and the lives of local communities. We must use natural resources wisely to prevent further degradation and minimise our impact on water, soil, and the air. We must also adapt our operations to climate change by planting enhanced seeds that can withstand warmer temperatures, improving water management, and recycling more production waste to keep our soil healthy and viable. Finally, we are decarbonising our operations and installed our first methane capture facility in 2022, which will help reduce methane emissions generated by our production processes. In tandem, we will continue to increase the sequestration capacity of forests within our concession boundaries and in the vicinity of our managed areas.

Bumitama continues to collaborate closely with surrounding communities. About 30% of our planted areas have been allocated to plasma smallholders. We recently expanded our participation in Indonesia's Social Forestry Programme and

Our improved financial performance will allow us to invest in advancing and accelerating the replanting of existing lands with higher-yielding crops.

In 2022, we have launched our updated Sustainability Policy, which builds on our inaugural policy introduced in 2015. This new policy addresses increased expectations from our stakeholders and challenges created by accelerating climate change and other emerging sustainability issues.

entered into 25-year agreements with six communities covering nearly 15,000 hectares. These agreements will help local families increase their earnings and independence while teaching them the importance of having a balanced approach towards forest conservation and the sustainable use of natural resources. We are looking to build on these successes by entering into broader stakeholder partnerships covering larger areas, landscapes and jurisdictions. Future efforts will include increasingly engaging with our suppliers and other contracted parties on our sustainability initiatives. We hope to improve their compliance and ensure our products are free from deforestation, peat degradation, and burning and do not otherwise violate our sustainable production policies.

When I launched Bumitama in 1996, I could never have imagined growing our operations from those initial 15,000 hectares to the nearly 188,000 hectares now under our control. It is an achievement beyond my wildest dreams. Since day one, I have committed to giving back to the communities where we operate by sharing our success. I am thrilled that we have now partnered with plasma smallholders covering 55,529 hectares. Our plasma smallholder partners, to whom we have allocated almost 30% of our total planted area, are an essential part of our sustainability agenda. We also plan to integrate production from 50,000 hectares of independent smallholder land into our supply chain by 2027 as part of Bumitama's palm oil income-generating programme. We will assist these independent smallholders with and provide training on replanting, yield improvement, market access, and meeting Indonesia Sustainable Palm Oil (ISPO) and Roundtable on Sustainable Palm Oil (RSPO) certification standards. We are privileged to share their ancestral land and must ensure that these communities continue to flourish and benefit from our activities.

While our commitment to sustainability is driven first and foremost by a desire to be responsible corporate citizens, I fully recognise we need robust sustainability performance to maintain our operating license. Financial institutions, civil society, and governments continue to raise the bar on sustainable production and expect us to improve continuously. It is sometimes frustrating to deal with suspicion and criticism of palm oil in Western markets. Our response is to counter such claims by improving our sustainability performance, communicating our sustainability policies, and educating stakeholders. In 2022 we have launched an updated version of our Sustainability Policy, which builds on our inaugural policy launched in 2015. This new policy addresses increased expectations from our stakeholders and challenges created by accelerating climate change and other emerging sustainability issues. We have thoroughly reviewed the policy in consultation with some of our long-term partners to ensure it meets and exceeds sustainability best practices.

To conclude, I encourage everyone at Bumitama to embrace innovation, aspire to greatness, and engage in forward-thinking action. I thank everyone who walks with us on this path towards a better world.

Gunawan H. Lim
Executive Chairman and Chief Executive Officer

INDEPENDENT DIRECTOR'S STATEMENT

Dear readers and stakeholders of Bumitama Agri Ltd,

I am happy to introduce the Bumitama 2022 Sustainability Report on behalf of our Board of Directors.

The Bumitama Board is committed to strong Environmental, Social, and Governance (ESG) performance. Over the past year, we strengthened our governance structures by appointing a board member to oversee sustainability and establishing a board-level Sustainability Steering Committee. An exemplary sustainability record is valued by the marketplace and our consumers and is a long-term investment in the efficiency and effectiveness of our operations. In the spirit of our increased focus on sustainability, this report updates our shareholders on our progress against our ESG commitments and our compliance with various regulatory frameworks.

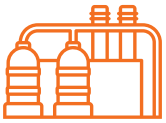
Bumitama is firmly committed to following the best environmental and agricultural practices at our operations while increasing productivity. All our operational activities have been aligned with these sustainability measures. As the company matures, we prioritise improving our existing processes instead of pursuing expansion. While our planting programmes continue to move forward, albeit slowly, our long-term focus is to gradually replant our plantation areas with superior quality seeds that will increase yields and crop quality. In the coming years, we will roll out more large-scale mechanisation and digitisation programmes and improve planting materials and seed technology, soil health, integrated pest management, water management, and fire prevention. These combined initiatives will significantly enhance Bumitama's productivity while reducing our negative environmental impacts. As these priorities shift, our overall goal remains the same. We want to positively influence the places where we operate for years to come.

It is increasingly clear our long-term commercial success requires an effective approach to climate change and carbon emissions. As an agricultural company, we face real climate risks. We must therefore assess our exposure to climate change, adapt our operations, and reduce our medium and long-term environmental impact. We are striving to meet our ambitious 30% emissions reduction target by 2030 and are planning to install methane capture and biogas facilities at our 15 palm oil mills. As we progress, the Group is also developing a broader climate mitigation strategy with plans built on science-based targets and initiatives. These efforts form a roadmap that will guide our net zero goal by 2060, in alignment with Indonesia's national net zero pledge.

The last few years have been challenging for our company. We have made numerous changes to our operations in response to the COVID-19 pandemic. Our highest priority has always been and remains ensuring the health, safety, and welfare of our workforce. We enacted appropriate policies and made sure they were fully implemented on the ground, and we continue to support vaccinations, with 100% of employees having received two doses as of December 2022. Although the worst of the pandemic is hopefully behind us, our focus on workers' welfare will always remain a priority to the company.

I look ahead with optimism and firmly believe that Bumitama is well on the way to a sustainable and productive future.

Witjaksana Darmosarkoro
Independent Director



We are striving to meet our ambitious 30% emissions reduction target by 2030 and are planning to install methane capture and biogas facilities at our 15 palm oil mills.

REPORT REVIEW: ERIC WAKKER

A Decade of Hard-Earned Progress

This is Bumitama Agri's fifth sustainability report since 2015. The company's sustainability team together with Helikonia in Malaysia goes through the laborious effort to collect the latest data, to verify stakeholders' views of the company and the progress made in over the past year. I am asked to comment on early drafts and I'd raise my questions. I then write my commentary based on whatever matters I feel were not yet fully addressed. This allowed me to focus on the bigger picture, and that is how it should be.

It must be recognised that bi-annual progress reporting is quite taxing for a sustainability team. Yet, it's about to get a lot 'worse' as annual climate reporting is now required in key markets such as Singapore. The bar will continue to be lifted in other thematic fields too: nature-risk, traceability and smallholder support. Of course, all this is actually good in many ways. It expresses the value that the finance community (finally) grants to environmental care and social responsibility besides the financial bottom-line. I do wish to express my concern however, that the pressure of annual reporting can come at the expense of implementation and reflection. Sometimes, it is necessary to reflect on progress against a longer time frame.

Since the 1990s, we have seen several oil palm expansion booms that had few sustainability terms and conditions attached. Back in the day, my organisation raised red flags with the banks, but to no immediate avail. And as such, a quarter century later, this sustainability report is essentially about the progress made with efforts to clean up the environmental, social and legal chaos that was created by earlier irresponsible planning, planting and investments. It should not have taken 25 years but from 2012 onwards, the rate of deforestation and peat drainage for oil palm expansion has finally come down.

Bumitama Agri has demonstrably contributed to that positive development. Consider, that in late 2013, just over a year after its public listing in 2012 – Bumitama was a serious candidate for being the first to be suspended by buyers with "No Deforestation, No Peat, No Exploitation" (NDPE) policies. The dispute concerned land clearing on peat and of forests which resulted in complaints. By mid 2014, Bumitama committed to not clear high carbon stock forests. The following year, it was the first pure grower with its own NDPE policy. The company then started releasing sustainability reports. The immense value of sustainability reporting becomes especially clear when one looks back beyond the limited time frame of an individual report. For example:

- Between 2012 and 2022, Bumitama Agri's revenue increased 4.5 times and earnings per share by 3.6 times. Yet, total planted area grew by 1.4 times and landbank 'only' by a factor 1.2. This is land bank consolidation at work.
- In the past decade, the company expanded its conservation set-asides (for HCVs, HCS and undeveloped peat) by 4.9 times, from 3.5% of total landbank in 2012 to 17.1% in 2022. The company evolved from forest destroyer to forest conservationist.
- In 2012, 25% of the planted area was allocated to plasma smallholders – already well beyond the legal minimum, today the company collaborates with plasma farmers in 30% of total land bank. This demonstrates a strong people-centric focus which is complemented with long-term social forestry support reaching almost 15,000 hectares.
- Water consumption per tonne of FFB fell by nearly a quarter 24% between 2012-2022. Yet, this report acknowledges it failed to meet the company's target of 1.2 m^3/mt FFB in 2022. In other words, sustainability reporting really drives continual improvement at every scale.
- With six mentions in Bumitama's first sustainability report, three in two subsequent reports, once in the 2020 report and not once in this report. Over time, old preferences can be seen to disappear from a company's systems. Bumitama ended paraquat use in September 2016.

A comparison of this report with 2012 also exposes data that are less consistent and that fail to impress. Regrettably, there were 29 fatal accidents in the past decade; there should have been none. Data on productivity and yields per hectare, along with non-organic fertiliser usage suggest that there is considerable room for improvement in spite of a current chemical fertiliser reduction programme.

Besides these points, a major increase in focus on managing GHG climate change risk management is needed for it has become broadly accepted that human-induced climate change risk affects everyone, not least agriculture businesses. No wonder that this sustainability report 2022 mentions climate and CO_2 ten times more often than did the first report. The new focus on climate change is also reflected in Bumitama Agri's major update of its sustainability policy. This includes a variety of important interventions such as methane capture and the provision of plant-based options for company-provided meals.

In conclusion, I find that Bumitama Agri's fifth sustainability report presents materially relevant, responsive and complete insight in the company's sustainability profile and performance. Much more information about overall risk management and corporate accountability is available on the company's website.

In that context, I would like to close with a final observation. It is due to Bumitama's reputation for constructive engagement that stakeholders approach the company with regards to the business activities of the founder's family members involving forestry and mining. NGOs point out that sustainability should be embraced by all family members' businesses, not merely by a flagship company. This is entirely reasonable to expect, until a family member refuses. Such represents a serious challenge in families where this occurs – but such is not the case in the Lim Gunawan family where the lessons learned by the oil palm division are being used to enhance stakeholder engagement and sustainability policies in other businesses, which may need more time to fully embrace these changes.

About the reviewer

Eric Wakker is senior adviser of Earthqualizer Foundation and works for its corporate spin-off PT Inovasi Digital. He has assisted Bumitama Agri with the development of its first sustainability policy and has had the privilege of reviewing every sustainability report since. Considering that it has been ten years, Eric will pass the baton on to someone else to comment on the company's Sustainability Report for 2023-2024.

2021-2022 HIGHLIGHTS

Governance and Accountability

Finalisation of revised sustainability policy

Alignment to the UN SDGs

SUSTAINABLE DEVELOPMENT GOALS

New Sustainability Steering Committee established

Ranked 18 /100 on ZSL Spott's 2022 Assessment

Launched new group diversity policy

New climate mitigation strategy in development

Operations and Certification

New mill commissioned

1 new mill and 2 concessions RSPO Certified

New trials on mechanisation in the field

Environmental Protection and Sustainable Land Use

>40,000 ha conserved: 17% of total landbank

Co-managing conservation areas across 14,715 ha of community land

305 ha of forest replanted with >103,800 tree seedlings in 2021 and 2022

New group-level Bulian tree planting initiative launched

13.5% reduction in GHG emissions compared to 2016 baseline

First methane capture facility commissioned in 2022

New pilot with CarbonSpace on gathering accurate primary emissions data

>95% of energy consumed comes from renewable sources

5.6% reduction in total energy consumption since 2021

New pre-dry season programme launched to improve fire preparedness and management measures

Improved water use efficiency: 9.6% reduction in mill water usage intensity since 2019

People and Communities

100 % of employees vaccinated against COVID-19

36% accident rate reduction since 2020

Kampus Merdeka – a new government-led internship programme

4 new villages engaged in social foresty programmes (6 in total)

Experts engaged to support Bumitama's social forestry and CSR programmes

Restructured CSR programmes into palm and non-palm income generating activities to better benefit communities

Improvements in independent status of villages surrounding Bumitama's operations, using the government-led village development index (IDM)

CSR budget for children's education comprises 83.9% of total in 2022, up from 14.1% since 2014

26% of Bumitama schools recognised for Adiwiyata Green School Programme

>29% of total planted area allocated to scheme smallholders

Second independent smallholder group with 75 families and 324 ha of land RSPO certified

Supply Chain and Responsible Sourcing

Achieved 99.6% FFB traceability to plantation

Wider implementation of sourcing criteria, including supplier suspension and re-entry criteria

Improved supplier monitoring system

TARGETS AND PROGRESS

This section outlines our progress against Bumitama's current focus areas and includes our 2023 Sustainability Policy targets. The report also maps targets for each material topic and identifies our progress towards United Nations Sustainable Development Goals (SDGs).

Bumitama's contributions to the SDGs (p17) ↗

MATERIAL TOPIC/ CONTRIBUTION TO SDG TARGET	TARGET	TARGET YEAR	STATUS AS OF DECEMBER 2022
ENVIRONMENTAL PROTECTION AND SUSTAINABLE LAND USE			
Deforestation/ HCS/HCV/Peat 15.2	Annual conservation area deforestation is less than 0.1%.	Ongoing	**Not achieved:** 315 ha of deforestation or 0.8% of conservation area was cleared by community activities in 2022.
	Increase forest cover in conservation areas by 10% (2020 baseline).	2025	**On track:** Forest cover comprises 37% of conservation areas – a 3% increase since 2020.
	New: Commission a second review of all HCV - HCS areas.	2028	**New target.** Bumitama will report against this goal in the future.
Wildlife and biodiversity conservation 15.1, 15.5, 17.6	Conservation partnerships to protect and increase Kalimantan's orangutan population.	Ongoing	**Ongoing.** Conducted study on new approach to managing orangutan populations with PONGO Alliance.
GHG reduction and climate adaption 13.1	**Revised:** Install methane capture and biogas facilities at 15 existing palm oil mills.	2029	**On track:** First methane capture facility commissioned in Riau in 2022.
	Reduce GHG emissions intensity by 30% (2016 baseline).	2030	**On track:** GHG emissions intensity was 1.41 MT CO_2e/MT CPO – 13.5% less than our 2016 baseline.
	Trials for alternative GHG emissions reductions through composting and solid separation.	Ongoing	**Ongoing:** 13 composting facilities have been installed.
Waste management 12.5	**New:** Develop a solid waste reduction policy for our operations and surrounding communities.	2023	**New target.** Bumitama will report against this target in future.
Fire and haze 15.2	Zero fires in planted areas (See Triple Zero Target Programme).	2021	**Achieved in 2021.**
	Zero fires in planted and conservation areas (See Triple Zero Target Programme).	2022	**Not achieved:** 6.5 ha of planted area and 5.9 ha of conservation area were burnt in 2022.
	New: No purchase of land that was intentionally burnt after 2015.	2023 onwards	**New target.** We will begin tracking and reporting against these commitments in 2023.
	New: No purchase of FFB from land that was deliberately cleared by burning after 2022.		
Water impacts 12.2	Reduce water usage intensity from mill to 1.2 m^3/MT FFB.	2022	**Not achieved:** Water usage intensity was 1.22 m^3/ MT FFB. **Target deadline moved to 2023.**
Pesticides and chemical usage 12.4, 12.5	85% of planted area to be rodenticide-free (2018 baseline).	2022	**Not achieved:** 78.9% of planted area was rodenticide-free, a lower percentage than 2021 due to a rat infestation at our West Kalimantan estates. **Target deadline moved to 2023.**
	New: Develop a chemical fertiliser reduction programme.	2024	**New target.** Bumitama will report against this target in future.

MATERIAL TOPIC/ CONTRIBUTION TO SDG TARGET	TARGET	TARGET YEAR	STATUS AS OF DECEMBER 2022
Productivity and operational efficiency 2.4	Continue R&D programmes to improve yield and efficiency, including crop resiliency to mitigate and adapt to climate change impacts. *See also targets on GHG, water use, waste and pesticide and chemical use*	Ongoing	**Programmes ongoing.**
PEOPLE AND COMMUNITIES			
Human rights and labour conditions 8.8	Maintain proportion of employees on permanent contracts to over 97%.	Ongoing	**Achieved in 2021 and 2022.**
Health and safety 8.8	Zero fatalities.	Ongoing	**Achieved in 2021.**
			Not achieved in 2022. We regret to report three fatalities.
	75% reduction in accident rates (2020 baseline) (See Triple Zero Target Programme)	2025	**On track:** Lost time accident rates and severity rates have reduced by 36% since 2020.
Gender and equal opportunities 8.5	Breastfeeding facilities available in all operational areas.	2023	**On track:** 19 breastfeeding facilities available.
Capacity and training 4.3, 4.4	**New:** Provide 13 hours of annual training per employee.	2022 onwards	**Ongoing. Achieved in 2022.**
Land complaints/FPIC 2.3	Ensure FPIC is followed at existing plantations.	2025	**On track:** Developing procedures and conducting assessments. Any identified non-compliance registered as an internal grievance.
Smallholder inclusiveness and CSR 2.3, 8.8, 12A	Each certified mill with third-party supply to include at least one group of external smallholders in productivity improvement programmes.	2022	**In progress:** 11 groups or cooperatives that sell to 8 Bumitama mills are part of dedicated smallholder programmes. **Target deadline moved to 2023.**
	Extend support to independent smallholders for two years after mill certification has been met.	2024	**On track:** two smallholder groups certified.
	ISPO and RSPO certification for all plasma smallholders (subject to land title).	2024	**On track:** To date, one plasma cooperative has achieved certification.
Community development 2.4, 8.5	**New:** Support six communities through social forestry partnerships in areas greater than 15,000 ha.	2025	**On track:** As of December 2022, Bumitama has partnered with six villages under the social forestry programme covering 14,715 ha.
Children's rights and education 4.1	Promote *Adiwiyata* Green School at 12 Bumitama schools and 3 external schools at district level or higher.	2022	**In progress:** 10 Bumitama schools and 1 external school recognised at district level or higher. **Target deadline moved to 2023.**

TARGETS AND PROGRESS

MATERIAL TOPIC/ CONTRIBUTION TO SDG TARGET	TARGET	TARGET YEAR	STATUS AS OF DECEMBER 2022
SUPPLY CHAIN AND RESPONSIBLE SOURCING			
Traceability and supply chain monitoring 12 RESPONSIBLE CONSUMPTION AND PRODUCTION **12A**	**Revised:** 100% traceability of FFB supplied by smallholders and external suppliers.	2023	**On track**: 99.6% traceability to plantation.
	New: No sourcing from illegal plantations.	2023 onwards	**New target.** Bumitama will report against this target in future.
	All suppliers to be compliant with our sustainability policy commitments.	Year-on-year	**Not achieved:** Business relations with one supplier ceased in 2022 due to a breach in policy commitments.
GOVERNANCE AND ACCOUNTABILITY			
Legal/regulatory compliance 12 RESPONSIBLE CONSUMPTION AND PRODUCTION **12A**	**New:** No legal non-compliances.	Ongoing	**Achieved**
	Quality uniformity of environmental management monitoring (100% related documents available and monitored by head office) (See Triple Zero Target Programme).	2021	**Achieved**
	Prompt governmental environmental management reporting following applicable provisions (See Triple Zero Target Programme).	2022	**Achieved**
Anti-corruption and ethics 17 PARTNERSHIPS FOR THE GOALS **17.14**	**New:** No reported incidences of corruption.	Ongoing	**Achieved in 2021.**
			Not achieved in 2022: Our whistleblowing uncovered 2 cases of insignificant value related to asset misuse and illegal gratuities by ground staff in 2022.
Sustainability certification 12 RESPONSIBLE CONSUMPTION AND PRODUCTION **12A**	Achieve RSPO certification for all existing mills and estates within one year of receiving land use permits for new mills after 2022.	2022	**In progress:** Audits were delayed due to pandemic-related restrictions. In 2022, we achieved certification for our ninth mill and its two supply bases in 2022. **Target deadline moved to 2024.**
	Establish RSPO-segregated mills.	2022	**Delayed. Target deadline moved to 2024.**
Stakeholder collaboration 17 PARTNERSHIPS FOR THE GOALS **17.16**	Continue to engage with stakeholders to address industry-wide challenges.	Ongoing	**Ongoing:** See section on Stakeholder engagement and transparency (p21) for notable engagements in 2021–2022.
Transparency and accountability 17 PARTNERSHIPS FOR THE GOALS **17.16, 17.14**	Continue engaging with stakeholders on our sustainability progress and make disclosures publicly available.	Ongoing	**Ongoing:** Website revamped in 2022, ACOP published in 2021/2022, sustainability statement in 2021 and 2022 annual reports.
	Report climate-related impacts consistent with TCFD and SGX mandatory climate reporting target.	2024	**On track:** Bumitama has conducted a preliminary assessment against the TCFD recommendations in 2022.

Triple Zero Target Programme (stepwise targets)

In 2020, Bumitama embarked on an ambitious project for the period of 2021 to 2025, known as the Triple Zero Target Programme. The project aims to achieve zero incidents related to three key areas: fires, environmental incidents, and workplace accidents. The programme outlines a roadmap with stepwise targets for each of these areas, which are detailed in the illustration below.

Fire incidents

- Zero fires in planted areas
- Zero fires in planted and conservation areas
- Zero fires inside concessions

2021 → 2022 → 2023 → 2024 → 2025

Environmental incidents

- No environmental incidents that led to charges against the company
- Timely and appropriate environmental management reporting to the government
- Environmental management monitoring system and applicable documentation in place

Year-on-year accident frequency and severity rates

- 25% reduction from 2024
- 20% reduction from 2023
- 15% reduction from 2022
- 10% reduction from 2021
- 5% reduction from 2020

ABOUT BUMITAMA

Business in Brief

Bumitama Agri Ltd ('Bumitama' or 'Group') was founded in 1996 and became listed on the Singapore Stock Exchange in 2012. Today, it is among the leading producers of crude palm oil (CPO) and palm kernel (PK) in Indonesia, with significant operations in Central Kalimantan, West Kalimantan, and Riau. Our satellite offices, including Jakarta and our Singapore headquarters, support our operations.

Bumitama is growing fast and gaining prominence in the global palm oil industry. Strong production in 2021 and 2022, together with high palm oil prices, has led to a 29% increase in revenue as of December 2022 compared to 2021.

See our Annual Report for an overview of Bumitama's company structure (available on our website)↗

Strong production in 2021 and 2022, together with high palm oil prices, has led to a 29% increase in revenue

238,000 ha total landbank

40,619 ha conserved

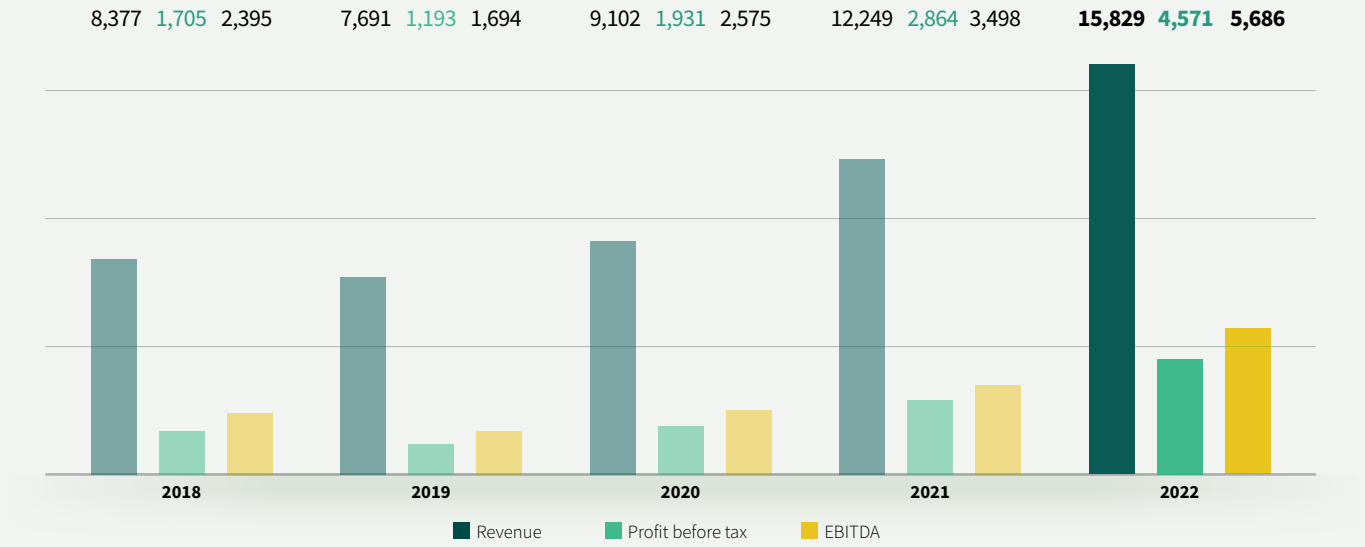
15 CPO mills, total annual processing capacity of 6.39 million mt

187,628 ha total planted area

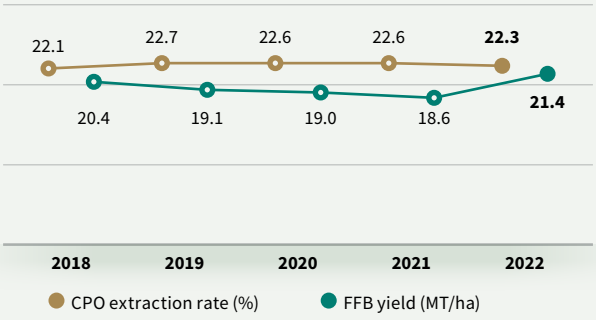
29.6% of total planted area dedicated to smallholders

>33,000 workforce

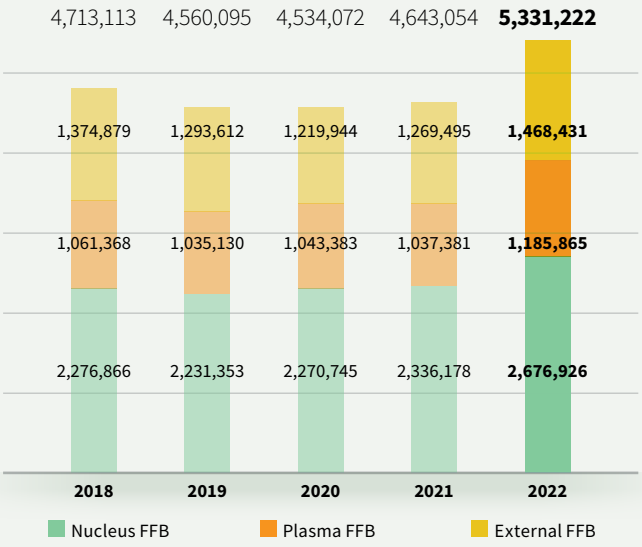
FINANCIAL OVERVIEW 2018–2022 (IDR BILLION)



PRODUCTIVITY 2018–2022



FFB PRODUCTION BY SOURCE 2018–2022 (MT)



Operations and Productivity

Our landbank spans 238,000 hectares, of which 187,628 ha are planted with oil palm, with 29.6% (55,529 hectares) owned by plasma smallholders. As we are committed to avoiding development on peat, High Carbon Stock (HCS) or High Conservation Value (HCV) areas, our growth strategy focuses on increasing productivity on existing land rather than through acquisitions or new plantings.

PLANTED AREA BY REGION 2022 (ha, %)

185,319 99% Kalimantan
2,309 1% Riau

In 2021, we commissioned a new mill in Central Kalimantan, bringing the total number of mills we operate to 15. Our mills source fresh fruit bunches (FFB) from our own plantations (including plasma smallholders, who make up 72%) and third-party FFB producers (28%). Six of our mills exclusively source from our own plantations, while nine mills source from both our plantations and third-party suppliers. In 2022, Bumitama's mills processed 5.33 million tonnes of FFB, yielding 1.19 million tonnes of crude palm oil (CPO) and 250,935 tonnes of palm kernel (PK), which represents a 13% and 12.5% increase in CPO and PK production, respectively. This result is due to consistent manuring management, improvements from precision agronomy practices, and favourable maturing age profiles of oil palm.

While our FFB yield and CPO extraction rates have remained stable over the years, we are investing heavily in research and development to enhance productivity in both areas. Our research, quality control and engineering department, and agronomists are constantly researching new ways to increase yield, oil content and FFB weight.

Improving planting material

Bumitama's oil palm breeding and tissue culture centre, located in Central Kalimantan, focuses on oil palm selection, breeding, and propagation. The centre employs advanced techniques to create high-quality seedlings that produce compact palms with higher oil yields. These seedlings are rigorously tested and improved to be less vulnerable to extreme and fluctuating weather conditions caused by climate change.

The resulting oil palms will be distributed across our operational areas, where they will play a vital role in our replanting processes and agricultural intensification strategies. This is especially important to meet the increasing global demand for palm oil while ensuring that we continue to source productive and efficient palm oil from existing land, minimising environmental impacts.

Trialling mechanisation

The plantation sector heavily relies on manual labour for tasks such as harvesting FFB, fertilising, and distributing empty fruit bunches for mulching. Bumitama recognises the need to explore strategies to mechanise certain field processes, reducing dependence on workers, potentially minimising accident risks, and improving overall output and cost efficiency. In 2021, Bumitama began mechanisation trials in five pilot Central Kalimantan estates. These trials included:

INFIELD FFB COLLECTION MECHANISATION

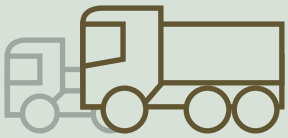
Using mechanical vehicles to collect FFB in the field for channelling directly to mills or ramps.

Target output:
The same output requires 6 skilled operators instead of 8 manual workers.

MAINLINE MECHANISATION

Using lorries or tractors with cranes that are over 30% bigger than our regular trucks.

Target output:
9.6 MT increase compared to our regular trucks.



EMPTY BUNCH SPREADER MECHANISATION

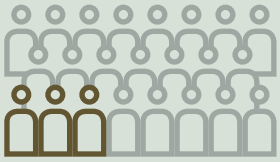
Mechanically spreading EFB in oil palm rows.

Target output:
The same output requires 1 skilled operator instead of 8 manual workers.

FERTILISER SPREADER MECHANISATION

Using mechanical spreaders to spray fertiliser on young palms more quickly. This is safer and produces less waste.

Target output:
The same output requires 3 skilled operators instead of 23 workers.



Results from these trials will help support Bumitama in implementing our mechanisation programme across 61 selected estates (with suitable field conditions) by late 2027.

Our Customers

Bumitama's CPO and PK are sold to downstream customers, including food product, oleochemical, and biofuel refineries, as well as personal care product, household item, and confectionery traders and processors.

We are committed to certifying all Bumitama mills against the Roundtable on Sustainable Palm Oil (RSPO) Standards. At present, our CPO sales follow the mass balance supply chain model, where certified and conventional CPO is mixed further down the supply chain. Our goal is to have our first RSPO-certified mill with segregation capabilities in place by 2023, thereby enabling us to produce certified sustainable palm oil (CSPO) through the RSPO segregated supply chain model. This move responds to increased market demand from Indonesian refineries for segregated CSPO.

Although our earlier plans for implementing segregated mills have been postponed, we are conducting feasibility studies with our commercial teams and reviewing the necessary logistics arrangements and availability of segregated storage facilities to work towards this objective.

OUR APPROACH TO SUSTAINABILITY

Since the launch of our first sustainability policy in August 2015, we have been committed to maintaining high sustainability standards across our operations, surrounding communities, and supply chain. We have implemented various programmes and allocated resources to fulfil our No Deforestation, No Peat, and No Exploitation (NDPE) commitments, and have constantly monitored and evaluated our impact. Our understanding of the needs and challenges on the ground has matured over time, and we have built long-term relationships with our stakeholders. Over the past seven years, we have continuously reviewed our approach to achieve the most meaningful outcomes.

New Bumitama Sustainability Policy

Our lessons learned have led to a significant milestone in 2022, as Bumitama launched our updated Sustainability Policy. This renewed commitment deepens our pledge to traceable and responsible sourcing, strengthening sustainable land use initiatives, and partnering with communities across our operational landscapes. The updated policy aligns with new market requirements, government policies, and revised certification standards. Importantly, it signifies Bumitama's recognition of the need to enhance our preparedness for climate change mitigation and adaptation.

Our sustainability team worked closely with internal and external stakeholders, including employees responsible for implementing sustainability, customers and buyers, programme partners, and expert consultants, to redraft the policy throughout 2022. Policy provisions apply to all our subsidiaries, associates, contractors and suppliers, plasma smallholders, external smallholders, palm oil dealers, and corporate plantation owners. We plan to conduct training programmes in 2023 to educate internal teams and external stakeholders, including Bumitama's management and on-site sustainability teams, and our fresh fruit bunch (FFB) suppliers.

Policy changes overview

ENVIRONMENTAL PROTECTION AND SUSTAINABLE LAND USE	PEOPLE AND COMMUNITIES	GOVERNANCE AND ACCOUNTABILITY	SUPPLY CHAIN AND RESPONSIBLE SOURCING	OTHER OVERARCHING COMMITMENTS
Strengthened commitments for conservation and enhancing biodiversity, peat management, fire prevention, water stewardship, chemical fertiliser management.	**Strengthened commitments** for community engagement and wellbeing, social forestry and village support, smallholder support, labour rights, and children's rights.	**Strengthened commitments** for risk profiling and due diligence at Bumitama operations, assurance and certification, land acquisition sustainability requirements, and grievance management.	**Strengthened commitments** for supporting suppliers and smallholders to meet NDPE criteria.	**Bumitama's SDG contributions**
New commitments for addressing climate impacts, and restrict single-use plastics.	**New commitments** for Bumitama's health and safety measures; a requirement for suppliers to uphold equality and diversity.	**New commitments** for transparency and reporting, and Board-level sustainabiliy oversight.	**New commitments** for 100% traceability-to-plantation, suspension and reentry criteria for suppliers.	**Creating a forest-positive legacy**

New Bumitama Sustainability Policy (Refer to our website for more details) ↗

Materiality

Our reporting covers the most material topics to our business and stakeholders. These environmental, social, and governance (ESG)-related issues are updated every two years in conjunction with developing our sustainability reports. Our materiality assessments ensure that we remain responsive to stakeholder requirements while reflecting our priority focus areas. The final list of topics and the matrix we use help guide our internal sustainability strategies and report content.

In addition, we align our material topics with the United Nations Sustainable Development Goals (SDGs) that we contribute to. This helps us to highlight how our focus areas contribute to select SDG targets. By doing so, we are able to demonstrate the positive impact of our sustainability efforts on the broader global agenda.

Bumitama's contributions to the SDGs (p17) ↗

Materiality 2022 update

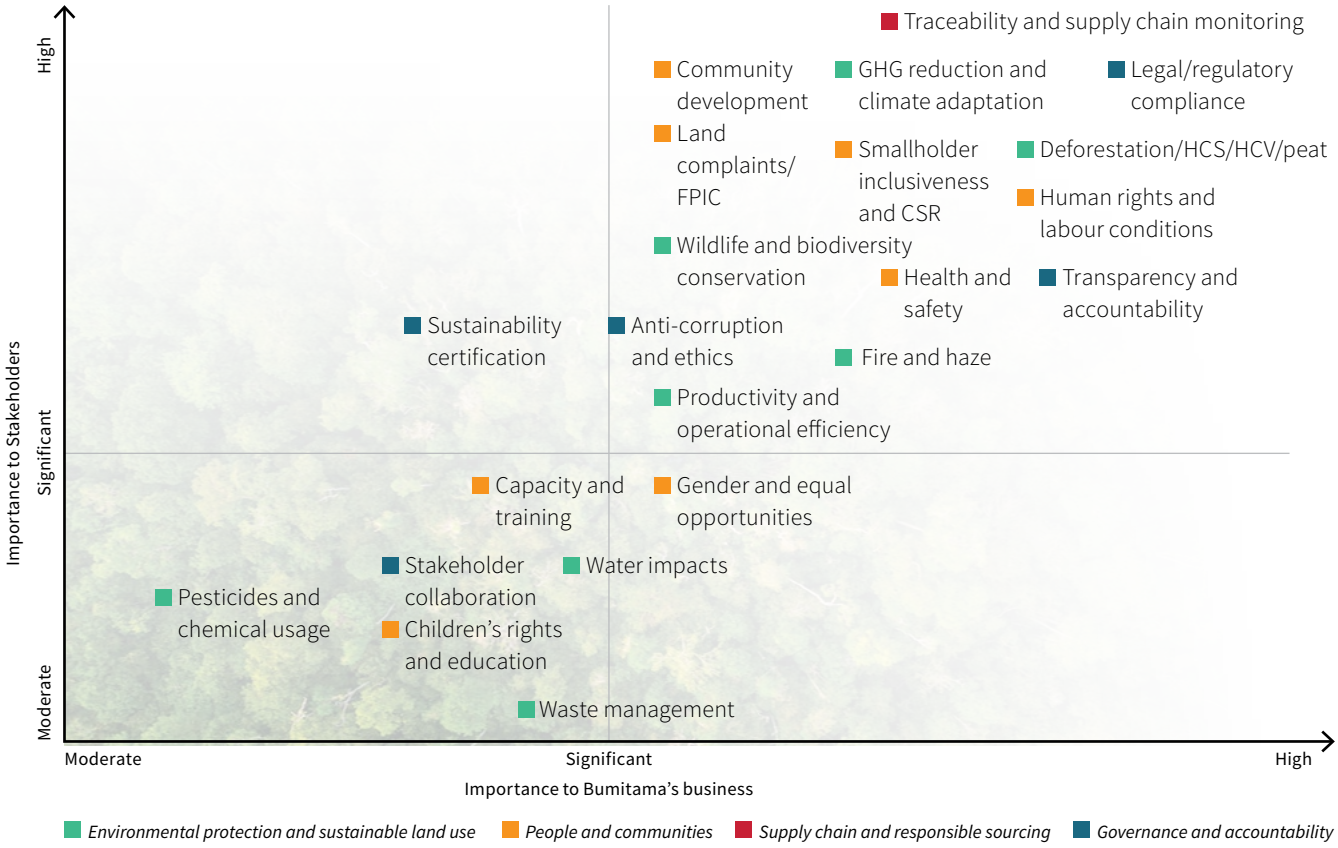
TOPIC REVIEW AND IDENTIFICATION	PRIORITISATION	STAKEHOLDER CONSULTATION AND REPRIORITISATION	VALIDATION AND APPROVAL
Reviewed and revised material topics based on industry benchmarking, latest developments, external commentary, and standards alignment (e.g., GRI 13).	Determined the importance of each topic with input from the Sustainability Steering Committee, Bumitama sustainability team and process owners who oversee implementation of the on-the-ground policies.	Tested and revised topic inclusion and prioritisation after consulting five external stakeholders: one CSR programme partner, one social forestry programme and environmental programme partner, local communities/smallholders, two social forestry village heads, and one carbon technical service provider.	Validated the final materiality topics by the Bumitama sustainability team, and approved by the Board.

Changes to material topics from SR2020

New standalone topics*	• Stakeholder collaboration • Waste management
Merged topics	• The previous 'COVID-19 and business continuity' topic has been merged under 'Health and safety' and 'Community development'. This reflects the latest 2022 COVID-19 focus areas
Updated topics	• The previous 'Labour conditions' topic has been revised to 'Human rights and labour conditions'. This better reflects the entire grouping of workforce-related human rights and is not solely limited to labour conditions • The previous 'Greenhouse gas emissions' topic has been renamed 'GHG reduction and climate adaptation'. This better reflects climate change impacts felt at an operational level and by communities • The previous 'Staff capacity and resources' topic has been renamed 'Capacity and training' to also include employee skills development
Removed topics	• 'Share value' is no longer a listed topic. Although still crucial to Bumitama, it is better addressed in our financial reporting
Topics that have changed in importance	↑ GHG reduction and climate adaptation (internal and external) ↑ Human rights and labour conditions (external) ↑ Productivity and operational efficiency (external) ↑ Anti-corruption and ethics (internal and external) ↑ Share value (internal) ↑ Water impacts (internal) ↑ Staff capacity and resources (external) ↓ Fire and haze (internal and external)

**Note: although new topics are now standalone material issues, these have always been integral to Bumitama's operations and approaches.*

Materiality Matrix



Contributing to the SDGs

At Bumitama, we believe that businesses have a crucial role in helping achieve global targets like the United Nations Sustainable Development Goals (SDGs). These goals provide clear and universally recognised benchmarks for measuring our sustainability progress. In 2022, we conducted a mapping exercise to prioritise and identify selected SDG targets that are aligned with our existing sustainability measures and where we can make the most significant impact. Our chosen SDGs also align with the objectives of the Roundtable on Sustainable Palm Oil (RSPO). As part of our reporting process, we have aligned our material topics and relevant targets with the selected SDGs. This approach helps us better understand how our sustainability initiatives contribute to broader societal goals and prioritise our actions accordingly.

Bumitama contributes to the following:

2 ZERO HUNGER	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	**2.3:**	Double agricultural productivity and incomes of small- scale food producers
		2.4:	Sustainable food production systems and resilient agricultural practices to increase productivity and production
4 QUALITY EDUCATION	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	**4.1:**	Free, equitable and quality education for all girls and boys
		4.3:	Quality technical, vocational and tertiary education for all men and women
		4.6:	Youth and adults to achieve literacy and numeracy
8 DECENT WORK AND ECONOMIC GROWTH	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	**8.5:**	Full and productive employment and decent work for all women and men
		8.8:	Protect labour rights and promote safe and secure working environments for all workers
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Ensure sustainable consumption and production patterns	**12A:**	Strengthen scientific and technological capacity towards more sustainable patterns of consumption and production

12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Ensure sustainable consumption and production patterns	**12.4:** Achieve the environmentally sound management of chemicals and all wastes
		12.5: Substantially reduce waste generation through prevention, reduction, recycling and reuse
13 CLIMATE ACTION	Take urgent action to combat climate change and its impacts	**13.1:** Strengthen resilience and adaptive capacity to climate- related hazards and natural disasters
15 LIFE ON LAND	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	**15.1:** Conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services
		15.2: Promote implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation
17 PARTNERSHIPS FOR THE GOALS	Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development	**17.14:** Enhance policy coherence for sustainable development
		17.16: Enhance global partnerships for sustainable development, complemented by multi-stakeholder partnerships

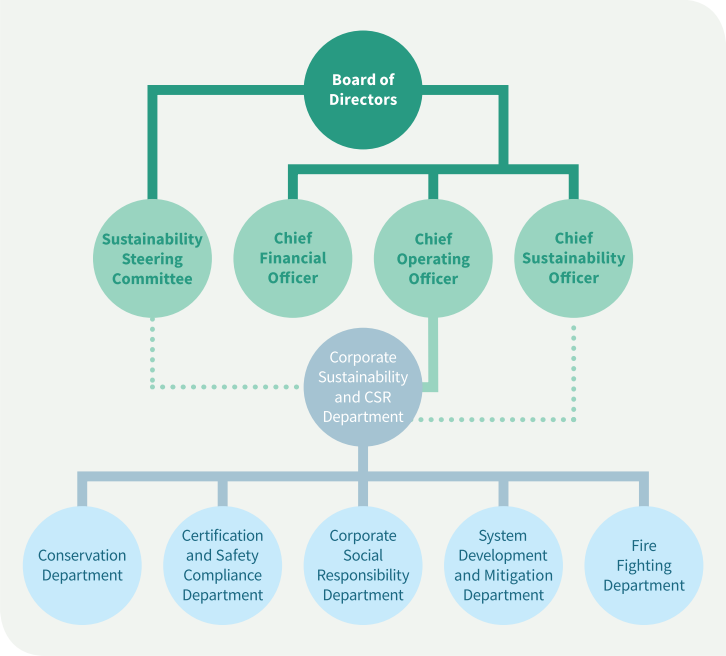
Objectives and targets (p8) ↗
Bumitama's contributions to the SDGs for a comprehensive overview of our alignment and contributions (p17) ↗

Governance and Management

Bumitama is committed to maintaining uncompromising standards of corporate governance, integrity, and professionalism throughout our activities and operations. Our Board of Directors is chaired by our Chief Executive Officer (CEO), Mr Lim Gunawan Hariyanto, and comprises seven directors, including four independent, one non-executive, and two executives. The Board includes three Singaporeans, three Indonesians, and one Malaysian, reflecting diverse professional and educational backgrounds to ensure that all aspects of our operations are adequately represented. There is currently one female Board member.

We have continued to strengthen sustainability oversight over the last two years. The Board oversees the company's sustainability policy strategies, and our CEO champions our sustainability principles. The newest Board member, appointed on 1 July 2021, Mr Witjaksana Darmosarkoro, is the Sustainability and Smallholder Development Director of Council of Palm Oil Producing Countries (CPOPC).

Sustainability management structure



In 2022, Bumitama established a new Sustainability Steering Committee to oversee Group sustainability policies, strategies and performance, including the Group's climate risk management strategy; environmental, social and governance (ESG)-related programmes; grievance monitoring; and revisions to the 2015 Sustainability Policy. Chaired by Mr Witjaksana Darmosarkoro, the Sustainability Steering Committee reports directly to the Board each quarter on the Group's sustainability performance, emerging issues, critical concerns, and progress against targets.

The Corporate Sustainability and Corporate Social Responsibility (CSR) department has been moved closer to operational management, led by our Chief Operating Officer, who directs the day-to-day implementation of our sustainability programmes and strategies, developed with the oversight of the Chief Sustainability Officer. This department reports to the Sustainability Steering Committee and leads the development of annual sustainability statements and biennial sustainability reports, approved by the Board.

Ethics, integrity and anti-corruption

At Bumitama, we maintain high standards of corporate governance, integrity, professionalism, and ethical conduct in all our activities and operations. We are guided by our Code of Conduct, which outlines our interactions with employees, regulatory bodies and business partners. As a company publicly listed in Singapore, we also comply with the Singapore Code of Corporate Governance.

We are committed to supporting the Indonesian government's efforts to eliminate corruption, bribery, and illegal gratification. To achieve this, we maintain strict anti-corruption policies and regularly communicate these policies to all employees. In 2022, we provided anti-corruption training to 225 employees in operational areas. We will continue to provide similar trainings to all employees, including management positions.

To ensure that our operations are free from corruption, we conduct annual audits to identify corruption risks. Any cases of corruption that are identified are formally recorded and reported to the Board. In 2022, we recorded two cases involving an employee who accepted a financial contribution as gratuity and a case related to a conflict of interest. We resolved these cases with the concerned parties, resulting in the dismissal of the culpable employees. No cases were identified in 2021.

Our anti-corruption policy applies to all our subsidiaries, associates, contractors, vendors, and suppliers.

- **Bumitama's Code of Conduct** (Refer to our website for more details) ↗

Legal and regulatory compliance

We adhere to all applicable business laws and regulations, including obtaining necessary permits for land use and maintaining compliance with environmental regulations. Additionally, we comply with all national tax and levy laws, and the Group publishes annual reports on our tax payments. There were no legal non-compliances reported during 2021 and 2022.

- **Annual Report 2022** (Refer to our website) ↗
- **Environmental compliance** (p33) ↗

Grievances and Whistleblowing

At our company, we believe in resolving stakeholder concerns through open, transparent, and constructive dialogue. We have established a whistleblower procedure and grievance mechanism that allows all stakeholders to report potential grievances. Should concerns arise, the company's audit committee serves as the highest level of internal escalation for both procedures.

Whistleblowing procedure

Our Code of Ethical Conduct includes a whistleblower procedure that encourages all stakeholders, including employees, customers, suppliers, contractors, and community members, to report any concerns regarding alleged financial improprieties, unethical practices, or other matters. We take all reports seriously and investigate them thoroughly, and we ensure that all individuals who report concerns in good faith are protected from any form of reprisal.

- **Whistleblower policy and lodging a complaint** (Refer to our website for more details) ↗

Addressing complaints

Our grievance mechanism addresses any breaches of our sustainability commitments and certification standards, including land-related conflicts. It's a transparent process that encourages open dialogue and fact-finding. If someone lodges a grievance, we respond with clarifications, and if we confirm a breach, we enact corrective action plans and monitoring. Grievances can also be raised externally, such as through the RSPO complaints process. In addition to any formal grievances, we monitor issues raised in NGO reports, buyer inquiries, and social media. We record all of these grievances in our in-house grievance tracker.

RSPO complaints status

Since 2012, eight complaints have been lodged against Bumitama using the RSPO complaints mechanism. As of December 2022, seven have been closed and resolved.

The outstanding case was raised in July 2021 against our subsidiary in Central Kalimantan, PT Nabatindo Karya Utama (NKU), regarding the location of land allocated for plasma development and related land title documents. While Bumitama entered into a bilateral agreement to address the complainant's concerns, the complainant decided to return to the RSPO complaints procedure. The investigation into this case is ongoing, and you can find the latest progress on the RSPO Case Tracker. We will continue to monitor the situation closely and work towards an amicable resolution.

The previous RSPO complaint against PT Hatiprima Agro was closed in December 2021 following a complaints panel decision letter. An independent legal review confirmed that we had obtained all necessary permits and licenses. Despite this, the decision was appealed in March 2022. However, the Complaints panel upheld the original decision after a review, and the case was officially closed in July 2022.

Complaints against suppliers

During the reporting period, we recorded one case on our internal grievance register against a supplier. Our NDPE supplier compliance check revealed that PT Pertama Sawit Mandiri (PSM), one of our suppliers, was engaging in non-compliant development activities, including forest clearance, which contradicted their earlier RSPO New Planting Procedure filings. Unfortunately, our due diligence process failed to uncover that PT PSM was sold to a non-RSPO member company that did not follow the New Planting Procedure in its land development.

We attempted to engage with the supplier, but they responded negatively. As a result, we ceased trading with PT PSM and terminated our contract in August 2022. We have since revised our due diligence process to identify similar occurrences in the future and prevent non-compliant practices from affecting our supply chain and contributing to deforestation.

Certification

Sustainability certification is a priority for the Group. By obtaining sustainability certifications, we can meet the expectations of both local and global markets, as well as adhere to the highest environmental protection standards and protect human rights. Our operations are certified sustainable to various national and international standards, such as the Indonesian Sustainable Palm Oil (ISPO), Roundtable on Sustainable Palm Oil (RSPO), and the International Organisation for Standardisation (ISO).

Nine of our 15 mills (60%) are RSPO certified

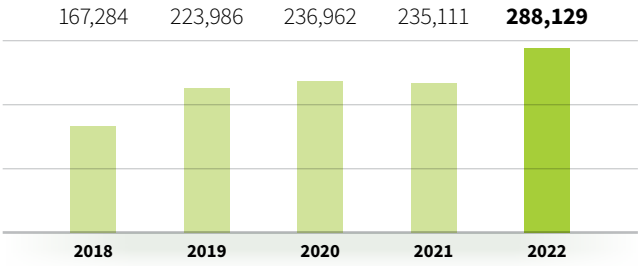
RSPO

Bumitama became an RSPO member in 2007 and received its first RSPO certification in 2014. As of December 2022, our RSPO-certified area has expanded to 66,761 hectares (48%) of our total certifiable area (or our land use permit *Hak Guna Usaha* (HGU)). **Nine of our 15 mills (60%) are RSPO certified**, including our Sungai Cempaga mill in Central Kalimantan, which achieved certification in 2022 along with its two supply bases. Three other management units have completed their certification audits in Q1 2023, increasing our total certified areas to 76,613 ha (55.1%). While pandemic-related restrictions delayed our audits and caused us to push back our 100% certification target from 2022 to 2024, our time-bound plans are still on track.

In 2022, our certified mills supplied 288,129 tonnes of certified sustainable palm oil (CSPO) and certified sustainable palm kernel (CSPK) to both local and international markets – 72% more than we were able to bring to market five years ago. In order to meet the growing demand for sustainable palm oil, we are exploring the possibility of providing segregated CSPO to our customers. Our commercial department is currently conducting logistic and storage capacity studies, and we aim to have at least one mill certified by 2023.

As we continue to work towards certification for our own plantations, we are also supporting smallholders in certifying their plantations to the same standards. RSPO certification for our plasma smallholders began in 2019 and for our independent smallholders in 2018.

CSPO AND CSPK VOLUME PRODUCED 2018–2022 (MT)



Our customers (p14) ↗
A focus on smallholders (p46) ↗

Other certifications

Bumitama has four plantation subsidiaries that are currently certified to the ISPO, while audits for additional subsidiaries were delayed due to pandemic-related restrictions. The company plans to continue with its ISPO certification plans from 2023 onwards.

One of Bumitama's mills is currently certified to ISO 14001 for environmental management systems. The company had planned to certify three mills to ISO standards by 2023, but these plans were postponed due to pandemic-related restrictions on conducting audits. While the company had initially planned to begin ISCC certification for bio-based feedstocks and renewables in 2022, this was postponed due to a prioritisation of certification efforts towards meeting RSPO and ISPO requirements for all estates and mills. Bumitama intends to revisit its ISCC certification plans at a later date.

Stakeholder Engagement and Transparency

Stakeholder engagement

Bumitama recognises the importance of engaging stakeholders to develop sustainable, long-term solutions to challenges faced by the industry. We strive to continuously improve our stakeholder engagement efforts, with a particular emphasis on building partnerships and engaging with local communities.

Notable ESG-related scores in 2022

Ranked 18 out of 100 with a 78.9% SPOTT score

3 Bumitama units awarded PROPER awards: (1 Green category candidate to be, 2 Blue category)

Ranked 3 out of 350 on Forest 500 (under the Harita Group)

Note for PROPER categories: a Green rating is awarded to facilities that outperform the expected compliance level; a Blue rating is awarded for compliance.

Transparency and reporting

Bumitama values stakeholder engagement and actively seeks feedback to improve our operations. We prioritise transparency and keep stakeholders informed on Group-wide matters through regular reporting and communications on our website. In addition, we participate in several voluntary and mandatory benchmarking and public assessment programmes to evaluate our sustainability commitments and progress, such as the Zoological Society of London's Sustainable Palm Oil Transparency Toolkit (ZSL SPOTT), Forest 500 (ranked under our parent company, Harita Group), and the Programme for Pollution Control, Evaluation and Rating (PROPER).

Our reporting aligns with the latest Global Reporting Initiative (GRI) Standards and Singapore Stock Exchange Sustainability Reporting guidelines. As we continue to improve our sustainability efforts, we are considering adopting other industry-recommended standards and questionnaires, such as the Task Force on Climate-Related Financial Disclosures (TCFD) and CDP. We remain committed to engaging with our stakeholders and improving our sustainability practices.

2021–2022: NOTABLE PARTNERSHIPS AND COLLABORATIONS

New verified emissions data collaboration with **CarbonSpace**

Managing GHG emissions (p25) ↗

Partnership with BKSDA and government bodies to patrol and manage fires with local communities

Fire management and monitoring (p28) ↗

Partnership with the INSTIPER and AKPY for vocational programmes

Employee development and retention (p37) ↗

CSR and community development (p41) ↗

Contributing partner of the Production, Protection, Inclusion (PPI) compact in Ketapang

Conservation initiatives (p23) ↗

Member of RSPO Working Groups, e.g., Jurisdictional certification, no deforestation, human rights, biodiversity conservation, Complaints Panel, Standards Setting Committee

Steering Committee member of PONGO Alliance to enhance biodiversity and protect orangutan habitats

Conservation initiatives (p23) ↗

Partnership with IDH and YIARI on the Bumitama Biodiversity and Community Project (BBCP) landscape initiative

Conservation initiatives (p23) ↗

Partnerships for co-management of social forestry programmes with local communities, i.e., Earthqualiser, IDH, conservation experts, community representatives

Social Forestry (p38) ↗

Also, see **Stakeholder engagement overview** (p48) ↗

ENVIRONMENTAL PROTECTION AND SUSTAINABLE LAND USE

Our plantations operate within a larger landscape and we recognise that our actions have the potential to impact the environment and neighbouring communities. As such, our approach to environmental protection extends beyond our plantation boundaries and includes the surrounding communities.

No Deforestation

We remain committed to our zero-deforestation, no peat development, and no conversion of natural habitats and ecosystems policies. Furthermore, we follow relevant Roundtable on Sustainable Palm Oil (RSPO) requirements for new developments and plantation expansions. In 2022, we released 11,592 hectares for new planting across four concessions after completing the RSPO New Planting Procedure (NPP). These measures ensure that 100% of our fresh fruit bunches (FFB) volumes sourced from our own plantations are deforestation-free, and in accordance with the NPP, all of our new plantings are emission-neutral or better.

We monitor these areas through an internal satellite monitoring system and the Earthqualiser platform to assess any land cover changes within and outside our operations. Despite these measures, we acknowledge that some land clearing may still occur on community-owned land within our management units. In these instances, we engage with the communities to educate them on our commitments, including our external fruit-sourcing policy, and propose collaboration in rehabilitating these areas.

We strive to minimise our impact on the environment while promoting the well-being of surrounding communities. By working collaboratively with our stakeholders, we hope to develop sustainable solutions that benefit everyone in the long term.

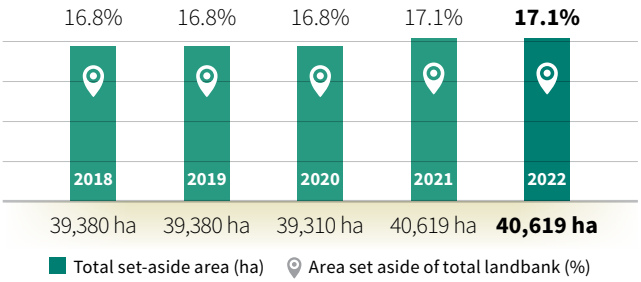
Biodiversity Protection and Conservation

We are committed to continuously improving the protection and conservation of our identified biodiversity areas. To guide our conservation efforts, we rely on assessments and recommendations from accredited assessors under the High Conservation Values Network Assessor Licensing Scheme (ALS) as well as the expertise of our Bumitama teams and partners. We conduct High Conservation Value (HCV) and High Carbon Stock (HCS) assessments using our New Planting Procedures (NPP) for new developments. In the years ahead, we plan to conduct a second review of all past HCV-HCS assessments to make any necessary updates to boundary changes, legal statutes, and conservation and carbon value information.

We have conserved a total of 40,619 ha of land (17.1% of our landbank)

As of December 2022, we have conserved a total of 40,619 hectares of land (which represents 17.1% of our landbank). This figure includes an additional 1,309 hectares that we added following our HCV-HCS assessments in 2021. Our conserved areas include identified HCV areas, HCS forests, peat and other areas like buffer zones and potential wildlife corridors. Bumitama's overarching objective is to create a forest-positive legacy.

CONSERVATION AREA SET-ASIDE 2018–2022 (ha/%)



We have identified areas in and around our operations to set-aside, and we are also taking proactive measures to improve our restoration and conservation efforts. This includes addressing environmental liabilities and developing remediation and compensation plans for our existing plantation areas. Additionally, we ensure that any new land acquisitions account for potential obligations. In 2022, our compensation plans across 19 management units were approved by the RSPO, and we will begin implementing our programme for these areas while addressing any other outstanding liabilities in 2023. Updates on our progress can be found on the RSPO remediation and compensation tracker.

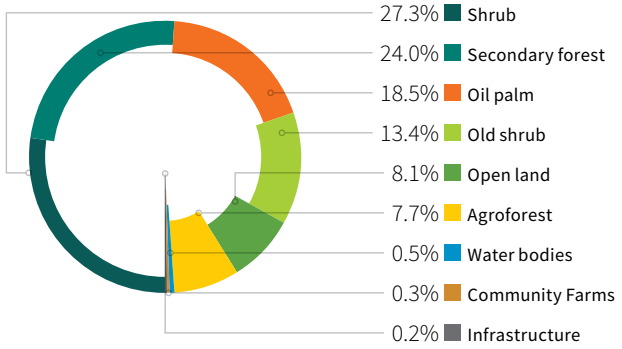
Although we comply with government regulations and international standards such as the RSPO, we acknowledge that civil society may identify gaps in our programmes. We recognise that there are long-standing and complex issues concerning license overlaps and the designation of forest areas. We are working with the Indonesian government to address these issues. In the meantime, Bumitama is actively participating in constructive multi-stakeholder discussions and is open to new partnerships that can help us improve our plans and initiatives to benefit local communities and the biodiversity of our operational landscapes.

Monitoring land cover change in conservation areas

At Bumitama, we continuously monitor land cover changes and observe areas for potential deforestation to inform our conservation and rehabilitation efforts. Using remote sensing technology, we have identified that approximately 37% of our conservation areas are covered with structural forest, namely secondary forests and old shrub.[1]

[1] Note: this is based on total conservation area identified through remote sensing amounting to 39,489 hectares. This is not based on conservation areas identified through HCV–HCSA assessments and ground surveys.

LAND COVER AT SET-ASIDE AREAS 2022 (%)



After analysing the land cover changes that occurred in 2022, we found that community land-clearing activities resulted in the loss of 315 hectares of forest within our landbank. This represents 0.8% of our conservation area, which is above our objective of keeping annual forest loss below 0.1%. To address this issue, we are strictly implementing our external sourcing policy, which excludes FFB originating from deforestation. We are also proactively engaging with landowners, including exploring the possibility of collaborating to restore affected areas. We are committed to minimising the impact of land cover changes on our conservation areas and will continue to monitor and address deforestation within our concessions.

Reforestation programmes

Bumitama has been committed to reforestation efforts for many years, with the ultimate goal of increasing total forest cover in our company-controlled conservation areas to 44%. To achieve this objective, we have set a target to increase forest area by 10% by 2025 relative to our 2020 baseline, which we established by tracking land cover changes through satellite imagery.[2]

Our analysis of land cover changes from 2020 to 2022 shows that we have gained 1,433.50 hectares net in forest land cover, and we are on track to achieve our forest cover increase target. We will accomplish this goal through active reforestation, planting, and natural regrowth.

To successfully implement our reforestation efforts and prevent further deforestation, we will continue to collaborate with local communities to identify income-generating opportunities. **In 2021 and 2022, we reforested 305 hectares with 103,864 trees in Central Kalimantan, West Kalimantan, and Riau.** We remain committed to our reforestation efforts and will continue to work towards our goal of increasing forest cover in our conservation areas while ensuring sustainable economic development for local communities.

[2] Forest cover includes secondary forests and old shrub. The 2020 baseline for forest cover was previously reported as 38% of total conservation area. This has been revised to 34% and is our new baseline.

Conservation initiatives

Bumitama's conservation partnerships focus on safeguarding and enhancing forests that are crucial for maintaining connectivity and biodiversity. We work closely with stakeholders across our operational landscapes and seek legal recognition for our conservation areas to reduce the risk of third-party development and mitigate forest fires, illegal logging, and hunting. To promote local ownership and support, we engage with local groups and leaders to preserve and restore protected areas. Our goal is to foster strong community endorsement and active participation in conservation efforts.

The Bumitama Biodiversity and Community Project (BBCP) (Ketapang, West Kalimantan)

Bumitama's efforts to preserve forests are exemplified by the BBCP project in Ketapang, which encompasses 8,311 hectares of our conservation area. Established in 2016, BBCP aims to create a wildlife biodiversity migration corridor connecting our set-aside areas with adjacent forests and national parks. We partner with the Sustainable Trade Initiative (Initiatief Duurzame Handel [IDH]) to protect habitats of endangered species such as Bornean orangutans. We also collaborate with Balai Konservasi Sumber Daya Alam (BKSDA) and Yayasan International Animal Rescue Indonesia (YIARI) on biodiversity surveys, landscape programmes, and fire prevention activities.

Our conservation efforts rely on the active involvement of local communities. We engage with them to leverage their knowledge of the land and to mitigate the risk of deforestation from community plantation development, illegal logging, and forest fires. We encourage restoration initiatives using tree species yielding non-timber forest products (NTFP) to provide communities with an alternative to deforestation and opportunities for sustainable income. We also involve local residents in forest ranger teams or train them in natural integrated farming methods at our Brajang training centre.

Including the amount of carbon sequestrated by our conservation areas, our 2022 carbon intensity could be further decreased to 1.2 MT CO_2e/MT CPO

In 2020, we piloted a new technique in PT Damai Agro Sejahtera (DAS) as part of the BBCP project, called FlyForest programme. Using remote-control drones, we dispersed seeds to reforest approximately 800 ha of previously inaccessible areas, such as swamp terrains or unsafe zones. The method involved using seeds from local tree species to create a diverse forest cover, providing a canopy for other trees, food for wildlife, and NTFP for local communities. Insights gained from this initiative will inform our future reforestation efforts in other remote areas or social forestry projects.

Our rehabilitation efforts in the BBCP area are ongoing. In 2021, we planted 2,735 trees, and in 2022, we planted an additional 21,114 trees across 39 hectares to help restore the natural forest of West Kalimantan.

The Production, Protection, Inclusion (PPI) Compact (Ketapang, West Kalimantan)

Bumitama is actively involved in external initiatives, such as the PPI Compact, which is committed to promoting sustainable production in the region with an emphasis on forest protection and restoration. In 2017, we designated set-aside areas in the Sungai Putri landscape as an essential ecosystem zone (Kawasan Ekosistem Esensial [KEE]). We have continued to participate in multi-stakeholder discussions in support of the Green Growth Plan for Ketapang province. The compact was launched by IDH in collaboration with the Ketapang District Government to work with key stakeholders to safeguard one million hectares of forest cover, including 90,000 hectares of HCV/ HCS areas within agricultural land. The goal is to rehabilitate up to 20,000 hectares of forest and peatland, promote sustainable palm oil production, and enhance the livelihoods of smallholders.

Social forestry initiatives with selected villages in West and Central Kalimantan

Bumitama is committed to supporting the Government of Indonesia's social forestry programme, which aims to designate 10% of Indonesian state forest for management by Indigenous or local communities. As of December 2022, we have been collaborating with six villages to improve livelihoods through sustainable land management and implementing 25-year co-management agreements, which includes forest rehabilitation activities. ***In 2021, we planted 10,525 trees across 80 hectares, and in 2022, we planted over 11,903 trees across 17 hectares, further contributing to the restoration of the forest ecosystem.***

For more information, see the section on **Social forestry** (p38)

Working with PONGO Alliance to rehabilitate orangutan habitats in Ketapang, West Kalimantan

Between 250 and 300 orangutans can be found in at least 22 small forest patches in protected areas of Bumitama's and the neighbouring Austindo Nusantara Jaya's (ANJ) oil palm estates. In line with the KEE context, Bumitama is collaborating with PONGO Alliance to develop new techniques for managing orangutan populations in these multifunctional landscapes that contain forest areas, smaller forest fragments, and oil palm plantations.

In 2021 and 2022, Borneo Futures conducted a landscape-level study with the help of local partners to examine in situ orangutan conservation management in and around our operations as well as those in other concessions. The goal of this study is to stabilise orangutan populations by maximising ecological connectivity between remaining forested areas that harbour orangutan population fragments and the larger surrounding populations in Gunung Palung National Park (to the east) and the extensive Sungai Putri swamp forests (to the west). Engagement with the local community and other stakeholders is key to ensuring peaceful coexistence alongside orangutans.

Bumitama is committed to participating in PONGO Alliance's fieldwork initiatives and supporting their plans for the future management of remaining habitats and corridors. The aim is to provide a blueprint for companies managing fragmented landscapes in their conservation planning efforts.

New Bulian tree planting month

In 2021, Bumitama launched the Bulian project, an initiative that involved simultaneous tree-planting efforts across several management sites in Riau, Central Kalimantan, and West Kalimantan. Throughout December 2021, we collaborated with various stakeholders, including our social forestry partners from the villages of Sungai Melayu and Simpang Tiga Sembelangaan, NGOs, local communities, teachers, and students from our schools, as well as our programme partner, Earthqualiser. ***As a result, we were able to plant 117,338 trees across 357 hectares in 2021, while an additional 191 hectares were reforested in 2022.***

Given the positive response to this project, we plan to make it an annual event and involve a wider range of stakeholders. Our goal is to help restore natural forest cover on an additional 767 hectares by 2025.

Bulian project (Refer to our website for more details)

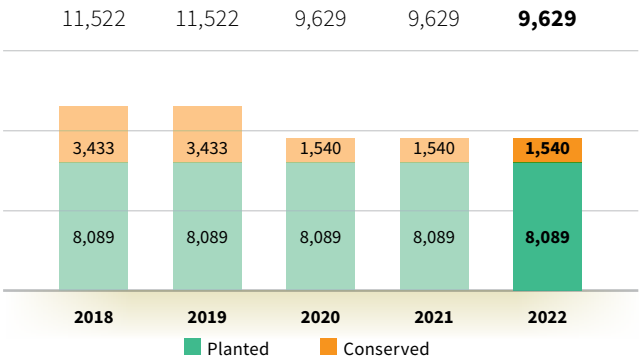
Soil management

We have implemented best agricultural management techniques and are researching ways to improve soil fertility in order to prevent erosion and cultivation degradation. This includes preserving riparian areas along waterways, reducing the use of inorganic fertilisers, and repurposing treated palm-oil mill effluent and empty fruit bunches (EFB) to enhance nutrients in land rich in organic matter.

Conserving Peat

Bumitama continues to adhere to our commitments of zero new plantings on peat, restoring peatland whenever possible, and managing existing plantations on peat using the RSPO best management practices for existing plantations on peatland. As of December 2022, we have 9,629 hectares of peat across our landbank, with 8,089 hectares consisting of existing plantings (4.3% of our total planted area).

PEAT AREA PLANTED AND CONSERVED 2018–2022 (ha)



Note: the 2020 decrease in conserved peat areas is due to reclassification as HCV areas, and is not a result of planting activities.

Managing GHG Emissions

Climate change and unpredictable weather patterns pose a significant risk to our operations, employees, local communities, and conservation efforts. Bumitama is committed to supporting the Indonesian government's goal of achieving net-zero emissions by 2060. To achieve this, we are progressively reducing our greenhouse gas (GHG) emissions and implementing climate adaptation measures across our operations.

We are currently implementing GHG emissions mitigation strategies and exploring renewable energy alternatives to achieve greater emissions reductions. Additionally, we aim to increase the sequestration capacity of our conservation areas to offset our emissions.

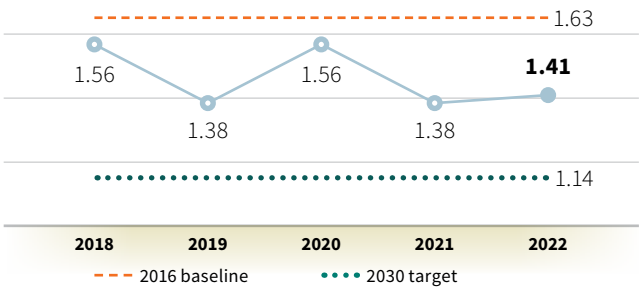
To further our commitment to climate action, we are developing a new climate mitigation strategy that considers climate-related risks and opportunities in transitioning to a low-carbon economy. This strategy, which will be published in 2023, takes into account the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and Indonesia's Forestry and Other Land Use (FOLU) Net Sink 2030 policy.

Reducing GHG emissions

We use the latest RSPO PalmGHG Calculator to track and monitor our GHG emissions year- on-year, applying the same methodology for all areas of operation regardless of certification status. Our primary source of emissions is land-use change (35.4% of the total), followed by emissions from palm oil mill effluent (POME) (33.7%). In 2022, our overall net emissions from all our mills were 1,676,840 tonnes of carbon dioxide equivalent (MT CO_2e/year), a 15% increase from the previous year. This increase was mainly due to higher fertiliser usage and application at plantations and increased POME as a result of higher fresh fruit bunch (FFB) processing in 2022.

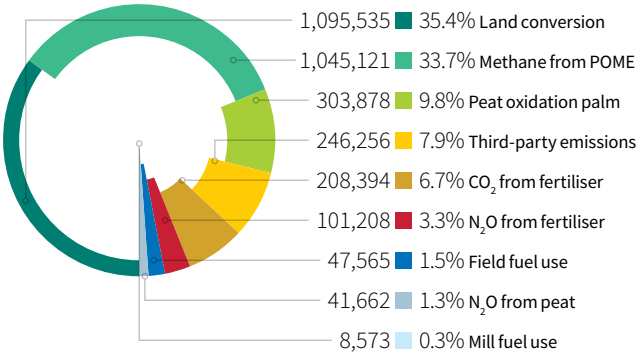
The total 2022 GHG emissions intensity calculated for all our mills was 1.41 tonnes of carbon dioxide equivalent per tonne of crude palm oil produced (MT CO_2e/MT CPO). Although there is a 2.2% increase from our 2021 levels due to higher fertiliser usage, we remain on track to achieve a 30% reduction by 2030, with a total decrease of 13.5% compared to our 2016 baseline of 1.63 MT CO_2e/MT CPO. We will achieve our 30% reduction target by installing methane capture facilities at all existing mills.

GHG EMISSIONS INTENSITY 2018–2022 (MT CO_2e/MT CPO)



Note: The carbon sequestration in our conservation area data excludes areas not part of our land use permits but are still managed by Bumitama. Our emissions intensity could be further reduced to 1.2 MT CO_2e/ MT CPO in 2022 if the carbon sequestration of the entire conservation area is included in the calculation.

GROSS EMISSIONS BY TYPE 2022 (MT CO_2e, %)



Based on the PalmGHG output and GHG Protocol agricultural guidance, we have identified our Scope 1, 2, and 3 emissions. We found that 73.2% of our emissions came from direct sources controlled by Bumitama (Scope 1), and the remaining 26.8% came from emissions within our value chain in 2022 (Scope 3). Our mills primarily run on renewable energy, with a smaller percentage of energy produced from other sources. Therefore, indirect emissions from purchased energy at our mills (Scope 2) are not included in our calculations.

EMISSIONS AND INTENSITY BY SCOPE 2022

	SCOPE 1	SCOPE 2	SCOPE 3
Emissions (MT CO_2e)	1,244,129	n/a	454,650
Emissions intensity (MT CO_2e/MT CPO)	1.05	n/a	0.38

Note: biogenic emissions not included (21,939 MT CO2e from land clearing, crop sequestration, and biomass fuel combustion).

Moving forward, Bumitama will adopt the full scope of the GHG Protocol to ensure consistent reporting and comparability with the industry. We recognise the importance of considering our conservation and sequestration efforts both inside and outside our concessions, and will use science-based data to support our GHG reduction plans.

GHG mitigation initiatives

First methane capture facility in 2022

Approximately 34% of our gross emissions stem from methane released during the processing of POME. In order to mitigate this source of emissions, Bumitama has prioritised improving our mills' waste management systems. To this end, we commissioned our first methane capture facility at our largest mill, Suka Damai, in January 2022. The facility prevents methane-rich biogas generated during POME treatment from being released into the atmosphere. Through partnerships with local entities, we plan to convert the captured methane into electricity that can be channelled into the local electricity grid (*Perusahaan Listrik Negara* [PLN]) to power local communities and our own buildings and facilities by Q2 2023.

As our facility and data collection systems stabilise, we will report on emissions avoided through our methane capture efforts. **Looking ahead, Bumitama plans to install similar methane capture facilities at the 15 existing mills by the end of 2029, helping us to reach our ambitious 30% emissions reduction target by 2030.**

Reducing GHG emissions through composting

Bumitama's aerobic composting facilities play a significant role in reducing GHG emissions. By using the aerobic composting method, methane emissions from the breakdown of organic matter are prevented. **Bumitama currently operates 13 composting sites, and in 2022, 26% of its total POME was diverted to these facilities to produce compost for land application.** This resulted in a reduction in methane emissions from anaerobic digestion and lower demand for chemical fertilisers, resulting in a 17% reduction in emission intensity. Bumitama is currently assessing the decline and will report separately on its progress.

Adapting to climate change impacts

To adapt to climate change impacts and maintain crop productivity, Bumitama's R&D and on-site teams have developed programmes over the years. These programmes aim to mitigate the adverse effects of weather patterns such as drought and intense or irregular rainfall. Bumitama utilises various approaches such as drought and flood management, water, soil and nutrient conservation, and alternatives to agrochemicals including herbicides and pesticides. Bumitama continually improves its fire and drought prevention and monitoring measures to ensure the resilience of its operations.

Drought and flood management

Constructing reservoirs and water catchments around plantation blocks to minimise drought stress on oil palm plants.

Making wind drains or drainage systems to combat flooding or inundation during high rainfall or the La Niña climate patterns.

Using palm fronds as mulch; planting ground cover plants, such as the *Nephrolepis biserrata* fern, to minimise surface runoff and erosion during rainy season.

Water, soil and nutrient conservation

Making contour terraces to conserve soil and prevent surface runoff and erosion of hilly areas during high rainfall.

Planting Legume Cover Crop (LCC) in oil palm replanting/immature oil palm plant areas to prevent erosion, maintain soil moisture, and reduce water evaporation due to direct sun exposure.

Replanting with the close-end chambering trash (CECT) technique. This involves weathering felled oil palm trees inside drains to return all organic material to the soil and using rainfall to recycle nutrients.

Adopting alternatives for agrochemicals

Reducing herbicide usage to control weed growth that may have worsened with increased rainfall. This can prevent herbicide-resistant weeds.

Using organic fertiliser, such as EFB or compost, as alternatives to inorganic or chemical fertilisers. This leads to a lower release of methane gas into the atmosphere.

See: **Waste management** (p32) ↗

Reducing pesticide usage with our IPM approach. This prioritises natural methods of pest and disease control.

See: **Managing chemicals and pesticides** (p31) ↗

Fire management and monitoring

Monitor and manage fires within concessions and in a 2-km radius surrounding our operations, including engaging with communities to manage fire risk.

See: **Fire management and monitoring** (p28) ↗

TCFD reporting

Bumitama is currently evaluating our measures in accordance with the recommendations of the Taskforce on Climate-Related Financial Disclosures (TCFD). This assessment will assist us in comprehending the financial consequences of climate-related risks and opportunities. In 2022, we conducted an initial evaluation of our current measures against the TCFD recommendations. To comply with the listing requirements of the Singapore Stock Exchange and to align with industry reporting, we aim to report in accordance with the complete TCFD disclosures by 2024.

Below is an outline of how we conform to TCFD's recommendations. We plan to provide more comprehensive reporting in the future.

TCFD PILLAR	BUMITAMA'S MEASURES
Governance: Climate-related risks and opportunities	Identification of climate-related risks and mitigation strategies are integrated into the Group's governance with Board-level and Sustainability Steering Committee oversight. This guides the company's strategic planning and decision-making processes
Strategy: Impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	Our plans are aimed at a) intensification of our landscape restoration and conservation-based programmes and b) improving operational efficiencies and reduction of GHG emissions. Current measures include: – Improving operational efficiencies (water, chemicals, energy, waste) – Installing methane capture to avoid GHG emissions – Implementing peat best management practices – Conservation and restoration to increase forest cover – Managing and monitoring fires – Monitoring and engaging suppliers, smallholders and communities to address deforestation and fire risk – Ensure operational resiliency to adapt to climate-related risks with better seeds and alternatives to agrochemicals The Group is also considering climate-related scenarios in the assessment of strategy resilience
Risk management: Identifying, assessing, and managing climate-related risks	We are using TCFD's recommended analytical framework to assess potential transitional and physical risks and identify transitional opportunities related to resource efficiency, energy sources, products and services, market and resilience. We have an Enterprise Risk Management committee at the Board level and regularly conduct risk-based audits. Our operational and financial risk management approaches are available in our annual reporting. See: **Bumitama AR2022** (Refer to our website for more details) ↗
Metrics and targets used to assess and manage relevant climate-related risks and opportunities	To mitigate climate-related risks, Bumitama has established ambitious near and long-term targets that aim to reduce operational emissions. Once implemented we will develop a programme focused on supply-chain emissions. See: **Objectives and targets** (p8) ↗ Also see: **Reducing GHG emissions** (p25) for Scope 1, 2 and 3 reporting and other metrics ↗

Verifying the true climate impact of our operations

GHG reporting tools are pivotal in helping Bumitama better understand our climate footprint, set reduction targets, and implement initiatives to meet these targets. However, we also recognise that these tools can limit our understanding of on-the-ground impacts because calculations are based on estimations and self-declared data.

In 2022, Bumitama partnered with CarbonSpace to map the primary data of our emissions. This is not limited to our production and operational facilities but also considers the carbon sequestration dynamics of our plantations and conservation areas. It includes ecosystem corridors, peatland restoration areas, other conservation areas, and forests for insetting and offsetting data within and outside our production areas.

CarbonSpace uses a satellite-powered platform to **track carbon emissions and log accurate sequestration values from trees, grassland patches and soil to capture the full net ecosystem exchange (NEE) through a combination of remote sensing technologies. These include GHG measurement and imagery satellites, carbon flux ground stations and several real-time datasets.**

Commentary by Geza Toth,
Head of EMEA and APAC, Certifications | CarbonSpace

The palm oil industry faces multiple climate-related and legislative challenges. This is especially relevant in light of escalating and competing demands for oils and fats as food and fuel. These issues must be addressed with perseverance and clear objectives.

The quality of sustainability-related measures is not limited to plantations or monocultures but extends to surrounding areas and above and below-ground carbon natural ecosystems. CarbonSpace considers the combined impact of palm oil production, which means identifying the actual climate impact of palm oil production. The platform provides three main benefits: 100% digital data, 100% traceability, and 100% accurate and validated data.

The platform's primary data can help companies like Bumitama better understand their carbon strengths and the overall biodiversity health of their entire plantations and ecosystem. The results will help Bumitama to advance its net-zero plans and enable them to report verified data according to frameworks on carbon credits, lifecycle assessment (LCA) and reporting standards such as the GHG Protocol and TCFD. The data will also help inform net zero plans and support buyers' Scope 3 emissions GHG reporting.

Partnering with dedicated companies with robust commitments is vital for developing the platform's true potential. We understand that Bumitama's sustainability journey has been multifaceted: the company is not only focused on the quality and traceability of raw materials but encompasses its entire sustainability footprint. The past ten years have been transformational for Bumitama, and it is now a veritable palm-oil industry pioneer. This, together with their quest for innovation and embracing a tech-based approach to finding solutions, is why CarbonSpace and Bumitama are natural project partners.

We look forward to analysing outcomes from the pilot and interpreting how this can be scaled at mill level for upstream companies. The data will be critical to understanding the full value and impacts of Bumitama's sustainability activities. This, in turn, will create better sustainability premiums and shared benefits.

About: *Geza heads the certification and EMEA/APAC business units at CarbonSpace. This includes overseeing the market acceptance roadmap.*

We initially piloted almost 1,000 hectares for the assessment, comprising approximately 50–100 hectares from several areas within Bumitama's operations. These areas include a combination of palm plantation areas of varying ages and our conservation, agroforestry, smallholder, and infrastructure efforts. The area is representative and will allow for a robust understanding of Bumitama's entire scope of operations. If the pilot yields positive results, we will expand it across the remainder of our operations. Verified carbon data from these areas will lead to a better understanding, planning and execution of our climate change strategy and overall sustainability efforts.

In 2022, 95.2% of energy to power our palm-oil mills came from renewable sources

Energy use and efficiency

We have made significant progress in implementing various programmes aimed at reducing our energy consumption, promoting the use of renewable energy, and improving our operational efficiencies. To power our palm-oil mills, we rely mainly on by-products from the milling process, such as kernel shells and fibre. In 2022, we derived 95.2% of our energy from renewable sources, while the remaining 4.8% came from non-renewable sources.

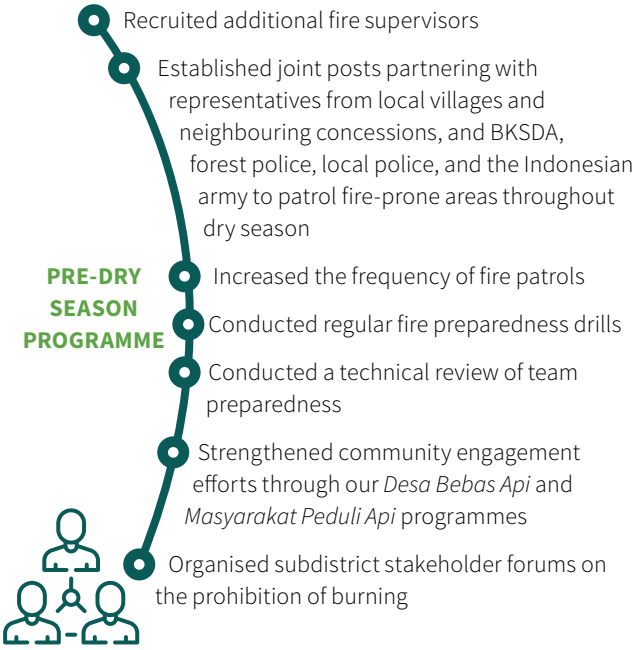
Moreover, we managed to achieve a 5.6% reduction in our total energy consumption, from 14,624,186 gigajoules (GJ) in 2021 to 13,804,807 GJ in 2022. Our energy intensity, which measures the amount of energy consumed per metric tonne of CPO, was 11.62 GJ in 2022.

Fire Management and Monitoring

Fires are a significant threat to our operations, biodiversity conservation efforts, and the health and safety of our employees and neighbouring communities. To mitigate this risk, we strictly enforce a zero-burning policy in all our planting activities. In addition, we have committed to not acquiring land that was intentionally burnt after 2015 and to prohibit the use of FFB sourced from land that was newly cleared by burning. These commitments were incorporated into our new sustainability policy.

To enhance our fire prevention efforts, we have implemented innovative technologies and techniques. For instance, our intelligent weather stations enable us to conduct advanced fire risk analyses, while near real-time hotspot monitoring and drone surveillance provide our teams with real-time updates on emerging fire risks. In 2021 and 2022, we further improved our fire reporting and evaluation procedures to facilitate faster response times for controlling detected fires. To prepare for the upcoming fire season,

we also launched a new pre-dry season programme that includes the following initiatives:



Our advanced hotspot monitoring and verification system enables us to continuously monitor fire risks across our concessions and within a 2-km radius. Despite our best efforts, 35 fire incidents were confirmed inside our concession areas in 2022, originating from community land-clearing activities. These fires burnt 33.8 hectares of land, of which 6.5 hectares affected our planted areas and 5.9 hectares occurred within our conservation area. While we were able to swiftly extinguish all fires with the help of our well-equipped and *Manggala Agni*-trained fire management personnel, we fell short of our 2022 goal of zero fires in planted and conservation areas, although we achieved this target in 2021 through our Triple Zero Target Programme.

Beyond our concession boundaries, we patrolled a 2-km radius and recorded 102 fires in 2022. Fires are more frequent outside our concessions, and these incidents burnt a total area of 211.78 hectares.

CONFIRMED FIRES AND AREA BURNT 2018–2022

	2018	2019	2020	2021	2022
Within Bumitama concessions					
Total confirmed fires (no.)	35	314	76	97	35
Total planted area burnt (ha)	314.6	778.9	0	0	6.5
Total unplanted area burnt (ha)	35.5	969.5	47.8	96.6	21.4
Total conservation area burnt (ha)	–	–	0	0	5.9
Outside Bumitama concessions (within a 2-km radius)					
Total confirmed fires (no.)	–	–	–	–	102
Total area burnt (ha)	–	–	–	–	211.8

Note: data on confirmed fires and areas burnt within surrounding concessions were not available prior to 2022.

- **Triple Zero Target Programme** (p11) ↗
- **Fire flowchart** (Refer to our website for more details) ↗

Working with communities to manage fire risk

Traditional land clearing by local communities remains the most common cause of fires in and around our concessions. To achieve our Triple Zero Target objective of zero fires across all our concession areas by 2025, we are implementing fire management strategies that focus on prevention, early detection, and quick response.

Our *Desa Bebas Api* and *Masyarakat Peduli Api* incentive programmes engage communities in establishing and maintaining fire-free villages, particularly in fire-prone areas. We work closely with community leaders to conduct outreach sessions and promote alternative land-clearing techniques. We educate community members on fire risks and provide training on fire mitigation and firefighting. In exchange for remaining fire-free, communities receive in-kind incentives, such as fire-fighting equipment and portable agricultural machinery. In 2022, we focused our efforts on 14 villages and plan to engage with ahead of the expected seasons with extreme draught caused by El Niño anomalies.

We also collaborate with partners such as BKSDA and village authorities on programmes that promote fire-free land-clearing techniques, such as using wood vinegar as an alternative to burning. By working together, we hope to reduce the incidence of fires and safeguard our employees, local communities, and the environment.

Water Usage and Quality

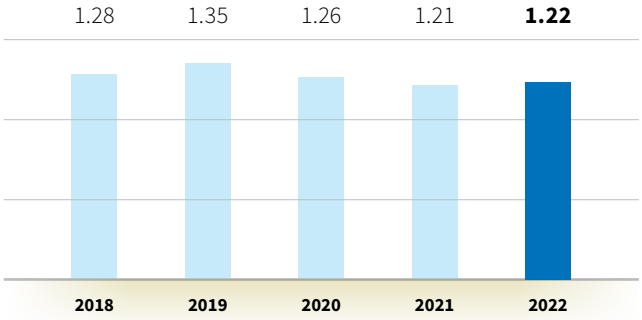
Ensuring clean and safe water is essential for maintaining the health of our operations, workforce, local community, wildlife, and aquatic ecosystems. Therefore, our top priority is to safeguard the quality and quantity of water across our operational areas. We regularly monitor and document the impact of our activities on surface and groundwater quality and availability, which enables us to identify risks, develop mitigation strategies, and create long-term management plans that benefit all stakeholders, including those beyond our operational boundaries.

Water use efficiency

Our mill and plantation activities represent the majority of our water consumption. We extract river water to use in our mills, and we collect rainwater in reservoirs located in fire-prone areas across our operations for firefighting and other contingencies. We also process and supply this rainwater to our housing areas, communities, and other operational activities. At Bumitama, we continually assess our water usage and develop plans to reduce our water consumption levels, including in areas such as estate housing and offices.

In 2022, our total water operational consumption was 6,520,282 cubic meters (m^3). Thanks to the optimisation of our mill processes and high productivity, we have significantly reduced our mill water usage intensity since 2019, from 1.35 cubic meters of water per tonne of Fresh Fruit Bunches (FFB) processed (m^3/MT FFB) to 1.22 m^3/MT FFB in 2022 – a 9.6% reduction over four years. Although we fell short of our 2022 target of 1.20 m^3/MT FFB, we acknowledge the significant progress we have made and are committed to achieving our target in 2023.

MILL WATER USAGE INTENSITY 2018–2022 (M^3/MT FFB)



Thanks to the optimisation of our mill processes and high productivity, we have significantly reduced our mill water usage intensity since 2019, from 1.35 cubic meters of water per tonne of FFB processed (m^3/MT FFB) to 1.22 m^3/MT FFB in 2022 — a 9.6% reduction over four years.

Protecting waterways

At Bumitama, safeguarding our waterways and rivers is of utmost importance, given their role as a critical source of water for our communities and their rich biodiversity. To ensure we protect these resources, we subject all palm-oil mill effluent (POME) to treatment before discharging it to waterways or land applications. Our water quality management strategy includes regular monitoring to verify the safety and quality of the water. We measure key parameters such as chemical oxygen demand (COD), biological oxygen demand (BOD), ammoniac nitrogen content, nitrate content, pH, total dissolved solids, and total suspended solids to comply with regulatory standards and prevent any surface or groundwater contamination. We are particularly vigilant about maintaining BOD levels below regulatory thresholds of 5,000 parts per million.

As part of our commitment to conservation, we also pay special attention to riparian zones. These zones are an essential part of our conservation areas, and we make a concerted effort to protect and restore them, all in the service of preserving the quality of our river water.

Managing Chemicals and Pesticides

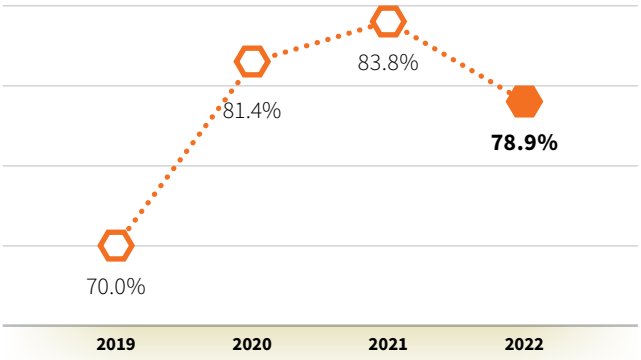
Bumitama recognises the harmful effects of chemicals and pesticides on the environment and continuously works to reduce their use in our operations. We strictly prohibit the use of WHO Class 1A and 1B pesticides and other chemicals specified in the Rotterdam and Stockholm conventions. Our employees are well-trained in chemical handling and provided with appropriate PPE to ensure their safety. Pregnant or nursing women are also prohibited from working in or near areas of chemicals and pesticide usage or storage.

Integrated pest management

Our approach to pest management follows an integrated pest management (IPM) strategy that prioritises using natural biological and mechanical solutions for pest control. These include animals, insects, pathogens, and manual traps to maintain a balanced ecosystem and healthy predator populations. Our IPM approach is environmentally friendly and has minimal effects on soil and water quality. In severe pest outbreaks, we only use a small amount of pesticide as a last resort under stringent conditions.

An example of an effective natural pest management strategy is using barn owls to help control rats across our estates. We have constructed shelters and artificial nests to encourage the growth of owl populations, resulting in 1,274 adult owls and 391 chicks across our estates as of December 2022. **Our owl pest management approach has led to 78.9% of our total planted area being declared rodenticide-free.** However, we faced a rat infestation at some of our estates, leading to an increase in rodenticide use in 2022. While we avoided using rodenticides with higher toxicity levels that is associated with increased risks to humans and non-target wildlife, we could not meet our 2022 objective of ensuring that 85% of our planted area was rodenticide-free. Therefore, we have extended our target to 2023.

TOTAL PLANTED AREA RODENTICIDE-FREE 2019–2022 (%)

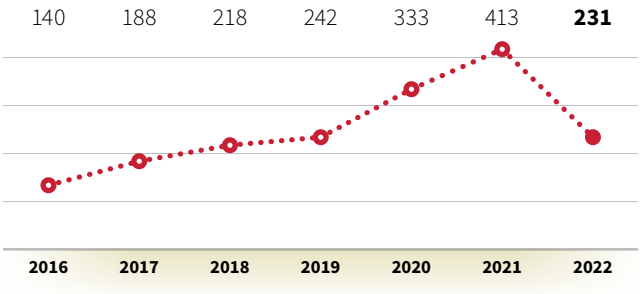


- **Role of the barn owl as a biological agent**
  (Document available at https://rb.gy/xcbzam) ↗
- **Approaches to IPM and toxicity monitoring**
  (Refer to our website for more details)

Managing toxicity and inorganic fertilisers

The toxicity levels of chemical compounds in fertilisers, pesticides, and herbicides used in our plantations are monitored to ensure they remain within industry-accepted ranges. These levels can vary due to factors such as young plants requiring additional herbicide, sporadic pest outbreaks, or increased precipitation causing overly wet conditions. Despite an increase in toxicity units per planted hectare from 2016 to 2021, we have recorded a drop in toxicity levels in 2022. One reason for this is our decision to discontinue the use of the herbicide 2,4-diamine to control *Asystasia gangetica* – a traditionally invasive weed at oil palm plantations. Instead, we now view this plant as beneficial since it attracts predatory insects that help with pest management.

TOXICITY UNIT PER PLANTED HECTARE 2016 – 2022 (LD50/ha)



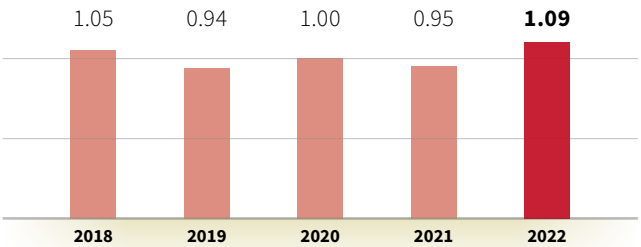
Note: Toxicity measured in oral LD50 (rats).

In 2022, we used 1.09 tonnes of inorganic fertiliser per planted hectare, which is a 14.7% increase from 2021. This was due to the greater number of mature oil palm trees that required more fertiliser. However, we continue to use organic fertilisers to improve soil quality and nutrient absorption while reducing costs associated with purchasing of chemical fertiliser.

In 2021, we launched a healthy soil programme as part of our zero-waste management efforts, which aims to replace up to 10% of inorganic fertiliser usage with our own organic fertilisers like compost, treated POME, and biochar.

We are currently working on a comprehensive chemical fertiliser reduction programme that will consider crop productivity, alternative availability, and cost. Bumitama will release its implementation and targets in 2024. Furthermore, we will use precision agriculture techniques based on scientific data to minimise the use of chemical fertilisers whenever possible.

INORGANIC FERTILISER USAGE 2018 – 2022 (MT/ha)



Toxicity monitoring (Refer to our website for more details)
Waste management

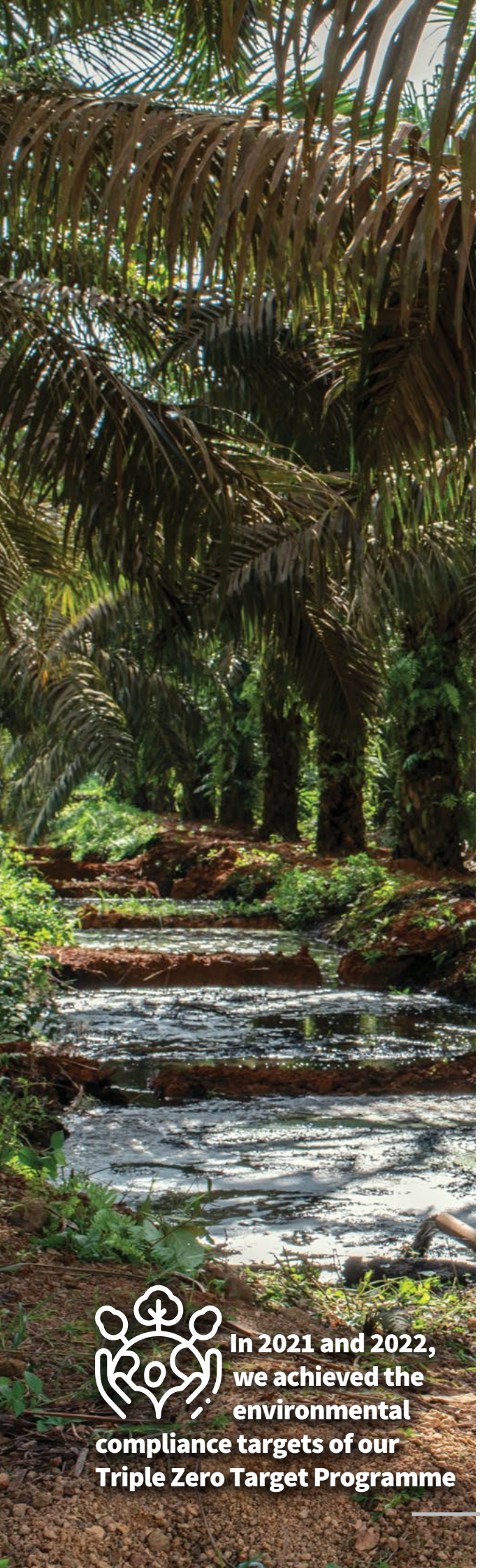
Waste Management

At Bumitama, we are committed to responsible waste management practices across our operations. We aim to reduce waste generation and promote reuse and recycling of operational by-products and equipment parts. We take proper care of all operational waste, including hazardous materials.

In 2022, our operations generated 2,222,110 tonnes of solid waste and 2,732,374 cubic metres of palm oil mill effluent. We ensure that all of this waste is handled appropriately and in compliance with relevant regulations and guidelines.

Waste by type and management method

WASTE TYPE	SOURCE	MANAGEMENT METHOD
EFB	CPO extraction process	• Used for composting • Used as mulch, especially for sandy soils to improve soil fertility, moisture, and carbon storage
POME	CPO extraction process (liquid waste)	• Treated before being applied for land irrigation • Used with EFB for co-composting • Generates renewable energy via biogas plants (methane capture)
Old palm trees	Replanting	• Pruned and stacked in between oil palm rows as land-cover material
Cut palm fronds	Oil palm pruning	
PKS, palm fibre	CPO extraction process	• Source of heat and electricity for the production operations • Excess PKS and palm fibre are sold to buyers using it as fossil fuel replacement
Boiler ash	Combustion of biomass, PKS, and palm fibre for boilers	• Source of potassium for soil application
Hazardous waste	Chemicals packaging, oils and oil spill kits, car and generator batteries, medical waste, electronic waste	• Managed according to regulations/guidelines • Stored in designated waste sheds equipped for leaks and spills and labelled per legal requirements. The waste is responsibly disposed of, per regulatory requirements, by authorised third parties or approved licensed contractors
General waste	Mills and daily estate operations	• Stored in scheduled waste sheds before being responsibly disposed of in municipal landfills. Bumitama is developing a strategy for improved general waste management, with composting of organic waste and reusing/recycling plastic into building materials



SOLID WASTE PRODUCED AND REUSED 2022 (MT)

TYPE	TOTAL (MT)
Total recycled/reused	2,222,022
– Palm fibre	690,932
– Palm kernel shell (PKS)	304,825
– Empty fruit bunch (EFB)	1,191,759
– Boiler ash	34,506
Total hazardous waste sent to disposal	88
Total waste generated	**2,222,110**

Notes: no data on fell trees and cut palm fronds reused at operations. These are recycled directly at the site following company's standard operating procedures (SOPs).

Bumitama recognises the importance of nutrient recycling to achieve a near-circular use of organic waste. As part of this effort, we are currently exploring the development of a closed-loop facility to ensure that all of our liquid waste is converted back into clean water. We also aim to reduce the use of non-operational, non-organic waste, such as single-use plastics. To this end, we will gradually restrict the use of single-use plastic water bottles and work with reputable organisations to recycle all plastic waste. Additionally, we will implement a solid waste reduction policy in 2023 that will apply to all of our operations and involve empowering the communities surrounding our landbank.

We channel 100% of CPO production wastewater into nutrient recycling

Composting sites

Our zero-waste management policy at Bumitama involves channelling 100% of our CPO production wastewater, also known as palm oil mill effluent (POME), into nutrient recycling. Treated POME is used as fertiliser, and we divert 10% of untreated POME to co-composting sites, where it is mixed with EFB to produce a superior compost. This approach has reduced our reliance on inorganic fertilisers, with over 50% of the potassium chloride and urea we would typically use being replaced, thereby contributing towards reducing GHG emissions.

We currently have 13 composting facilities, and in the future, we hope to start partial composting of EFB for application to the land using furrow or flat-bed systems. Furthermore, we are exploring the use of biochar, which, when mixed with compost, will enrich marginal soil nutrients. In 2023, we plan to install two biochar facilities at our operations.

Managing chemicals and pesticides (p31) ↗

Environmental Compliance

At Bumitama, we strive to comply with all relevant environmental regulatory and voluntary standards, including those set by government and international certification bodies like the RSPO. **In both 2021 and 2022, we successfully met the environmental compliance objectives of our Triple Zero Target programme.** This initiative guarantees that our environmental management monitoring is of the highest quality and uniformity, with all related documents available and monitored by our head office. Additionally, we ensure that our governmental environmental management reporting is done on time and in compliance with all applicable provisions.

Triple Zero Target programme (p11) ↗

PEOPLE AND COMMUNITIES

Managing COVID-19

Throughout 2021 and 2022, Bumitama remained committed to addressing the ongoing COVID-19 pandemic by providing health kits and nutritious food to our employees and surrounding communities. We also actively encouraged our staff and their families to participate in the national vaccination programme. By December 2022, 100% of our head office employees, 90% of administrative and office staff, and 18% of workers had voluntarily received a third vaccine dose, in addition to the two initial doses taken by all employees.

100% employees vaccinated against COVID-19

We are proud to have continued our operations with minimal disruptions and have transitioned into the endemic stage of the pandemic as of late 2022. However, we remain mindful of the long-term challenges and potential future outbreaks. To safeguard our business operations and the health and safety of our employees and communities, we will continue to adhere to the crisis prevention and preparedness protocols outlined in our Bumitama business continuity and crisis management plan.

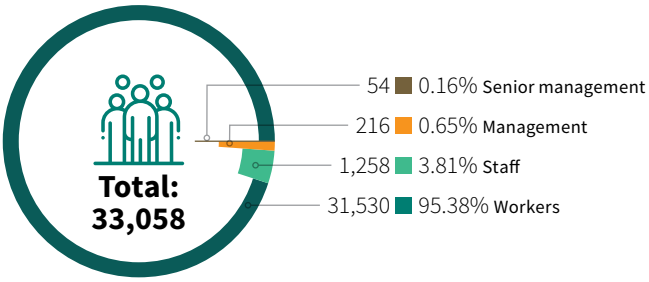
In addition to our pandemic response efforts, we also supported our communities in various ways during 2021 and 2022. This included distributing essential item packages (*sembako*), donating personal protective equipment to government healthcare facilities, supporting government vaccination drives, and assisting schools with online learning platforms to minimise potential disruptions.

Upholding Workforce Human Rights

Bumitama is a major employer in several remote areas. We understand that the success of our business depends on the capabilities and motivation of our employees. We prioritise worker safety, job satisfaction, and productivity to ensure high levels of motivation and capabilities. Our employment practices comply with local laws and regulations, as well as the core conventions and principles of the Universal Declaration of Human Rights set forth by the International Labour Organisation (ILO).

Bumitama workforce (Refer to our website for more details) ↗

EMPLOYEES BY CATEGORY 2022 (no., %)

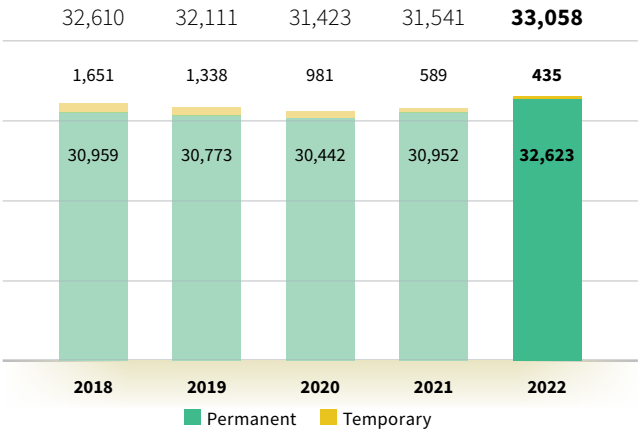


Employee overview

As of December 2022, Bumitama employs 33,058 individuals, with 95% of them working in plantations and mills. The remaining 5% include senior managers (board members, C-suite executives, and division heads), managers (department heads, department managers, and area controllers), and staff (division heads, head assistants, assistants, and officers).

We have a company-wide objective to reduce the number of temporary contract workers, typically employed for peak-period harvesting work. Our goal is to maintain an annual proportion of permanent employees above 97%, which we successfully achieved in 2021 and 2022. Additionally, we contract 16 workers for on-site IT support services, who are not part of our workforce.

EMPLOYEES BY CONTRACT TYPE 2018–2022 (no.)

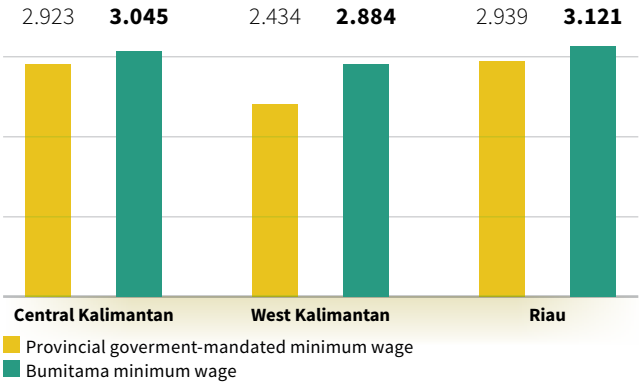


Wages and benefits

At Bumitama, we believe in fair and equitable compensation for all our workers. We offer employment contracts and pay above the local minimum wage, regardless of gender. Our commitment to the Roundtable on Sustainable Palm Oil (RSPO) living wage guidance ensures that we comply with current rates and industry-wide living wage expectations. We regularly conduct gap analyses at sample estates to ensure our employees are fairly compensated.

Our permanent employees receive additional benefits, including free accommodation, clean running water, rice, electricity, healthcare, education, and holiday bonuses, which are part of their contractual terms. Piece-rate work completed by harvesters is clearly identified on individual payslips. Our temporary workers are entitled to some health insurance benefits, such as BPJS (government protection), accident insurance, and access to healthcare centres. We aim to maintain a high percentage of permanent employees above 97% and continue to reduce the number of temporary contract workers.

MINIMUM MONTHLY WAGE BY REGION 2022 (MILLION IDR)



Note: Rounded to the nearest thousand IDR.

We offer employment contracts and pay above the local minimum wage, regardless of gender

Recruitment practices

All of Bumitama's employees are Indonesian nationals, mostly from the local communities around our operations. However, we also employ workers from different areas in Kalimantan and other islands. We uphold all worker rights, including the freedom to travel and at-will employment, and we do not require financial deposits or withhold identity documents.

Improving facilities and incentivising the workforce

Between 2021 and 2022, we renovated 93 housing units and 13 public facilities, including sports and childcare centres, to improve the living conditions and quality of life of our employees. We also provide regular benefits such as subsidised basic goods (*sembilan bahan pokok [sembako]*) and motorised vehicles for our workers and their spouses. In 2021, we recognised the top harvesters across all regions with a paid-for pilgrimage. Additionally, we continued our inter-regional labour programme, *Tenaga Kerja – Antar Kerja Antar Daerah* (TK AKAD), which was launched in 2016 to provide employment opportunities for couples who want to work together.

Diversity and equal opportunities

Bumitama provides equal employment opportunities and does not discriminate on the basis of national or ethnic origin, ethnic affiliation, race, religion, migrant status, degree requirements, gender, colour, sexual orientation, age, political affiliation, and organisational membership. **In 2022, we launched a new Group Diversity policy to consolidate our Group-level commitments.**

Group Diversity policy (Refer to our website for more details) ↗

Gender diversity and inclusivity

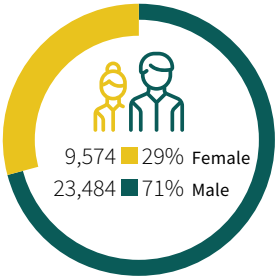
Bumitama is proud to have 9,574 women on our team, comprising 29% of our workforce. While this is higher than the industry average, we recognise the need to further improve gender balance, particularly in leadership positions. Currently, we have six female managers, including four in senior management and one on our Board of Directors.

To address the gender imbalance, we have established gender committees across our estates to spearhead gender-related initiatives in on-site and head-office operations. These committees work towards ensuring fair and equitable treatment of women, protecting reproductive rights, and eliminating potential discrimination cases. We are committed to providing a safe and respectful work environment for all our employees and have an anonymous sexual harassment reporting mechanism in place.

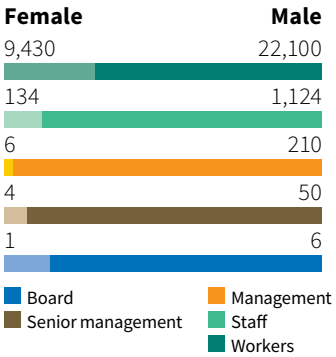
In addition, we have 19 breastfeeding facilities available at our Group and Jakarta head office, with plans to expand to every clinic by 2023.

We uphold our commitment to pay all our employees equally, regardless of gender, based on their level of employment.

WORKFORCE BY GENDER 2022 (no., %)



GENDER DIVERSITY BY EMPLOYEE CATEGORY 2022 (no.)



Health and safety

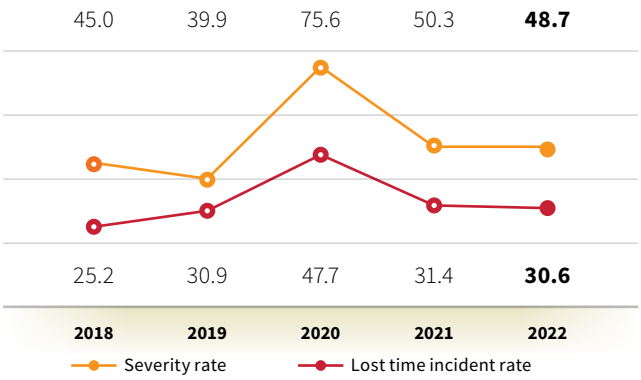
The health and safety of Bumitama employees remains a top priority throughout our operations, with particular focus on mitigating infection risk observed during the COVID-19 pandemic.

Our eight central clinics and 48 branch clinics are strategically located for the convenience of all workers, dependents, and community members. All employees and contractors are covered by our occupational health and safety procedures, which include strict protocols reviewed annually by external consultants. Our health and safety risk identification and management systems are complemented by the provision of personal protective equipment (PPE) to all employees and ongoing health and safety reporting. We continuously monitor and review all our programmes, including a recent workplace health and safety audit.

Reducing accident rates

Harvesters account for over 70% of all company-wide accidents. Over the last few years, we have continued to develop mitigation strategies and programmes that record accidents by category. This also includes the implementation of a stepwise roadmap as part of our Triple Zero Target strategy to reduce all accident rates by 75% by 2025 (against our 2020 baseline).

ACCIDENTS 2018–2022



Notes:
1. *Lost time incident rate: recordable injuries x 1,000,000/total working hours*
2. *Severity rate: total days lost x 1,000,000/total working hours*
3. *Accident reporting covers all Bumitama employees and associated contractors*

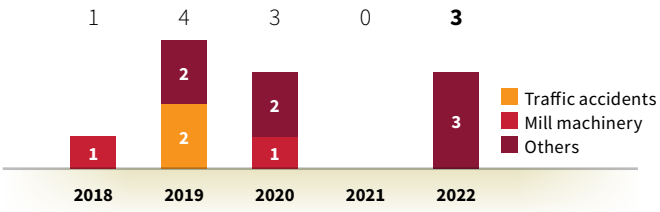
Accident rates have significantly fallen since 2020. Lost time incident rates declined from 47.7 to 30.6, and severity rates have reduced from 75.6 to 48.7: overall reductions of almost 36%. This difference is because of a concerted effort to reduce accidents over the last two years, leading to a sharp drop in the first year following our 2020 improvement programmes.

Triple Zero Target programme (p11) ↗

Fatalities

Regretfully, we must report that in 2022, there were three fatalities that occurred during the harvesting process. Prior to this, we had successfully avoided any fatal accidents in 2021. Bumitama takes every fatal accident very seriously, and we have taken immediate steps to investigate the causes of each incident. We have conducted thorough checks of our facilities for malfunctions and have taken corrective actions to minimise the likelihood of future accidents.

FATALITIES 2018–2022 (no.)



Freedom of association

Bumitama upholds the right of our employees to join or form associations of their choice and engage in bipartite cooperation institutions or *Lembaga Kerjasama Bipartit* (LKS) across our operations. We hold regular forums and meetings with our bipartite representatives to discuss various issues, including wages, benefits, leave, and notice periods, among others. These meetings involve representatives from both company management and workers from all our operations and play a crucial role in strengthening our employer-employee relations. Currently, 693 employees are affiliated with 18 bipartite cooperation institutions. It is worth noting that we have not experienced any labour disputes or industrial action in recent years.

Employee development and retention

The safety, career satisfaction, skill levels, and productivity of our employees are essential to Bumitama's ongoing success. We provide growth and career advancement opportunities to all employees, and our training modules align with our corporate identity, company values, and best management practices. In 2022, we provided an average of 17.3 hours of training to our employees. However, due to the nature of work generally undertaken by men and women at our operations, our male employees received 18.3 hours of training on an average, while our female employees received an average of 9.7 hours.

Training centres and Bumitama's Corporate University

Our on-site training and learning centres offer customised training sessions for different employee groups, including agronomy, mill operation, and administration. These sessions comprise introductory seminars to increase competency, specialised development programmes, and workshops to keep employees updated on crucial developments.

At Bumitama's Corporate University, we strive to enhance our recruitment processes, advance occupational competency, and elevate leadership development. A skills-based approach matches the right talent with the most suited positions. These groups are enrolled in customised, advanced learning programmes in partnership with Yogyakarta's STIPER Agricultural Institute (INSTIPER), including mandatory certification programmes. Webinars on topics such as fire management, biodiversity monitoring, and waste management are also available. Moreover, we offer programmes that benefit community members, such as hydroponic farming, welding, and motorbike servicing.

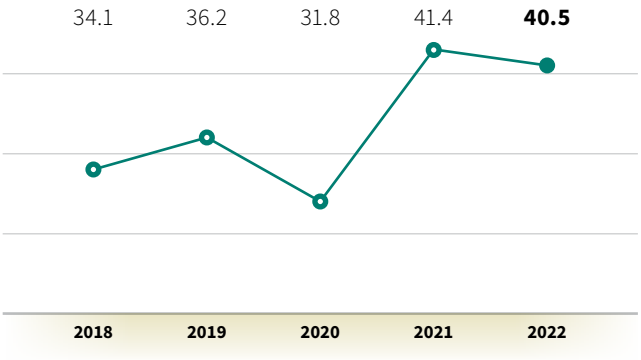
Since the pandemic, we have introduced an e-learning platform and continue to provide flexible education and access to supplementary training material.

Employee turnover and retention

Bumitama has observed a significant increase in employee turnover rates from 31.8% in 2020 to over 40% in both 2021 and 2022. This increase was due to the growing demand for harvesting and production, which required re-training and rotation of employees to meet our operational needs. Unfortunately, this led to increased employee resignations. We take the satisfaction of our employees very seriously and recognise the importance of finding a balance between meeting our operational needs and fulfilling the expectations of our workforce. Our management is actively investigating this matter to prevent similar issues from occurring in the future.

EMPLOYEE TURNOVER 2018–2022 (%)

Permanent staff and workers



New government internship programme

In 2022, Bumitama – in partnership with the Indonesian Ministry of Education's Kampus Merdeka programme – launched an internship initiative for final-year university students. The project aims to foster excellence and nurture potential employees for Bumitama as well as the broader industry. Of the 11,712 applications received in 2022, 118 were selected to participate in the programme: 74 across our operations and 44 at our head office. The Ministry of Education financed the programme, providing interns with accommodation and a stipend. The scheme is one of the most extensive Indonesian palm oil industry internship certificate programmes.

We also collaborate with Indonesian universities to provide public lectures on palm oil agriculture and to further support the government's target of increasing the skill set of Indonesian students.

Kampus Merdeka programme
(Refer to our website for more details) ↗

Community Partnerships

Bumitama regularly reviews its community programmes to ensure they meet local needs and reflect the evolving relationship between the company and the communities it operates in. Our approach has shifted from training-oriented to facilitating market access, which helps build resilient and independent communities through multi-stakeholder initiatives with experts and potential partners. Our programmes align with our plans for socio-economic growth and focus on themes such as agricultural extension, alternative livelihoods from conservation and ecosystem services, social forestry support, and fire prevention. We understand that land use in operational areas can be dynamic, and we aim to provide better livelihood options that encourage communities to diversify their incomes.

Upholding land rights

Bumitama respects the legal and customary land rights of Indigenous people and other local communities, including their right to give or withhold free, prior, and informed consent (FPIC) to activities that may affect them or their territories. We use participatory social impact assessments to identify local community tenure and engage in fair and informed negotiations regarding land access and other natural resources. Our teams receive regular training on FPIC and community engagement.

We understand that local communities or representatives may raise concerns about land rights, conflicts, or both. Our complaints mechanism focuses on sustainability compliance issues, including land or customary rights disputes. We strive to address grievances on a case-by-case basis, and stakeholders can access external platforms such as the Roundtable on Sustainable Palm Oil (RSPO) complaints process if needed. We are committed to addressing concerns in a fair and amicable manner.

Grievances and whistleblowing (p19) ↗

Social forestry

The Indonesian Government has recently launched a social forestry programme that aims to designate 12.7 million hectares of state forest to Indigenous or local community management. This programme intends to formalise customary and tenure land rights for these communities and offer them opportunities to improve their livelihoods through sustainable forest management.

Bumitama's sustainability commitments to promote livelihoods through forest protection align with the goals of the Indonesian social forestry programme. Therefore, we have taken decisive steps by offering to co-manage the designated social forestry areas awarded by the Ministry of Environment and Forestry to some communities in our operational areas.

We started working with selected communities in 2018, helped them obtain the necessary licenses, and develop local management units. **In 2020, Bumitama agreed on long-term social forestry co-management partnerships with two Ketapang villages. By the end of 2022, this had expanded to six villages, covering a total of 14,715 hectares. Bumitama was one of the first oil palm companies to participate in this programme.** We aim to facilitate exemplary social forestry partnerships in over 15,000 hectares by 2025.

Overview of Bumitama's social forestry programmes

REGION	VILLAGE GROUP	PERMIT TYPE	YEAR OF PARTNER-SHIP	TOTAL (HA)
West Kalimantan	Desa Simpang Tiga Sembelangaan	Hutan Desa	2020	4,325
	Desa Sungai Melayu	Hutan Desa	2020	3,383
	Desa Nanga Tayap	Hutan Desa	2022	3,976
Central Kalimantan	Sukses Manyam Sejahtera	HKM	2021	1,023
	Konsu Mandiri Sejahtera	HTR	2021	1,267
	Mitra Pamaingan	HTR	2021	741

Building community resiliency

Our programmes are designed to help build foundational resilience for communities, making them increasingly independent and self-sufficient each year. We take a phased approach, beginning with support through provisions, programmes, and educational activities before progressing to capacity building, mentoring, planning, and reforestation planting. Our goal is for villages to become operationally independent by the fifteenth year, with additional support from Bumitama, where necessary, throughout the 35-year permit duration.

Understanding barriers on the ground

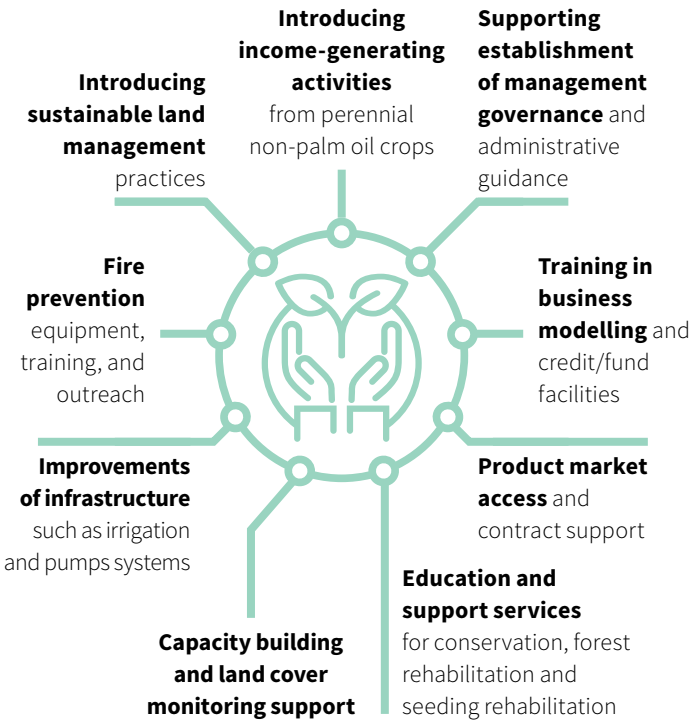
Bumitama is committed to having a visible presence in the estates and communities we serve. This allows us to better understand their needs, so we can assist with lasting impacts. We survey communities and map livelihood opportunities to preserve the original forest, investigate agroforestry and agrotourism opportunities, and identify potential livelihood improvement programmes.

For example, in 2017, Bumitama conducted participatory village land-use planning, which became a key pillar of Ketapang village's plans. Our strategy identified potential livelihood improvement programmes and considered the landscape and critical areas of concern, including limitations from traditional land-use practices, cultivation shifts, low yields, and insufficient food sources.

Bumitama has also conducted several social baseline assessments with the help of a toolkit from Michigan University. These studies examine village biodiversity, carbon, and integrated forestry opportunities, giving us a deeper understanding of the extent of forest damage and the communities' willingness to care for them. We aim to conduct assessments every five years to better understand impacts, improvements, and potential gaps.

Although our focus is on improving livelihoods through forest protection, management, and rehabilitation, we also recognise the relevance of human rights issues, such as gender equality and structures for wages and living conditions. As the social forestry programmes mature, we plan to focus on these areas next.

EXAMPLES OF BUMITAMA SUPPORT



Partnerships for common goals

To achieve our objectives, Bumitama collaborates with multiple stakeholders. This includes:

- **Close community engagement:** Bumitama's community partnerships developed over many years and grew from our existing CSR and community initiatives. The 25-year social forestry programmes were the next organic steps to take. Bumitama assisted with the awarding of social forestry licences through stakeholder engagement initiatives and assisting communities with legal requirements.
- **Supporting regional government plans:** These programmes bolster our ongoing conservation and CSR commitments to align with initiatives such as the Ketapang Green Growth Plan and the Production, Protection, Inclusion (PPI) Compact. Working alongside government objectives helps Bumitama broaden our efforts to reduce greenhouse gas emissions by lessening deforestation, eliminating fire use for production, and accelerating forest restoration.
- **Working with strategic partners:** Partnering with organisations such as Earthqualiser and the Sustainable Trade Initiative (*Initiatief Duurzame Handel [IDH]*) in the Ketapang area has been part of a broader initiative to lead recovery plans, conservation, sustainable production, and work with different commodities in various communities.
- **Engaging experts:** We work with field experts to support our conservation efforts and conduct baseline assessments. In 2019, we partnered with Forest Conservationist Dr. Ir. Siti Maimunah, from INSTIPER Yogyakarta, who guided our forest inventory and conservation efforts. Bumitama worked with her in 2021 on an environmental partnership publication highlighting some of Bumitama's forest protection and conservation initiatives and their positive impacts on the palm-oil landscape.

Commentary by Dr. Ir. Siti Maimunah,
Conservationist, Researcher and Senior Lecturer | Institut Pertanian Stiper Yogyakarta (INSTIPER)

Companies have the capacity to support forest conservation initiatives when communities face obstacles in doing so. Local stakeholders are typically expected to innovate by themselves to generate income from forest management. It can sometimes lead to forest clearance and the depletion of natural resources – a problem often exacerbated by inadequate knowledge of the importance of forest conservation, and government-mandated socialisation regulations.

This is why companies like Bumitama are integral for supporting the government in developing social forestry programmes and forming a crucial link between the government and local communities. The programmes allow a mutual symbiosis to take root. Community forests benefit from a company's economic support to help manage areas which had previously been supported with little to no funds. Companies also benefit from positive recognition as a result of internationally mandated conservation efforts.

A comparison of independent communities not receiving support to those that partnered with palm-oil plantation companies in social forestry programmes clearly demonstrates that communities receiving assistance are more efficient and sustainable. Bumitama's approach and commitment are respected by the communities they serve. Its long-term planning assures that Bumitama will remain a trusted partner.

Although some new community partnerships are still in development, the Ketapang communities have begun harvesting and are receptive to sustainable forest management initiatives. The Ketapang communities also manage their water sources with help from Bumitama and receive an income from eco-tourism.

I am confident other communities will see similar progress in the coming years.

About: *Dr. Ir. Siti Maimunah is an experienced forest conservationist in Indonesia who has received multiple accolades, including the Kalpataru Award from the Indonesian Ministry of Forestry and the 2019 Asia-Pacific Forest Champion Award from the Food and Agriculture Organisation (FAO). In 2019, Dr. Ir. Siti worked with the United Nations Development Programme (UNDP) to conduct a forest inventory within Bumitama concessions. She helps facilitate Bumitama's environmental partnership programmes with local communities and companies and authored a publication highlighting Bumitama's conservation efforts.*

Local community voices

Commentary by Remario and Martius,
Community Heads

Historically, lands belonging to our communities have been subject to a high risk of encroachment by outsiders seeking to clear our forests for financial gain. But we have every intention of preserving our lands and have been seeking ways to sustain ourselves from it. This is why we requested a government social forestry management decree.

In 2021, this led to a co-management initiative and a collaboration with Bumitama. Since then, we have established clear boundaries that will help mitigate forest-clearing activities within our demarcation. Additionally, Bumitama is supporting us with our sustainable land management endeavours to allow us to find ways of improving our ability to earn a living from our land. In HKM SMNS, this has included planting cacao and other agroforestry crops in open land areas. In HTR KMNS, Bumitama is assisting us in increasing our yields by helping develop better irrigation systems for our paddy fields. The company is also supporting the construction of a rice production warehouse. With Bumitama's help, we are creating new market opportunities that will lead to improved income for our community.

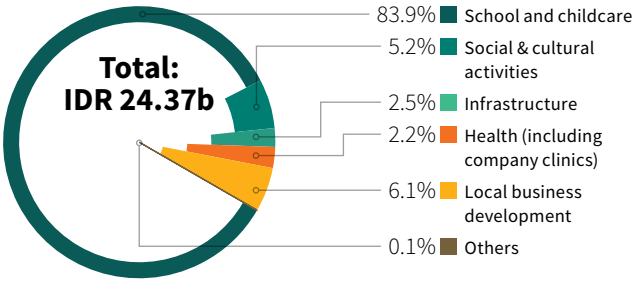
Although Bumitama's operations are located further away than other plantation companies, their management team has shown a firm resolve to help protect our communities. We have only been collaborating with Bumitama for a year, so we have yet to witness long-term improvements. However, it is reassuring that we have a 25-year commitment with them. We are confident that these sustainability programmes will lead to better opportunities.

We were delighted that after only one year, our communities achieved a silver award for their Operational Work Plan (Rencana Kerja Operasional [RKO]). This motivates us to work harder toward our future goals.

About: *Remario is the community head for HKM Sukses Manyam Sejahtera (SMNS). Martius is the community head for HTR Konsu Mandiri Sejahtera (KMNS). Both communities have collaborated with Bumitama since 2021 in social forestry programmes.*

- **Mr Iskandar, Desa Tiga Sembelangaan** (Refer to our website) ↗
- **Mr Nikolaus, Desa Sungai Melayu** (Refer to our website) ↗

CSR EXPENDITURE 2022 (%)



CSR and community development

As Bumitama strives to maintain its commitment to supporting the communities in which it operates, we recognise the importance of building long-term partnerships with community members and smallholders, which enable us to tailor our programmes to meet their evolving needs. In this regard, we remain dedicated to investing in community support initiatives such as children's education, social and cultural activities, and providing assistance to local businesses.

Improving livelihoods

For years, the communities and smallholders living around Bumitama's operations have relied heavily on oil palm production as their main source of income. However, external factors such as price fluctuations and weather patterns can significantly impact their earning potential.

To address this, Bumitama has recently begun promoting the development of non-timber forest products (NTFPs) and sustainable land management initiatives that support ecotourism. In 2022, we enlisted the help of an advisor, Dr. Ir. Sri Gunawan, to review our corporate social responsibility (CSR) activities and enhance our approach to maximise our impact. **Building on past learning experiences and with the guidance of our advisor, we have redefined our income-generating programmes to include both palm and non-palm oil sources.**

Palm oil income-generating activities (IGA Sawit)

Over 40% of palm oil production land in Indonesia is owned by smallholders and communities. However, their production levels are typically lower compared to company-owned palm oil plantations, and they face obstacles to access markets due to gaps in agronomy and best management practices. To address these challenges, **Bumitama has implemented the IGA Sawit programme to support palm oil producers with provisions to increase FFB production, streamline harvesting efforts, and work towards sustainable palm oil certification.** Some examples of support programmes include:

Providing organic fertiliser from composted empty fruit bunches

Training on RSPO certification requirements, e.g., agronomy, work safety, fertiliser usage, fire mitigation

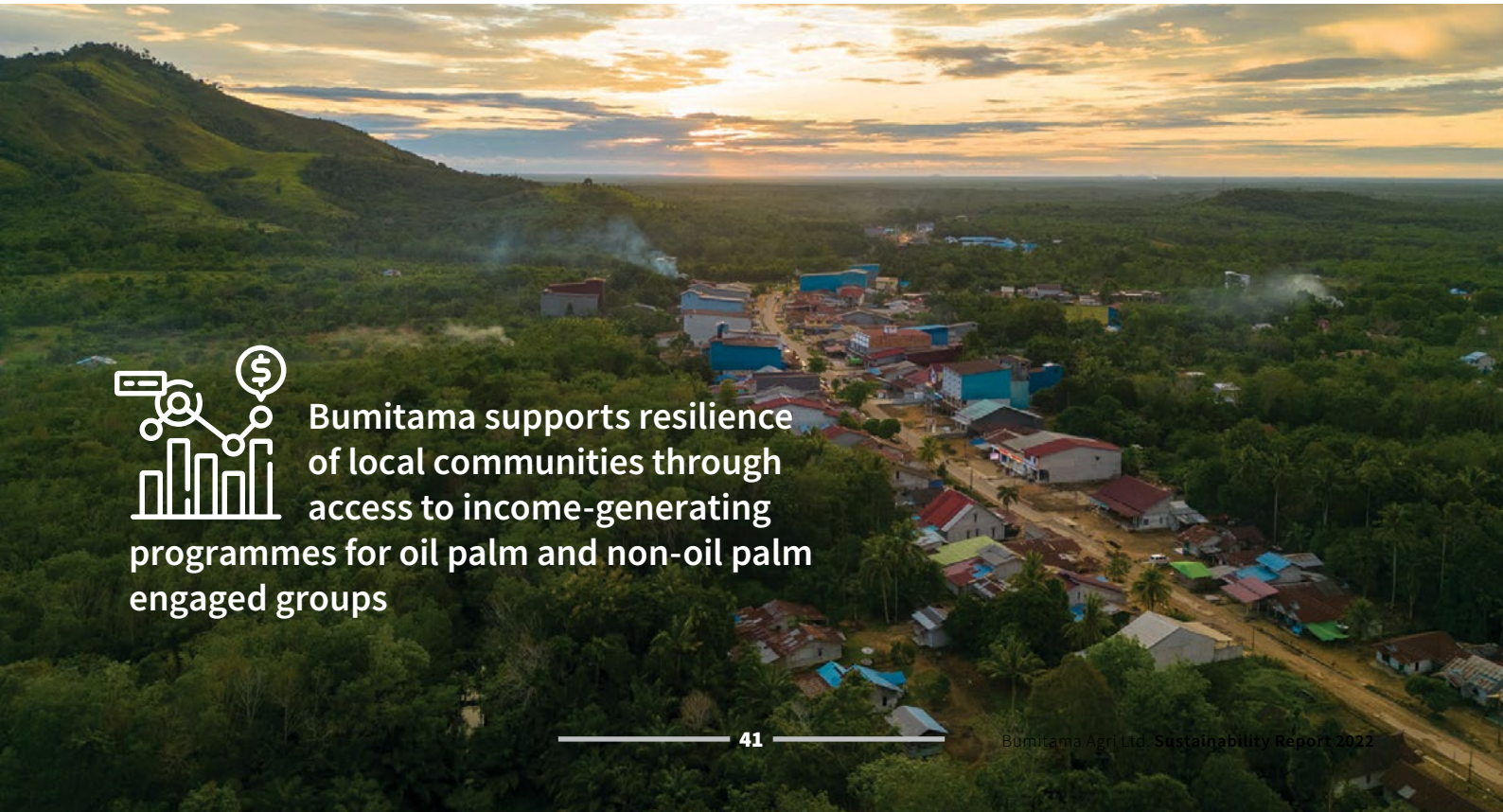
Training with external support from the Indonesian Oil Palm Plantations Fund Management Agency (BPDPKS) and INSTIPER

Maintaining fair prices on FFB purchases

Conducting soil analysis prior to planting

Access to high-yielding planting material for replanting

Scholarships for palm oil farmers' children



Bumitama supports resilience of local communities through access to income-generating programmes for oil palm and non-oil palm engaged groups

PEOPLE AND COMMUNITIES

Update on our smallholder productivity research programme

Bumitama has supported a four-year IDH research programme from 2018 to 2021, which was funded by NICFI through Nebraska University. The initiative focused on studying the productivity levels of 200 independent smallholders that supply our Ketapang mill in West Kalimantan. After the study, the smallholders enrolled in our IGA Sawit programme and are currently preparing for RSPO certification.

Training with AKPY

As part of our CSR efforts, Bumitama believes that training community members to work at palm oil plantations is crucial. To implement these initiatives, we work with a trusted plantation vocational partner, the Yogyakarta Plantation Community Academy (*Akademi Komunitas Perkebunan Yogyakarta* [AKPY]).

Our collaboration allows participants to gain experience in authentic palm oil plantation working conditions and better understand key fundamentals such as agronomy (fertiliser application), organic fertilisers, and hand soap. Additionally, they receive introductory food certification training for micro and small enterprises. The AKPY graduates who go on to work at plantations can share their knowledge with other community members, helping facilitate a good synergy between Bumitama and the areas we serve.

Non-palm oil income-generating activities (IGA Non-Sawit)

Many community oil palm plantation areas have completed their oil palm cycles, making them ready for replanting. To support these communities, Bumitama has developed a secondary programme called IGA Non-Sawit.

The initiative encourages community members to diversify their income streams to reduce their dependency on oil palm. Measures include managing non-oil-palm lands by planting agroforestry crops like seasonal plants, vegetables, and other food yields. Additionally, communities are exploring other activities such as aquaculture, livestock farming, and agrotourism. Bumitama assists in these CSR endeavours by helping smallholders and communities to identify, photograph, map, and cluster potentially suitable community areas for developing agroforestry, aquaculture, farming, and agrotourism.

Contributing to food security

Alternative livelihood programmes are essential to provide income streams and alleviate food insecurity in remote areas. The pandemic and ensuing supply chain disruptions have highlighted this need. Initiatives such as poultry farming and fishponds provide steady, nutritious food for our communities. Additionally, Bumitama allocates enclaves so that our employees and the communities surrounding our estates can grow their fruit and vegetables.

Commentary by
Dr. Ir. Sri Gunawan, *Director | Akademi Vokasi Perkebunan Yogyakarta*

Producer companies such as Bumitama are vital in supporting surrounding smallholders and communities to improve their livelihoods and become more sustainable. Bumitama is known for implementing long-term planning solutions to ensure a more sustainable environment for smallholders and communities. Instead of cursory measures, Bumitama actually visits communities in West and Central Kalimantan, Sumatra, and Riau to witness any impediments first hand. This has led to the development of programmes that help communities independently prosper from palm oil production (IGA Sawit). Bumitama is also helping develop strategies to boost livelihoods and balance income streams from non-palm oil activities (IGA Non-Sawit).

These CSR initiatives ensure that smallholder and community activities are more balanced so they do not depend solely on or are limited to palm-oil production activities. In addition to ensuring that the communities stay sustainable and independent, it is also crucial to prepare them for potential disruptions that might affect palm oil production, such as decreasing revenues.

I hope that Bumitama perseveres with this meaningful work and continues to support smallholders and communities not only in palm-oil cultivation but also helps to expand their opportunities with initiatives such as government programmes, aid or scholarships.

Bumitama's ongoing support ensures that smallholders and communities, especially in remote areas, do not miss out. Ideally, it is hoped that these programmes will eventually lead to increased development and better living conditions in rural areas of Indonesia.

About: *Dr. Ir. Sri Gunawan is the director of the Akademi Vokasi Perkebunan Yogyakarta Community Academy. In addition to collaborating with Bumitama for many years in education and research studies, he supports Bumitama's CSR programmes on the sustainability of palm oil plantations.*

Building community independence

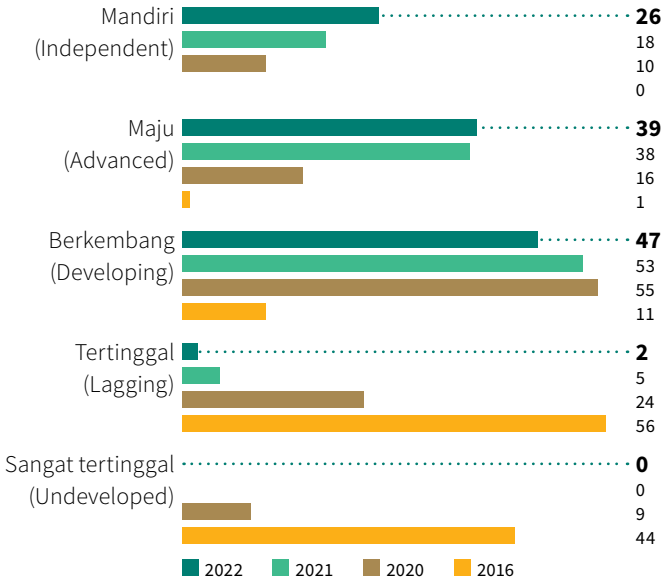
While our 'first ring' strategy primarily benefits our 114 surrounding communities or villages, our aim is to help these communities evolve into thriving and independent villages without relying on Bumitama's resources and support in the long run.

In 2016, the Indonesian government introduced the Village Development Index (Indeks Desa Membangun [IDM]), which uses indicators to measure the economic, social, and environmental development of communities across Indonesia. The IDM takes into account community resiliency based on various factors, such as education, diversity of community production, access to markets and financial facilities, and preparedness for natural disasters. The rankings were initially developed in 2016 and became annual assessments in 2020. By analysing the IDM rankings, we gain a better understanding of how our programmes impact the villages and identify areas where we can improve and address potential shortcomings.

Bumitama's villages moving up in Village Development Index (IDM) rankings annually

The changes in annual statuses of the villages demonstrate that they are continually improving their rankings. **In 2016, there were 44 'undeveloped' villages, but since 2021, there have been none. Moreover, the number of 'independent' villages has increased from zero to 26 as of December 2022.** Although our support cannot be viewed in isolation from other initiatives, this method demonstrates the positive impact of our programmes on the local communities. We will identify the gaps in the two villages in the 'lagging' category and propose programmes for the village stakeholders that can help them progress into the higher categories.

IDM RANKING OF BUMITAMA RING VILLAGES BY CATEGORY 2016–2022 (no.)



Note: number of villages assessed on an annual basis may vary.

Since 2014, our number of preschool childcare centres have almost doubled and CSR budget for education increased from 14% to 84% of total expenditure

Children's rights and programmes

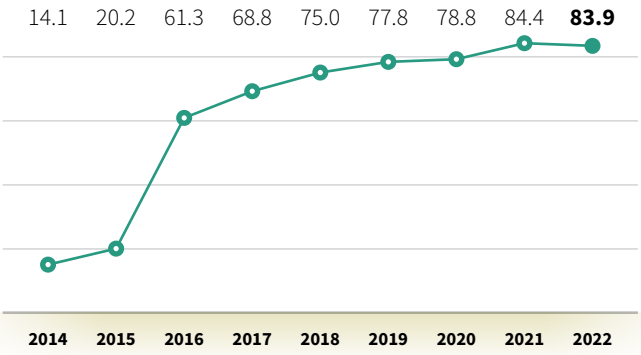
Bumitama strongly advocates for children's rights, providing them with equitable access to quality education, healthcare, nutrition, and protection from exploitation. We strictly comply with Indonesian government laws and regulations to prevent child labour, including banning the hiring of employees below 18 years old, whether for permanent or temporary positions. Additionally, we raise awareness about the risks of child labour and monitor school attendance, investigating the routine absence of children, especially during high crop seasons.

Following a 2017–2020 pilot programme that assessed children's and women's rights on our plantations, we updated our child protection guidelines, which are included in our new sustainability policy.

Childcare and children's education

We support SDG Goal 4: Quality Education, which is essential to breaking the cycle of poverty and enabling upward socioeconomic mobility. The Bumitama Foundation provides comprehensive educational programmes and infrastructure, ranging from early childcare centres to vocational high schools. These facilities offer employees a safe place to leave their children during working hours, minimising the risk of them being taken into the field.

CSR EXPENDITURE IN CHILDREN AND EDUCATION 2014–2022
(% OF TOTAL CSR EXPENDITURE)



Since 2014, we have nearly doubled our number of preschool childcare centres and increased our CSR education budget from 14% to almost 84% of total expenditure. Our educational programme also includes support for external schools with new equipment, building upgrades, school books, teacher training, as well as making more teachers available. We monitor the children of our employees who are not enrolled in school, often due to lack of documentation, and help them obtain the necessary certification from relevant government offices that will allow them for school registration. We also provide alternative learning programmes at our estates, for those unable to register at our schools.

During the pandemic, our schools have adopted various e-learning and alternative teaching methods to ensure continuity and compensate for the lack of face-to-face teaching during temporary school closures. Despite the disruptions and inconveniences, we maintained high student enrolment levels when COVID-19 was at its peak.

OVERVIEW OF EDUCATION FACILITIES AND INVESTMENTS

School enrolment:

92% Employees' children

8% Children from surrounding communities

83.9% of total CSR expenditure spent on education. Up from 14.1% in 2014

327 teachers employed

39 schools with > 5,400 students

supported 42 external schools with >6,400 students

147 childcare centres for over 2,600 pre-schoolers

10 Bumitama schools with *Adiwiyata* recognition

The Adiwiyata green school programmes

Every Bumitama school participates in the Indonesian government's *Adiwiyata* programme (also known as the green school initiative) to encourage environmental conservation knowledge and awareness.

As of December 2022, ten Bumitama schools have been recognised by the *Adiwiyata* programme, four at the national level and six at the provincial level. We have also provided administrative support to one external school to achieve provincial-level recognition. While we fell short of our 2022 objective to obtain recognition for at least twelve Bumitama schools and three external schools at the district level or higher, we aim to achieve this by 2023 and have 50% of our schools recognised at the national level by 2025.

Vocational student training

Since 2011, we have operated SMKS Gunajaya, a vocational institution in Central Kalimantan, providing senior-high students with vocational training in accountancy and agronomy. As of December 2022, 445 students had graduated from one or both courses, including children of our employees and local community children. Specialised vocational training skills better equip students to transition to their next level of education or join the workforce. Of our graduates, 63 pursued university-level studies, 313 were employed by Bumitama or our peers, while the remaining 69 became entrepreneurs or joined their family businesses.

Healthcare and nutrition

Malnutrition is a serious issue affecting millions of Indonesian children, with up to 30% of those under the age of five suffering from potentially life-threatening conditions such as stunted growth or wasting. The COVID-19 pandemic has only made matters worse, exacerbating this problem.

To help tackle this issue, we launched a programme in 2020 that focuses on monitoring and supporting healthy child development. Our initiative is a collaboration between Bumitama Foundation, doctors and healthcare providers, and the Indonesian Family Welfare Movement (*Pemberdayaan Kesejahteraan Keluarga*). Our goal is to provide preschool and young children with access to nutritious, balanced diets through locally sourced wholefoods, such as green bean porridge, eggs, and honey. We also provide children with essential vitamins and supplements, such as wheat snacks. In early 2020, 13 children were monitored and supported in this programme with risk of hindered development from their diet. Today we are proud to say that thanks to our efforts, there have been no cases of malnutrition reported among children attending our schools.

New palm oil farmers' children scholarship programme

Since April 2022, Bumitama has partnered with AKPY on a programme to encourage and guide employees' and smallholders' children to apply for the Indonesian Oil Palm Plantations Fund Management Agency (BPDPKS) scholarship. The grant covers annual education and transportation fees, assists with the cost of living, and provides school outreach activities and assistance throughout the scholarship application process. This includes helping to submit applications and coaching for interviews and written exams.

In 2022, Bumitama and AKPY helped 20 children obtain BPDPKS scholarships to study at several national institutions: *Institut Teknologi Sawit Indonesia* (ITSI), *Politeknik Kampar*, AKPY, and *Politeknik LPP Yogyakarta.* *In 2023, we hope to assist at least 40 children in applying for scholarships and expect to be able to provide them with employment upon graduation.*

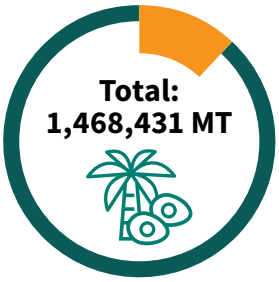
SUPPLY CHAINS AND RESPONSIBLE SOURCING

A Traceable Supply Chain

Bumitama sources over 27.5% of its fresh fruit bunches (FFB) from 94 external producers, with 12% coming from third-party plantation owners and 88% from independent smallholders in 2022. All FFB is sourced from areas around our mills in Indonesia.

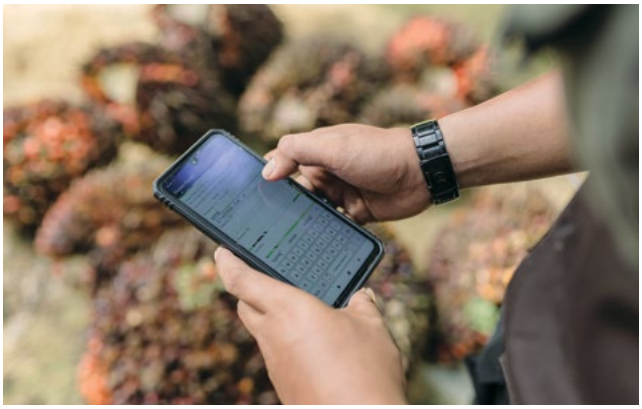
We recognise the importance of identifying all production sources to assess environmental and social risks within our supply chains. In recent years, we have prioritised enhancing our traceability-to-plantation data. Since 2019, we have maintained traceability data to over 98%, although reaching full traceability has been challenging due to fluctuating annual supply bases. Nonetheless, as of December 2022, we have achieved 99.6% traceability and plan to attain our 100% target by 2023.

EXTERNAL FFB SUPPLY BY SOURCE 2022 (MT, %)

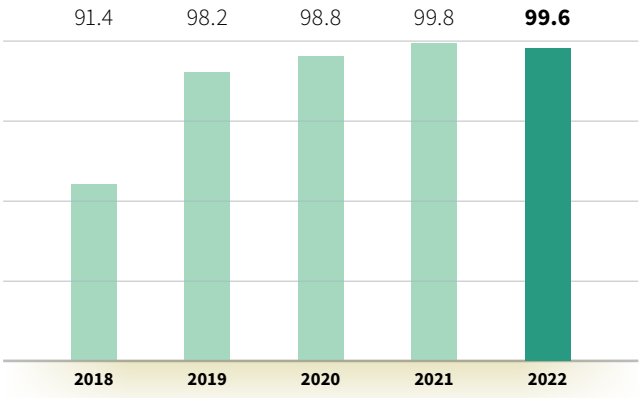


1,297,691 88% Independent smallholders

170,740 12% Large out-growers



FFB TRACEABILITY TO PLANTATION 2018–2022 (%)



Assessing and Engaging Suppliers

Assessments and monitoring

With the knowledge of our supply chain origin, we can now concentrate on mitigating environmental and social risks in areas that pose the highest concern. To achieve this, we implement a pre-screening process that maps out all our current and prospective suppliers using the following information:

- **Publicly available data**
- **Information disclosed by our suppliers through questionnaires**
- **Risks map covering a 50-kilometre mill radius**

Supplier risk categorisation

RISK CATEGORY	ZONING CRITERIA
Low risk	Suppliers with plantations in land designated for 'other use' (*Areal Penggunaan Lain [APL]*) outside existing concessions, without supply from forested areas or areas cleared by fire after 2022.
Potential risk	Suppliers with plantations where cultivation is allowed, but that could be in forested areas or those identified as peat (*KHG-Budidaya* areas per government maps).
High risk	Suppliers with plantations partially in *KHG-Lindung* protected forests, natural reserves, and national park areas.

After identifying the origin of our supply, we prioritise addressing high-risk areas with significant environmental and social concerns. Our pre-screening process includes mapping existing and new suppliers to evaluate their compliance with our sustainability policy requirements. This assessment covers critical aspects such as land legality, productivity, deforestation, fires, and community grievances, and suppliers with high risks are automatically excluded from being Bumitama suppliers. However, since some suppliers may provide incorrect or limited information, we plan to address this issue in our smallholder engagement programme that emphasises traceability and regular reporting of our progress.

Supplier questionnaires

To ensure our suppliers comply with our sustainability policy commitments, we developed a self-declaration questionnaire in 2021 that we request annually before renewing supplier contracts. In 2023, we plan to update this questionnaire in line with our new sustainability policy commitments and circulate it to all suppliers. We also conduct checks and follow-up inspections to verify the compliance of sourced FFB with official and legal suppliers. Our dedicated teams educate FFB suppliers on our sourcing policy commitments, and all smallholders and existing suppliers undergo periodic refreshment sessions.

Monitoring land use change

We monitor our suppliers' compliance with our no-deforestation and peat development commitments using a satellite monitoring system that covers over 140 thousand hectares. This system uses a geographic information system (GIS) remote sensing via Google Earth and detects any land-cover changes every six months. We also leverage Earthqualiser's (technical service provider) monitoring platform to assess our own estates and our suppliers' operations.

If we detect any land-cover changes in conservation areas, we verify and address the issue with the supplier. If the breach is confirmed, we request an immediate stop-work order and a plan for corrective action to restore non-compliant deforestation. For a supplier to re-enter our supply base, we require confirmation of their commitment to comply with our sourcing policy and monitor their performance for three to six months to ensure they take appropriate steps to rectify the reported non-compliance.

Working with suppliers to meet our sustainability commitments

At Bumitama, we are committed to upholding our sustainability policy, and we expect all of our suppliers to do the same. To ensure compliance, all new suppliers undergo mandatory screening, and existing suppliers are assessed annually against our policy commitments. During the reporting period, we onboarded 32 new suppliers, 14 in 2021 and 18 in 2022, all of whom were screened against our policy. In 2022, we engaged with and assessed 100% of our known suppliers against our policy commitments.

If we identify any breaches resulting from our questionnaires, monitoring, or grievances, we engage with the supplier to verify the issue. For corporate suppliers that are found to be noncompliant with our policy, we apply re-entry requirements. These include a stop-work order for the affected area, proof of policy implementation, implementation of new standard operating procedures, conducting HCV-HCS studies and implementing management plans, and a commitment to recovery for the affected area. We support this with a time-bound plan with clear actions and public reporting on progress. Suppliers are typically given three to six months to demonstrate their progress, but this may vary depending on their response and progress.

For Bumitama to consider re-entry, suppliers must show engagement and intent to improve. Meanwhile, suppliers that do not take remedial action or refuse to comply with our policy are terminated.

During the reporting period, we identified two cases of non-compliance. One of these cases showed improvement and demonstrated compliance with our policy commitments. However, in August 2022, we had to remove one supplier from our supply base due to breaches in our NDPE policy commitments and misreported information. As a result, we excluded 0.65% of our total external fruit sourced.

We take a different approach with smallholders, who are continuously engaged to understand and meet the NDPE requirements.

Statement on PT PSM (Refer to our website for more details) ↗

A Focus on Smallholders

Smallholders play a crucial role in the global palm oil industry and are an integral part of the Indonesian landscape. At Bumitama, we source 49.8% of our FFB from Bumitama plasma schemes, external parties, and independent smallholders. While small-scale farming brings many economic and social benefits to rural communities, smallholder farmers face challenges in adopting sustainable best practices.

To support our smallholders, we have intensified our efforts. In 2022, we engaged a specialist to conduct our first assessment, which helped us better understand the barriers faced by smallholders in West and Central Kalimantan. Our study revealed that smallholders face challenges such as a lack of legal documentation, barriers to accessing financing, and a lack of knowledge of good agricultural practices that can help improve yield and income. Based on these findings, we have tailored our programmes to focus on training, administrative and documentation support, and identifying ways to promote economic development.

We have also established dedicated programmes to assist smallholders with ISPO and RSPO certification. While ISPO certification will be mandatory for Indonesian smallholders by 2025, we believe that working towards voluntary RSPO standards will provide added value for our key operational markets.

Plasma smallholders

At Bumitama, we have allocated and developed 55,529 hectares (29.6% of our total planted area) for our Kalimantan and Riau smallholder schemes, which significantly exceeds the Indonesian government's regulatory requirement of 20% for smallholder planted areas. Plasma members are eligible to receive a share of plantation profits after interest deductions, loan payments, plantation costs, and a management fee.

We have allocated and developed 29.6% of our total planted area for our smallholder schemes. Bumitama exceeds the Indonesian government's regulatory requirement of 20%.

Under our management, all plasma scheme smallholders receive support for RSPO certification programmes. In early 2019, the first group of smallholders covering 1,899 hectares at our PT Masuba Citra Mandiri (Riau) and PT Agro Sejahtera Manunggal (West Kalimantan) operations were officially certified – equivalent to 3.4% of total plasma planted area. Our RSPO certification time-bound plan aims to support all plasma schemes to achieve certification by 2024.

Independent smallholders

Independent smallholders, who are not contracted to a mill, face challenges in accessing resources to become sustainable producers. To help address this, we actively engage and guide independent smallholders to build their capacity to participate in certification schemes. Our engagement covers training on best oil palm plantation practices to improve the quality of fresh fruit bunches and minimise the harvesting of immature ones. We provide training on recommended fertiliser application, weed management techniques, harvesting, and replanting programmes.

Our objective is for every certified mill with third-party supply to include at least one group of smallholders in productivity improvement programmes by 2024. We hope this will lead to smallholder certification within two years from the start of engagement. As of December 2022, we have dedicated smallholder programmes for 11 groups or cooperatives that sell to eight of our mills. Currently, 2,335 smallholders are enrolled in our programmes, comprising 11% of all smallholders supplying to Bumitama.

Kelompok Tani Tenera was the first independent smallholder group to become certified in 2018. Due to the challenges posed by the COVID-19 pandemic, the progress of our independent smallholders programme was significantly delayed, resulting in the certification of our second group, Kelompok Tani Karya Bersama, with 278 hectares of new areas in 2021 and adding another 46 hectares in 2022. Together, these groups cover 548 hectares of independent smallholder land, comprising 0.4% of the total external smallholder area supplying to our mills. We will continue to work closely with all our independent smallholders to integrate them into our certified and sustainable supply chain. By 2026, our goal is to have 2,335 independent smallholders certified under the RSPO programme, covering approximately 7,700 hectares. Despite the slowdown in progress over the last two years, this programme remains a top priority for us.

In 2021, Bumitama supported a second smallholder group, Kelompok Tani Karya Bersama, in achieving certification

APPENDICES

Stakeholder engagement overview

STAKEHOLDER GROUP	OBJECTIVES	METHOD OF ENGAGEMENT
Industry associations and certification bodies	• Engagement as part of formal audits and verification assessments • Compliance with sustainability standards • Improvement of sustainability standards	• Working groups & task forces AH Q • Multi-stakeholder forums AH M • One-on-one meetings Q • Formal audits and verification assessments AH
Local communities	• Safeguard community land ownership and observe FPIC principles • Provide communities with improved livelihoods and minimise negative impacts of Bumitama's operations on local communities • Dedicated programmes on palm oil and non-palm oil income-generating activities • Collaborate in the co-management of conservation areas and fire prevention	• Participatory company-community land ownership assessment and grievance reporting O • Community programmes O • SIA reassessments 3Y • Focus Group Discussions; dialogues with community representatives BA • Social Forestry, BBCP, conservation and rehabilitation programmes O • Fire engagement programmes M O
Customers and buyers	• Update on policies and implementation progress • Respond and address potential grievances • Engage in landscape partnerships	• Multi-stakeholder forums AH Q • Direct meetings and engagement AH M • Annual and sustainability report BA 1Y • News releases and Bumitama website M AH • Regional projects and partnerships O
Employees and workers	• Build awareness of company policies • Develop employee skills and knowledge through training; conduct performance and feedback reviews • Improve health and safety measures and workplace conditions • Support livelihoods and welfare	• Training programmes, Bumitama Corporate University, E-learning O • Website, company media updates, social media M AH • Assessments and improvements to workplace conditions, collaboration with experts O • Company events and cultural/religious celebrations TY • Trade union and in-house workers groups meeting AH M
Financial institutions	• Communicate on sustainability policy and implementation progress • Address environmental, social and corporate governance (ESG)-related enquiries	• Regular meetings with analysts, bankers and investors Q • Direct queries AH M • Annual and sustainability reporting 1Y BA • SGX updates and Bumitama website Q TY
Government and regulatory bodies	• Build a mutual understanding of requirements and policy alignments • Establish strong relationships with government and regulatory bodies	• Direct meetings AH M • Multi-stakeholder forums AH Q
NGOs and civil society organisations	• Address industry-related sustainability concerns, market standards and issues • Collaborate on conservation and social programmes	• Conservation projects and partnerships O • Multi-stakeholder forums AH Q • Working groups & task forces AH TY • Direct meetings and continuous engagement AH 1Y • Annual and sustainability report BA 1Y • News releases and Bumitama website TY
Independent and plasma smallholders	• Compliance with Bumitama sourcing requirements and policies • Smallholder programme, training and certification support	• Training programmes for schemed and independent smallholders, productivity, RSPO certification, fire management TY O • Fruit traceability and mapping, training TY 1Y • Help with land certification process TY 1Y

M = Monthly Q = Quarterly BA =Bi-Annual TY = Throughout the Year 1Y = Annually 3Y = Every Three Years O = Ongoing AH = Ad Hoc

Bumitama's SDGs contributions

In 2022, Bumitama prioritised and mapped selected SDG targets that support our existing and proposed initiatives. This reflects the areas in which we can make the greatest impact.

Selected SDGs also conform with those outlined by the Roundtable on Sustainable Palm Oil (RSPO). To prepare for this report, we have aligned the SDGs against our material topics and relevant targets.

For a list of relevant targets, see the section on **Objectives and targets** (p8) ↗

SDG	SDG TARGET		LINK TO MATERIAL TOPIC AND BUMITAMA'S OBJECTIVES
2 ZERO HUNGER	2.3	By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous people, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	**Land complaints/FPIC:** Respect the rights of Indigenous people and other local communities; conduct participatory social impact assessments; address any complaints
			Smallholder inclusiveness and CSR: Allocate over 20% of land/benefits to plasma smallholders; support plasma smallholder cooperatives with certification; assist independent smallholders with productivity and certification
	2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	**Productivity and operational efficiency:** Improve productivity and efficiency by achieving higher yields an extraction rates; invest in R&D
			Community development: Support communities with socio-economic growth through agricultural extension; alternative livelihoods from conservation and ecosystem services; social forestry support and fire prevention
4 QUALITY EDUCATION	4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes	**Children's rights and education:** Provide employees' children with childcare and education from preschool to senior high school level
	4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	**Capacity and training:** Offer Bumitama Corporate University training and upskilling; ensure adequate capacity to implement Group-wide sustainability
	4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	**Capacity and training:** Offer Bumitama Corporate University training and upskilling; ensure adequate capacity to implement Group-wide sustainability
8 DECENT WORK AND ECONOMIC GROWTH	8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	**Gender and equal opportunities:** Protect women's rights; uphold no-discrimination policies; guarantee male and female equality
			Community development: Support communities with socioeconomic growth through agricultural extension, alternative livelihoods from conservation and ecosystem services, social forestry support and fire prevention
	8.8	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	**Human rights and labour conditions:** Uphold all internationally established human rights on wages, pay slips, benefits, recruitment, equality, unionisation, forced and child labour
			Health and safety: Eradicate all work-related fatal accidents and reduce all workplace incidents through our Triple Zero Target programme; provide healthcare to employees and families

SDG	SDG TARGET		LINK TO MATERIAL TOPIC AND BUMITAMA'S OBJECTIVES
8 DECENT WORK AND ECONOMIC GROWTH	**8.8**	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	**Smallholder inclusiveness and CSR:** Allocate over 20% of land/benefits to plasma smallholders; support plasma smallholder cooperatives with certification; assist independents smallholders with productivity and certification
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**12A**	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production	**Smallholder inclusiveness and CSR:** Allocate over 20% of land/benefits to plasma smallholders; support plasma smallholder cooperatives with certification; assist independent smallholders with productivity and certification
			Traceability and supply chain monitoring: Maintain 100% traceability-to-plantation for all our own and third-party FFB suppliers; monitor suppliers' compliance to NDPE commitments
			Legal/regulatory compliance: Continue to operate in full compliance with local and other relevant legal and regulatory requirements
			Sustainability certification: Achieve RSPO and ISPO certification; address all past non-compliant land development
	12.2	By 2030, achieve the sustainable management and efficient use of natural resources	**Water impacts:** Implement our water stewardship strategy to reduce river water usage and maintain water discharge quality
	12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment	**Pesticides and chemical usage:** Reduce pesticides and chemical fertiliser usage across operations; maintain low toxicity levels; implementation of integrated pest management (IPM)
	12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	**Pesticides and chemical usage:** Reduce pesticides and chemical fertiliser usage across operations; maintain low toxicity levels; implementation of integrated pest management (IPM)
			Waste management: Reduce, reuse and recycle waste; ensure no spillage
13 CLIMATE ACTION	**13.1**	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	**GHG reduction and climate adaption:** Reduce GHG emissions through implementing our climate mitigation strategy; increase the use of renewable energy; identify and adapt to climate risks and impacts at our operations; achieve net-zero emissions by 2060 or sooner

SDG	SDG TARGET	LINK TO MATERIAL TOPIC AND BUMITAMA'S OBJECTIVES
15 LIFE ON LAND	**15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	**Wildlife and biodiversity conservation:** Maintain and enrich species biodiversity at Bumitama and surrounding areas; collaborate to achieve common industry conservation goals
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	**Deforestation/HCS/HCV/Peat:** Protect and restore identified HCV/HCS areas; obtain legal recognition of conservation areas; collaborate with stakeholders to preserve wider landscapes
		Fire and haze: Uphold Bumitama's strict zero-burning policy
	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	**Wildlife and biodiversity conservation:** Maintain and enrich species biodiversity at Bumitama and surrounding areas; collaborate to achieve common industry conservation goals
17 PARTNERSHIPS FOR THE GOALS	**17.14** Enhance policy coherence for sustainable development	**Anti-corruption and ethics:** Uphold the highest standards of professionalism and ethical conduct; enforce the tenets of our anti-corruption policy and code of conduct
		Transparency and accountability: Uphold the highest levels of transparency to maintain credibility; maintain open communication channels to address valid concern or grievances raised; continue annual sustainability reporting
	17.16 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries	**Wildlife and biodiversity conservation:** Maintain and enrich species biodiversity at Bumitama and surrounding areas; collaborate to achieve common industry conservation goals
		Stakeholder collaboration: Engage effectively with stakeholders to address industry-wide challenges
		Transparency and accountability: Uphold the highest levels of transparency to maintain credibility; maintain open communication channels to address valid concern or grievances raised; continue annual sustainability reporting

INTERNAL AUDIT ASSURANCE STATEMENT

Introduction and objectives of the engagement

The Internal Audit has been directed by the Sustainability Steering Committee of Bumitama Agri Ltd. (BAL) to provide assurance over the 2022 Sustainability Report (Report). The objective of the engagement was to provide assurance to external stakeholders over the accuracy, reliability and objectivity of the disclosures in the Report and that it covers the issues material to the business and its stakeholders. This assurance statement applies to the related information included within the scope of work described below.

Scope of work

The scope of our work was limited to assurance over performance data and qualitative information, included in the Report for the reporting period January 1, 2022, to December 31, 2022 (the 'Selected Information'). Subject to the limitations and exclusions listed in the section below, our review included:

- Statements, information and selected Environmental, Social, and Governance (ESG) performance indicators contained within the Report related to the issues of No Deforestation, No Peat and No Exploitation (NDPE), Greenhouse Gas (GHG) Emissions, Fire & haze mitigation, Health & safety, and Traceability and supply chain; and
- BAL's management approach to its material issues.

This assurance engagement relies on a risk based selected sample of the Report and the associated limitations that this entails. This internal audit statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

Reporting criteria

The Report has been prepared in accordance with the relevant reporting best practice of the Global Reporting Initiative (GRI) framework, while following internal definitions set by BAL for tracking and monitoring of the progress against its ESG performance indicators.

Responsibilities

The information that was assured and its presentation in the Report are the responsibility of the Sustainability department of BAL. Internal Audit department was not involved in the drafting of the Report. Its sole responsibility was to:

- Provide assurance over the accuracy, reliability and objectivity of the information contained within the Report, in accordance with the Practice Guide by the Institute of Internal Auditor (IIA) for internal reviews;
- Form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- Report detailed conclusions and recommendations in an internal report to BAL's Audit Committee and the Board of Directors.

Summary of work performed

As part of our limited assurance, the work of the Internal Audit department included:

- Conducting interviews with relevant personnel responsible for content included in the Report;
- Reviewing documentary evidence provided by the relevant personnel;
- Review Report sections corresponding with the source documentation;
- Evaluation of the internal systems, processes and controls designed to collect and report the data in the Report, including assessment of the appropriateness of assumptions made, estimation techniques used and reporting boundaries;
- Review BAL's systems for quantitative data aggregation and analysis;
- Reperforming a selection of aggregation calculations in the Report;
- Assessment of disclosure and Report presentation to ensure consistency with information assured.

A 5% materiality threshold was applied to quantitative ESG performance indicators (a subset of the Report) included within the scope of this assurance.

Conclusion

Based on the evidence obtained and procedures performed, nothing has come to our attention that would indicate that the Report has not been prepared, in all material respects, properly and in accordance with the applicable Reporting Criteria.

Arie Wibisono
Head of Internal Audit

BASE DATA

GENERAL DISCLOSURES							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
Activities, value chain and other business relation-ships [GRI 2-6]	Revenue	IDR billion	15,829	12,249	9,102	7,691	8,377[3]
	Profit before tax	IDR billion	4,571	2,864	1,931	1,193	1,705
	EBITDA	IDR billion	5,686	3,498	2,575	1,694	2,395
	Basic earnings per share	IDR per share	1,618	986	645	392	627
	Total land area	ha	238,000	237,000	234,000	234,000	234,000
	Planted area	ha	187,628	187,917	187,917	187,567	185,165
	Kalimantan	ha	185,319	185,608	185,608	185,258	182,856
	Riau	ha	2,309	2,309	2,309	2,309	2,309
	Mature	ha	180,806	181,211	173,464	170,053	162,815
	Immature	ha	6,822	6,706	14,453	17,514	22,350
	Nucleus planted area	ha	132,099	132,728	132,816	132,643	132,431
	Of total planted area	% by ha	70.4%	70.6%	70.7%	70.7%	71.5%
	Mature	ha	125,462	126,582	120,643	117,590	113,238
	Immature	ha	6,637	6,146	12,173	15,053	19,193
	Plasma planted area	ha	55,529	55,189	55,101	54,924	52,734
	Of total planted area	% by ha	29.6%	29.4%	29.3%	29.3%	28.5%
	Average age	years	12.3	11.6	10.6	9.8	8.9
	Mills	no.	15	15	14	14	14
	Central Kalimantan	no.	9	9	8	8	8
	West Kalimantan	no.	5	5	5	5	5
	Riau	no.	1	1	1	1	1
	FFB processed	MT	5,331,222	4,643,054	4,534,072	4,560,095	4,713,113
	Own plantations	MT	3,862,791	3,373,559	3,314,128	3,266,483	3,338,234
	Nucleus plantations	MT	2,676,926	2,336,178	2,270,745	2,231,353	2,276,866
	Of total FFB processed	% by ha	50.2%	50.3%	50.1%	48.9%	48.3%
	FFB Plasma	MT	1,185,865	1,037,381	1,043,383	1,035,130	1,061,368
	Of total FFB processed	% by ha	22.2%	22.3%	23.0%	22.7%	22.5%
	Third-party plantations	MT	1,468,431	1,269,495	1,219,944	1,293,612	1,374,879
	CPO produced	MT	1,188,156	1,051,623	1,024,548	1,035,201	1,043,045
	PK produced	MT	250,935	223,000	215,691	213,065	208,311
Employees [GRI 2-7]	Total employees	no.	33,058	31,541	31,423	32,111	32,610
	Male	no.	23,484	22,392	22,760	23,437	23,891
	Female	no.	9,574	9,149	8,663	8,674	8,719
	Permanent employees	no.	32,623	30,952	30,442	30,773	30,959
	Temporary employees	no.	435	589	981	1,338	1,651
	Workers	no.	31,530	30,107	30,032	30,817	31,332
	Male	no.	22,100	21,086	21,486	22,268	22,736
	Female	no.	9,430	9,021	8,546	8,549	8,596

[3] *Reclassified*

GENERAL DISCLOSURES							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
Employees [GRI 2-7]	Central Kalimantan	no.	17,657	17,279	17,579	18,150	18,682
	Male	no.	12,166	11,974	12,538	13,062	13,466
	Female	no.	5,491	5,305	5,041	5,088	5,216
	West Kalimantan	no.	13,249	12,187	11,793	12,011	11,978
	Male	no.	9,435	8,582	8,412	8,652	8,708
	Female	no.	3,814	3,605	3,381	3,359	3,270
	Riau	no.	624	641	660	656	672
	Male	no.	499	530	536	554	562
	Female	no.	125	111	124	102	110
Workers who are not employees [GRI-8]	Total	no.	16				
Compliance with laws and regulations [GRI 2-27]	Fines incurred	no.	0	0			
	Value of fines incurred	IDR	0	0			
	Non-monetary sanctions incurred	no.	0	0			
Productivity and operational efficiency	FFB yield per hectare	MT/ha	21.4	18.6	19.0	19.1	20.4
	CPO extraction rate	%	22.3%	22.6%	22.6%	22.7%	22.1%
	CPO yield per mature hectare	MT/ha	4.8	4.2	4.3	4.3	4.5
	Indonesia benchmark	MT/ha	3.9	3.7	4.0	3.9	3.9
	PK extraction rate	%	4.7%	4.8%	4.8%	4.7%	4.4%

ENVIRONMENTAL PROTECTION AND SUSTAINABLE LAND USE							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
Biodiversity protection and conservation [GRI 304-3]	Total conservation area	ha	40,619	40,619	39,310	39,380	39,380
	Identified HCV area[4]	ha	27,779	27,779	25,885	23,780	23,780
	Identified HCS area[4]	ha	10,398	10,398	11,517	11,599	11,599
	Conserved peat (non-HCV/HCS)	ha	1,540	1,540	1,540	3,433	3,433
	Others	ha	902	902	368	568	568
	Planted peat	ha	8,089	8,089	8,089	8,089	8,089
GHG (RSPO PalmGHG Calculator)[5]	Net GHG emissions	MT CO_2e/year	1,676,840	1,458,657	1,600,411		
	Emissions intensity	MT CO_2e/ MT CPO	1.41	1.38	1.56		
	Land clearing	MT CO_2e	1,095,535	1,135,259	1,059,966		
	Crop sequestration	MT CO_2e	-1,248,625	-1,260,173	-1,258,415		
	CO_2 from fertiliser	MT CO_2e	208,394	160,588	176,143		
	N_2O from fertiliser	MT CO_2e	101,208	78,124	93,734		
	N_2O from peat	MT CO_2e	41,662	37,929	50,407		
	Field fuel use	MT CO_2e	47,565	34,590	44,197		
	Peat oxidation	MT CO_2e	303,878	276,647	367,297		
	Conservation area offset	MT CO_2e	-5,613	-6,127	-6,314		
	Methane from POME	MT CO_2e	1,045,121	910,300	888,491		

BASE DATA

ENVIRONMENTAL PROTECTION AND SUSTAINABLE LAND USE							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
GHG (RSPO PalmGHG Calculator)[5]	Mill fuel use	MT CO_2e	8,573	9,282	8,759		
	Mill electricity credit	MT CO_2e	-22,417	-15,782	-9,191		
	PKS credit	MT CO_2e	-144,699	-135,663	-79,757		
	Third-party emissions	MT CO_2e	246,256	233,683	265,096		
GHG Protocol [GRI 305-1, 305-2, 305-3, 305-4]	Scope 1	MT CO_2e	1,244,129	1,070,224	1,085,588		
	Emissions intensity	MT CO_2e/ MT CPO	1.05	1.01	1.06		
	Scope 2	MT CO_2e	0	0	0		
	Emissions intensity	MT CO_2e/ MT CPO	0.00	0.00	0.00		
	Scope 3	MT CO_2e	454,650	394,271	441,239		
	Emissions intensity	MT CO_2e/ MT CPO	0.38	0.37	0.43		
Water usage and quality [GRI 303-3, GRI 303-4]	Total water withdrawn	m^3	6,520,282	5,595,233			
	Central Kalimantan	m^3	3,769,253	3,459,259			
	West Kalimantan	m^3	2,024,259	1,451,704			
	Riau	m^3	726,770	684,270			
	Effluent produced	m^3	2,732,374	2,499,583			
	Central Kalimantan	m^3	1,493,681	1,437,892			
	West Kalimantan	m^3	892,437	719,189			
	Riau	m^3	346,256	342,502			
	Effluent BOD range						
	High	mg/L	3,266	4,071	3,899	1,882	2,275
	Low	mg/L	457	1,428	637	349	310
Managing chemicals and pesticides [GRI 13.6.2]	Moderately hazardous	kg or litre	63,822	90,555	66,908	37,867	18,709
		volume/ha	0.3402	0.4819	0.3561	0.2019	0.1010
	Slightly hazardous	kg or litre	3,819	2,761	0	2,901	3,820
		volume/ha	0.0204	0.0147	0.0000	0.0155	0.0206

PEOPLE AND COMMUNITIES							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
Wages and benefits [GRI 202-1]	Bumitama entry level wages						
	Central Kalimantan	IDR	3,045,256	3,014,791	3,012,385	2,617,205	2,628,416
	West Kalimantan	IDR	2,884,186	2,884,882	2,897,352	2,395,050	2,562,000
	Riau	IDR	3,120,992	3,045,622	3,041,068	2,686,757	2,617,500
	Legal minimum wages						
	Central Kalimantan	IDR	2,922,516	2,903,145	2,890,093	2,615,735	2,421,305
	West Kalimantan	IDR	2,434,328	2,399,699	2,399,698	2,211,266	2,046,900
	Riau	IDR	2,938,564	2,888,564	2,888,563	2,662,025	2,464,154

[4] HCV and HCS areas include peat areas.
[5] GHG data prior to 2020 is not comparable. Bumitama used to calculate emissions for RSPO-certified sites only up until 2019. As of 2020, GHG data is calculated for all mills, regardless of certification status.

PEOPLE AND COMMUNITIES							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
Wages and benefits [GRI 202-1]	Ratio of entry level wages over legal minimum wage						
	Central Kalimantan	ratio by IDR	1.04	1.04	1.04	1.00	1.09
	West Kalimantan	ratio by IDR	1.18	1.20	1.21	1.08	1.25
	Riau	ratio by IDR	1.06	1.05	1.05	1.01	1.06
Diversity and equal opportu-nities [GRI 405-1]	Board of directors	no.	7	7	6	6	6
	Male	no.	6	6	5	5	5
	Female	no.	1	1	1	1	1
	Senior management[6]	no.	54				
	Male	no.	50				
	Female	no.	4				
	Management	no.	216	267	227	206	200
	Male	no.	210	257	214	195	190
	Female	no.	6	10	13	11	10
	Staff	no.	1,258	1,167	1,164	1,088	1,078
	Male	no.	1,124	1,049	1,060	974	965
	Female	no.	134	118	104	114	113
	Workers	no.	31,530	30,107	30,032	30,817	31,332
	Male	no.	22,100	21,086	21,486	22,268	22,736
	Female	no.	9,430	9,021	8,546	8,549	8,596
	Board independence	Ratio of independent directors	57%	57%	50%	50%	50%
	All employees	no.	33,058				
	<30 years old	no.	12,399				
	30–50 years	no.	18,851				
	>50 years old	no.	1,808				
Health and safety [GRI 403-9, 403-10]	Total lost time injuries	no.	6,028				
	Total high consequence work-related injuries	no.	3				
	Central Kalimantan	no.	2				
	West Kalimantan	no.	1				
	Riau	no.	0				
Collective bargaining agreements [GRI 2-30]	Unionised employees	no.	693	1,011	1,833	4,244	3,283

[6] Starting this year, senior management gender breakdowns will be dislcosed. The breakdown from prior years were provided under the Management category.

BASE DATA

PEOPLE AND COMMUNITIES							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
Employee development and retention [GRI 404-1, GRI 404-1]	Group average annual hours of training per employee	annual per employee	17.3				
	Male		18.3				
	Female		9.7				
	New hires by age group	no.	16,086				
	<30 years old	no.	9,383				
	30–50 years	no.	6,677				
	>50 years old	no.	26				
	Employees who left by age group	no.	12,860				
	<30 years old	no.	6,448				
	30–50 years	no.	6,268				
	>50 years old	no.	144				
	New hires by gender	no.	16,086				
	Male	no.	12,042				
	Female	no.	4,044				
	Employees who left by gender	no.	12,860				
	Male	no.	9,969				
	Female	no.	2,891				
CSR and community development	Central clinics	no.	8	13	12	11	12
	Branch clinics	no.	48	41	40	43	41
	Ambulances	no.	11	16	14	14	13
	Doctors	no.	9	6	6	4	4
	Paramedics	no.	127	115	113	105	100
	Childcare centres	no.	147	121	124	124	125
	Preschool children	no.	2,661	2,075	2,067	2,053	2,423
	Schools	no.	39	39	38	38	37
	Teachers	no.	327	305	300	315	298
	Students	no.	5,456	5,201	5,281	5,167	4,984
Anti-corruption [GRI 205-2]	Employees received training on anticorruption	no.	225				
		% of total employees	0.7%				

SUPPLY CHAINS AND RESPONSIBLE SOURCING							
Indicators	**Description**	**UoM**	**2022**	**2021**	**2020**	**2019**	**2018**
FFB volumes traceable to plantations [GRI 204-1, 13.23.2]	Total external volumes traceable	MT	1,445,129	1,262,099	1,164,168	1,210,839	968,479
		% of total external volume	98.4%	99.4%	95.4%	93.6%	70.4%
	Large outgrowers	MT	170,740	38,658	98,712	101,354	95,478
		% traceable of total large outgrowers volume	100%	99.8%	99.9%	100%	95.9%
	Independent smallholders	MT	1,274,389	1,223,441	1,065,457	1,109,485	873,001
		% traceable of total independent smallholders volume	98.2%	99.4%	95.0%	93.1%	68.5%

IUCN Red List of Threatened Species identified in Bumitama's regions of operations 2022

IUCN STATUS	SCIENTIFIC NAME	COMMON NAME	PRESENCE IN WEST KALIMANTAN	PRESENCE IN CENTRAL KALIMANTAN	PRESENCE IN RIAU
Critically endangered	*Pongo pygmaeus*	Bornean orangutan	■	■	
	Manis javanica	Sunda pangolin	■	■	■
Endangered	*Hylobates albibarbis*	Bornean agile gibbon			■
	Nasalis larvatus	Proboscis monkey	■	■	
	Ciconia stormi	Storm's stork	■		■
Vulnerable	*Acridotheres javanicus*	Javan myna		■	
	Aonyx cinerea	Asian small-clawed otter		■	
	Rusa timorensis	Javan rusa		■	
	Rusa unicolor	Sambar deer	■	■	■
	Chloropsis sonnerati	Greater green leafbird		■	
	Cuora amboinensis	Amboina box turtle	■	■	■
	Ducula pickeringii	Grey imperial pigeon	■	■	■
	Helarctos malayanus	Sun bear	■	■	■
	Leptoptilos javanicus	Lesser adjutant	■	■	■
	Lutra perspicillata	Smooth-coated otter		■	
	Macaca nemestrina	Southern pig-tailed macaque		■	
	Neofelis nebulosa	Clouded leopard		■	
	Numenius arquata	Eurasian curlew		■	
	Nycticebus coucang/Nycticebus brachycephalus	Sunda slow loris		■	
	Nycticebus menagensis	Philippine slow loris	■		■
	Ophiophagus hannah	King cobra	■	■	■
	Trachypithecus cristatus	Silvery lutung	■	■	■
	Presbytis frontata	White-fronted surili	■	■	
	Prionailurus bengalensis/Felis bengalensis	Leopard cat		■	
	Pycnonotus zeylanicus	Straw-headed bulbul	■	■	■
	Rheithrosciurus macrotis	Tufted ground squirrel		■	
	Setornis criniger	Hook-billed bulbul		■	
	Siebenrockiella crassicollis	Black marsh turtle	■	■	■
	Sus barbatus	Bornean bearded pig	■	■	■
	Cephalopachus bancanus	Horsfield's tarsier	■	■	■
	Treron capellei	Large green pigeon	■	■	■

GRI CONTENT INDEX

The Global Reporting Initiative (GRI) is a widely adopted multi-stakeholder standard for sustainability reporting, providing guidance on determining report content and indicators. It has been designed to enhance the global comparability and quality of information on environmental and social impacts, thereby enabling greater transparency and organisational accountability. Our 2022 Sustainability Report has been prepared in alignment with the 2021 GRI Standards and the GRI 13 Standards for Agriculture.

Statement of use	Bumitama Agri Ltd has reported in accordance with the GRI Standards for the period 1 January 2021 to 31 December 2022.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard	GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022

GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
ORGANISATIONAL PROFILE				
GRI 2: General Disclosures 2021	2-1	Organisational details	About Bumitama, p12	
	2-2	Entities included in the organisation's sustainability reporting	Our Business↗	
	2-3	Reporting period, frequency and contact point	About this report, p1 Contact, inner back cover	
	2-4	Restatements of information	Available throughout the report where relevant	
	2-5	External assurance An internal assurance was performed for this report	About this report, p1 Assurance statement, p52	
	2-6	Activities, value chain and other business relationships	About Bumitama, p12 Supply chains and responsible sourcing, p45	
	2-7	Employees	Employee overview, p34 Base data, p54–55	
	2-8	Workers who are not employees	Employee overview, p34 Base data, p55	
	2-9	Governance structure and composition	Governance and management, p18 AR2022	
	2-10	Nomination and selection of the highest governance body	AR2022	
	2-11	Chair of the highest governance body Governance and management	Governance and management, p18 AR2022	
	2-12	Role of the highest governance body in overseeing the management of impacts	Governance and management, p18 AR2022	
	2-13	Delegation of responsibility for managing impacts	Governance and management, p18 AR2022	
	2-14	Role of the highest governance body in sustainability reporting	Governance and management, p18	
	2-15	Conflicts of interest	AR2022	
	2-16	Communication of critical concerns	Governance and management, p18 Grievances and whistleblowing, p19	

GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GRI 2: General Disclosures 2021	2-17	Collective knowledge of the highest governance body	AR2022	
	2-18	Evaluation of the performance of the highest governance body	AR2022	
	2-19	Remuneration policies	AR2022	
	2-20	Process to determine remuneration	AR2022	
	2-21	Annual total compensation ratio	AR2022	
	2-22	Statement on sustainable development strategy	Chairman's welcome, p2–3	
	2-23	Policy commitments	New Bumitama Sustainability Policy, p15 Bumitama Sustainability Policy↗	
	2-24	Embedding policy commitments	New Bumitama Sustainability Policy, p15	
	2-25	Processes to remediate negative impacts	Grievances and whistleblowing, p19	
	2-26	Mechanisms for seeking advice and raising concerns	Grievances and whistleblowing, p19	
	2-27	Compliance with laws and regulations	Legal and regulatory compliance, p19 Environmental compliance, p33	
	2-28	Membership associations	Stakeholder engagement and transparency, p21	
	2-29	Approach to stakeholder engagement	Stakeholder engagement and transparency, p21 Stakeholder engagement overview, p48	
	2-30	Collective bargaining agreements	Freedom of association, p36	
MATERIAL TOPICS				
GRI 3: Material Topics 2021	3-1	Process to determine material topics	Materiality, p16	
	3-2	List of material topics	Materiality, p8–10, p16–17	
DEFORESTATION/HCS/HCV/PEAT				
GRI 3: Material Topics 2021	3-3	Management of material topics	No deforestation, p22 Conserving peat, p25	13.4.1
GRI 13.4: Natural Ecosystem Conversion	13.4.2	Assessment method and percentage of production volume sourced from own land determined to be deforestation-free	No deforestation, p22 Conserving peat, p25	
	13.4.3	Assessment method and percentage of production volume sourced from suppliers determined to be deforestation-free	Monitoring land use change, p46 Data not available in sourced volumes	
	13.4.4	Hectares and location cleared at own operations since cut-off date	Data not reported	
	13.4.5	Hectares and location cleared at suppliers' operations since cut-off date	Data not reported	
GHG REDUCTION AND ADAPTION				
GRI 3: Material Topics 2021	3-3	Management of material topics	Managing GHG emissions, p25	13.1.1 13.2.1

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GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GRI 201: Economic Performance 2016	201-2	Financial implications and other risks and opportunities due to climate change	Managing GHG emissions, p25	13.2.2
GRI 302: Energy 2016	302-1	Energy consumption within the organisation	Energy use and efficiency, p28	
	302-3	Energy intensity	Energy use and efficiency, p28	
	302-4	Reduction of energy consumption	Energy use and efficiency, p28	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Managing GHG emissions, p25 Base data, p56	13.1.2
	305-2	Energy indirect (Scope 2) GHG emissions	Managing GHG emissions, p25 Base data, p56	13.1.3
	305-3	Other indirect (Scope 3) GHG emissions	Managing GHG emissions, p25 Base data, p56	13.1.4
	305-4	GHG emissions intensity	Managing GHG emissions, p25 Base data, p55	13.1.5
	305-5	Reduction of GHG emissions	Managing GHG emissions, p25	13.1.6
GRI 13.1: Emissions	13.1.2	Scope 1 land use emissions	Managing GHG emissions, p25	
WILDLIFE AND BIODIVERSITY CONSERVATION				
GRI 3: Material Topics 2021	3-3	Management of material topics	Biodiversity protection and conservation, p22	13.3.1
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity protection and conservation, p22	13.3.2
	304-2	Significant impacts of activities, products and services on biodiversity	Biodiversity protection and conservation, p22	13.3.3
	304-3	Habitats protected or restored	Biodiversity protection and conservation, p22 Base data, p55	13.3.4
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Base data, p59	13.3.5
FIRE AND HAZE				
GRI 3: Material Topics 2021	3-3	Management of material topics	Fire management and monitoring, p28	
PRODUCTIVITY AND OPERATIONAL EFFICIENCY				
GRI 3: Material Topics 2021	3-3	Management of material topics	Operations and productivity, p13	
GRI 13.5: Soil Health	13.5.1	Describe the soil management plan	Soil management, p25	
WATER IMPACTS				
GRI 3: Material Topics 2021	3-3	Management of material topics	Water usage and quality, p30	13.7.1

GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	Water usage and quality, p30	13.7.2
	303-2	Management of water discharge related impacts	Water usage and quality, p30	13.7.3
	303-3	Water withdrawal	Base data, p56	13.7.4
	303-4	Water discharge	Base data, p56	13.7.5
	303-5	Water consumption	Water usage and quality, p30	13.7.6
WASTE MANAGEMENT				
GRI 3: Material Topics 2021	3-3	Management of material topics	Waste management, p32–33	13.8.1
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	Waste management, p32–33	13.8.2
	306-2	Management of significant waste related impacts	Waste management, p32–33	13.8.3
	306-3	Waste generated	Waste management, p32–33	13.8.4
	306-4	Waste diverted from disposal	Waste management, p32–33	13.8.5
	306-5	Waste directed to disposal	Waste management, p32–33	13.8.6
PESTICIDES AND CHEMICAL USAGE				
GRI 3: Material Topics 2021	3-3	Management of material topics	Managing chemicals and pesticides, p31	
GRI 13.6: Pesticides Use	13.6.1	Pest management plan and actions taken to prevent, minimise and remediate negative impacts, and plans to switch to less hazardous pesticides	Managing chemicals and pesticides, p31	
	13.6.2	Volume and intensity of pesticide use by toxicity hazard levels	Base data, p56	
HUMAN RIGHTS AND LABOUR CONDITIONS				
GRI 3: Material Topics 2021	3-3	Management of material topics	Upholding workforce human rights, p34–p37	13.16.1 13.18.1
GRI 202: Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Base data, p56–57 All minimum wage earners are paid equally, regardless of gender.	
GRI 401: Employment 2016	401-2	Benefits provided to full-time employees that are not provided to temporary or part time employees	Wages and benefits, p35	
GRI 402: Labor/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	Freedom of association, p36 Minimum notice period for operational changes: 30 days or as per the collective bargaining agreement	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Freedom of association, p36	13.18.2

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GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Wages and benefits, p35	13.16.2
GRI 13.20: Employment Practices	13.20.1	Describe policies and practices regarding recruitment of workers	Wages and benefits, p35	
GRI 13.21: Living Income and Living Wage	13.21.1	Describe commitments and methodology related to providing a living income or paying a living wage	Wages and benefits, p35	
	13.21.2	Percentage of employees and workers who are not employees whose work is controlled or covered by CBAs that have terms related to wage levels and frequency of wage payments	Data not available	
	13.21.3	Percentage of employees and workers who are not employees whose work is controlled is paid above living wage	Wages and benefits, p35	
SMALLHOLDER INCLUSIVENESS AND CSR				
GRI 3: Material Topics 2021	3-3	Management of material topics	CSR and community development, p41–42 A focus on smallholders, p46	
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	CSR and community development, p41–42 A focus on smallholders, p46	13.22.3
	203-2	Significant indirect economic impacts	CSR and community development, p41–42 A focus on smallholders, p46	13.22.4
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	A traceable supply chain, p45	
GRI 13.22: Economic inclusion	13.22.1	Describe actions taken to support the economic inclusion of farmers, and their communities, and the effectiveness of these actions; Describe actions taken to identify and adjust the sourcing practices that cause or contribute to negative impacts on economic inclusion of farmers in the supply chain	CSR and community development, p41–42 A focus on smallholders, p46	
HEALTH AND SAFETY				
GRI 3: Material Topics 2021	3-3	Management of material topics	Health and safety, p36	13.19.1
GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	Health and safety, p36	13.19.2
	403-2	Hazard identification, risk assessment, and incident investigation	Health and safety, p36	13.19.3
	403-3	Occupational health services	Health and safety, p36	13.19.4
	403-5	Worker training on occupational health and safety	Health and safety, p36	13.19.6
	403-8	Workers covered by an occupational health and safety management system	Health and safety, p36	13.19.9

GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GRI 403: Occupational Health and Safety 2018	403-9	Work-related injuries	Health and safety, p36 Base data, p57	13.19.10
	403-10	Work-related ill health	Data not recorded	13.19.11
COMMUNITY DEVELOPMENT				
GRI 3: Material Topics 2021	3-3	Management of material topics	CSR and community development, p41–44	13.12.1 13.22.1
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	CSR and community development, p41–44	13.22.3
	203-2	Significant indirect economic impacts	CSR and community development, p41–44	13.22.4
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programmes	CSR and community development, p41–44	13.12.2
	413-2	Operations with significant actual and potential negative impacts on local communities	CSR and community development, p41–44	13.12.3
GRI 13.9: Food Security	13.9.1	Describe effectiveness of food security programmes, partnerships to address food security, and policies to address food loss in the supply chain	CSR and community development, p41–44	
	13.9.2	Total weight of food loss	Data not collected	
LAND COMPLAINTS/FPIC				
GRI 3: Material Topics 2021	3-3	Management of material topics	Grievances and whistleblowing, p19 Upholding land rights, p38	
GRI 411: Rights of Indigenous Peoples 2016	411-1	Incidents of violations involving rights of indigenous peoples	Grievances and whistleblowing, p19 Upholding land rights, p38	
GRI 13.13: Land and Resource Rights	13.13.1	Commitments to respect land and natural resource rights	Upholding land rights, p38	
	13.13.2	Locations of operations where land and natural resource rights may be affected	Upholding land rights, p38	
	13.13.3	Size and location of operations where violations of land and natural resource rights occurred and the groups of rights holders affected	Grievances and whistleblowing, p19 Data on size not reported.	
GRI 13.14: Rights of Indigenous Peoples	13.14.1	Approach to engaging with Indigenous peoples	Upholding land rights, p38	
	13.14.2	Identified incidents of violations involving the rights of Indigenous peoples	Grievances and whistleblowing, p19	
	13.14.3	List the locations of operations where Indigenous peoples are present or affected by activities	Grievances and whistleblowing, p19	
	13.14.4	Report if the organisation has been involved in the process of seeking FPIC	Upholding land rights, p38	

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GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GENDER AND EQUAL OPPORTUNITIES				
GRI 3: Material Topics 2021	3-3	Management of material topics	Governance and management, p18 AR 2022 Diversity and equal opportunities, p35	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	Governance and management, p18 AR 2022 Base data, p57	
	405-2	Ratio of basic salary and remuneration of women to men	Data not available. All women are paid the same as their male counterparts, according to their level of employment.	
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	Diversity and equal opportunities, p35	
GRI 13.5: Non-discrimination and Equal Opportunity	13.15.5	Describe differences in employment terms and approach to compensation based on workers' nationality or migrant status	Diversity and equal opportunities, p35	
CAPACITY AND TRAINING				
GRI 3: Material Topics 2021	3-3	Management of material topics	Employee development and retention, p37	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	Employee development and retention, p37 Base data, p58 Breakdown of turnover by employee age group not available	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	Employee development and retention, p37 Base data, p58	
	404-2	Programmes for upgrading employee skills and transition assistance programmes	Employee development and retention, p37	
CHILDREN'S RIGHTS AND EDUCATION				
GRI 3: Material Topics 2021	3-3	Management of material topics	Children's rights and programmes, p43	13.17.1
GRI 408: Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	Children's rights and programmes, p43	13.17.2
TRACEABILITY AND SUPPLY CHAIN MONITORING				
GRI 3: Material Topics 2021	3-3	Management of material topics	Supply chains and responsible sourcing, p45	13.23.1
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	A traceable supply chain, p45 Base data, p58	
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	Working with suppliers to meet our sustainability commitments, p46	
	308-2	Negative environmental impacts in the supply chain and actions taken	Working with suppliers to meet our sustainability commitments, p46	

GRI STANDARD	DISCLOSURE		LOCATION OR REASON FOR OMISSION	GRI SECTOR STANDARD REF. NO.
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	Working with suppliers to meet our sustainability commitments, p46	
	414-2	Negative social impacts in the supply chain and actions taken	Working with suppliers to meet our sustainability commitments, p46	
GRI 23: Supply Chain Traceability	13.23.2	Describe the level of traceability in place for products sourced	A traceable supply chain, p45 Base data, p58	
	13.23.3	Report the percentage of sourced volume certified to internationally recognised standards	A focus on smallholders, p46 Data available as percentage of total smallholder hectarage (plasma and independent)	
	13.23.4	Describe improvement projects to get suppliers certified to internationally recognised standards	A focus on smallholders, p46	
LEGAL/REGULATORY COMPLIANCE				
GRI 3: Material Topics 2021	3-3	Management of material topics	Legal and regulatory compliance, p19 Environmental compliance, p33	
	See also: 2-27			
TRANSPARENCY AND ACCOUNTABILITY				
GRI 3: Material Topics 2021	3-3	Management of material topics	Stakeholder engagement and transparency, p21	
ANTI-CORRUPTION AND ETHICS				
GRI 3: Material Topics 2021	3-3	Management of material topics	Ethics, integrity and anti-corruption, p19	13.26.1
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	Ethics, integrity and anti-corruption, p19 100% assessed for risks related to corruption by internal audit teams	13.26.2
	205-2	Communication and training about anti-corruption policies and procedures	Ethics, integrity and anti-corruption, p19 Base data, p58 Breakdown of training by employee category by region is not available Data of communication on anticorruption not available	13.26.3
	205-3	Confirmed incidents of corruption and actions taken	Ethics, integrity and anti-corruption, p19	13.26.4
SUSTAINABILITY CERTIFICATION				
GRI 3: Material Topics 2021	3-3	Management of material topics	Certification, p20	
STAKEHOLDER COLLABORATION				
GRI 3: Material Topics 2021	3-3	Management of material topics	Stakeholder engagement and transparency, p21	
GRI 13 TOPICS NOT MATERIAL TO BUMITAMA				
13.10	Food safety		These topics are not deemed material to Bumitama's operations.	
13.11	Animal health and welfare			
13.24	Public policy			
13.25	Anti-competitive behavior			

GLOSSARY

Biodiversity | The diversity (number and variety of species) of plant and animal life.

Biological Oxygen Demand (BOD) | The amount of oxygen used when organic matter undergoes decomposition by microorganisms. Testing for BOD is done to assess the amount of organic matter in water.

Bumitama Biodiversity and Community Project (BBCP) | A collaborative programme co-founded by Bumitama and the Sustainable Trade Initiative (IDH) to explore how wildlife protection can coexist with sustainable production as part of a collaborative and landscape-based approach to land use.

Carbon dioxide equivalents (CO_2e) | A universal measurement standard against which the impacts of releasing (or avoiding the release of) different greenhouse gases can be evaluated.

Effluent I Water discharged from one source into a separate body of water, such as mill process water.

Extraction rate | The amount of oil extracted from oil palm fruit at a mill. Crude palm oil (CPO) is removed from the flesh; palm kernel oil (PKO) from the nut.

Free, Prior and Informed Consent (FPIC) | The principle that a community has the right to give or withhold its consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use.

Fresh fruit bunch (FFB) | Bunches harvested from the oil palm tree. The weight of the fruit bunch ranges between 10–40 kg and depends on the size and age.

Global Reporting Initiative (GRI) | A multi-stakeholder standard for sustainability reporting, providing guidance on determining report content and indicators.

Greenhouse gas (GHG) | Atmospheric gases that absorb and emit radiation within the thermal infrared range. The primary greenhouse gases in the Earth's atmosphere are water vapour, carbon dioxide, methane, nitrous oxide, and ozone.

High conservation value (HCV) | Areas with HCVs are natural habitats of outstanding significance or critical importance because of their high biological, ecological, social or cultural values. These areas must be appropriately managed to maintain or enhance those identified values. Six possible HCVs can be identified, covering the environmental and social aspects of a natural forest.

Independent smallholder | Small growers with less than 50 hectares, which are self-financed, managed, and equipped and are not bound to any one mill. They may deal directly with local mill operators of their choice or process their own palm oil using personal or community manual palm oil presses.

Integrated Pest Management (IPM) | The careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to economically justified levels and reduce or minimise risks to human health and the environment. IPM emphasises the growth of a healthy crop with the least possible disruption to agroecosystems and encourages natural pest control mechanisms.

International Labour Organisation (ILO) | A tripartite world body, agency of the United Nations, representative of labour, management and government. It disseminates labour information and sets minimum international labour standards called 'conventions', offered to member nations for adoption.

Indonesian Sustainable Palm Oil (ISPO) | A mandatory certification scheme regulated by the Indonesian Ministry of Agriculture that aims to improve Indonesian palm oil competitiveness in the global market and align with objectives set by the President of Indonesia to reduce greenhouse gas emissions from Indonesian oil palm plantations and operations.

Mass Balance | An RSPO system that allows mixing RSPO-certified and non-certified palm oil at any stage in the supply chain, provided that overall company quantities are controlled. The mass balance model is constructed so that volumes of RSPO-certified products shipped will never exceed volumes received by the end user.

New Planting Procedure (NPP) | The RSPO NPP is a set of assessments and verification activities to be conducted by RSPO grower members and certification bodies prior to a new oil palm development. This helps guide responsible planting and ensures that social and environmental requirements have been met. The NPP report undergoes a 30-day public consultation and planting. Associated development can only begin once the NPP is complete and RSPO approval is granted.

Non-governmental organisation (NGO) | This report uses the term to refer to grassroots campaigning organisations focused on environmental or social issues.

Non-Palm Oil Income-Generating Activities (IGA Non-Sawit) | Bumitama's programme to support smallholders and communities in diversifying their income streams, so they are not solely reliant on palm oil. This includes agroforestry, aquaculture, farming, and agritourism.

PalmGHG | The RSPO PalmGHG is a tool that calculates the emissions generated and sequestrated from activities and processes engaged during agricultural and mill stages. Refer to the detailed scope and boundaries here.

Palm Oil Income-Generating Activities (IGA Sawit) | A Bumitama programme to support palm oil producers with services and provisions to boost FFB production, streamline harvesting efforts, and support sustainable palm oil certification.

Palm oil mill effluent (POME) | A by-product of processed FFB.

Peat | An accumulation of partially decayed vegetation matter. Peat forms in wetlands or peat lands (also known as bogs, moors, muskegs, pocosins, mires, and peat swamp forests). Land with soil having more than 65% organic matter is considered peatland.

PROPER | An initiative by the Government of Indonesia to promote industrial compliance with regulations and adopt practices that ensure better and sustainable environmental management. Annual assessments are conducted by the Indonesian Ministry of Environment and Forestry (KLHK) to measure the performance of industrial facilities and classify them using a colour-coded rating system (black, red, green, blue or gold) based on their performance level.

Roundtable on Sustainable Palm Oil (RSPO) | A multi-stakeholder organisation based in Kuala Lumpur, Malaysia, that has developed a certification scheme for sustainable palm oil. All RSPO members must comply with the RSPO Principles and Criteria (P&C) – a set of stringent standards for producing sustainable palm oil.

Segregated | A supply-chain model assuring RSPO-certified palm oil and its derivatives delivered to the end-user originate only from RSPO-certified sources. It permits the mixing of RSPO-certified palm oil from a variety of sources.

Stakeholder | Any group or individual affected by or can affect a company's operations.

Social forestry | The management of forests for the benefit of local communities. This includes forest management, forest protection, and afforestation of deforested lands with the aim of improving rural, environmental, and social development.

Sustainability | A term expressing the long-term balance between social, economic and environmental objectives. Often linked to sustainable development, which is defined as development that meets the need of current generations without compromising the needs of future generations.

Toxicity | A measure of the degree to which a substance harms living organisms. Toxicity in agricultural chemicals is measured using the LD50 methodology, i.e., the toxicity units corresponding to a lethal dose for 50% of a population of rats.

United Nations Sustainable Development Goals (SDGs) | Also known as Global Goals, the SDGs were adopted by all United Nations member states in 2015 as a universal call to action to end poverty, protect the planet and ensure that all humanity enjoys peace and prosperity by 2030.

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