

A photograph of a rhinoceros hornbill (Buceros rhinoceros) perched on a thick, broken tree branch. The bird has a large, red and yellow beak, a black helmet, and black and white plumage. The background is a clear blue sky with green foliage.

UP

UNITED PLANTATIONS BERHAD

SUSTAINABILITY REPORT

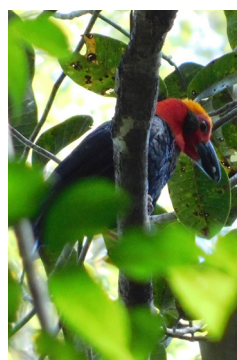
2022

The rhinoceros hornbill (Buceros rhinoceros) is a large species of forest hornbill that can live for up to 35 years. Here seen resting atop a broken branch in PT SSS.

Sustainability Report 2022

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About This Report

United Plantations has always taken pride in its sustainable approach to all aspects of its operations and we are therefore pleased to present our 2022 Sustainability Report to interested stakeholders.

This Report covers our pursuit of sustainable value creation through good governance, and strong commitment towards environmental, economic and social performance across all our operational and management activities within the UP Group including Subsidiaries in the form of our Refineries (Unitata and UniFuji), as well as our plantations and mills in Malaysia and Indonesia.

This report, which represents a further step towards an integrated report, focuses primarily on updates and activities carried out within the financial year ended 31 December 2022, with comparable prior year statistics, where available and relevant.

The Sustainability Report for 2022 will remain as part of our Annual Report. There is no structural change in our Annual Report 2022. The structure and content for this report draws upon guidance from Bursa Malaysia's Sustainability Reporting Framework and the GRI Sustainability Reporting Guidelines. Our internal Sustainability Committee is responsible for officially coordinating with the various departments and subsidiaries in assessing and covering all key material sustainability matters within our Group.

In preparation of this report, we have again engaged and considered the responses from both internal and external stakeholders and performed a thorough internal review and assessment of key sustainability aspects and impacts which represents the most critical areas of our Group's business and operations

and in this connection, we would like to thank all stakeholders for their valuable participation.

This exercise resulted in arriving at 23 material sustainability matters at various significant levels. These are reflected in the materiality matrix included in this report.

As part of our sustainability processes and activities we will continue to strengthen our performance and disclosures to various stakeholders by monitoring our specific targets and key performance indicators, fostering close relationship with our stakeholders as well as harmonising material sustainability risks across the Group. We hope to provide our stakeholders with an overview of our approach and continuous progress in meeting our sustainability commitments.

We have reported the information cited in this GRI Content Index for the period of 1st January 2022 - 31st December 2022 with reference to the GRI Universal Standards 2021.

For more information on the GRI Content Index, please refer to page 106 to 108.

External Assurance

GRI recommends the use of external assurance, but it is not a compulsory requirement under the Standards. Nevertheless, we believe external assurance adds credibility and transparency to our sustainability reporting. In this connection, we are pleased to inform our stakeholders that BSI has provided limited assurance over 10 selected Key Performance Indicators (KPI's) reported in our 2022 Sustainability Report thereby bringing additional value and credibility to our disclosure. Their opinion statement is available on pages 104 to 105.



A well landscaped modern housing facility at Jendarata Estate, Division 2.

Message From The CED



Y.Bhg. Dato' Carl Bek-Nielsen, Chief Executive Director of UP.

I am pleased to present UP's 2022 Sustainability Report, in which we describe our Group's sustainability policies and how we are pursuing these in practice. UP continues to view sustainability as a key pillar of our Group's Strategy and we recognise its importance to our long-term success and well-being.

For generations, UP has intertwined Environmental Responsibility, Social Awareness, Sustainability Governance, and Economic Viability into the way we conduct our business. Nonetheless, we must not forget that our commitment to sustainability is ongoing, with no finishing line. We will therefore continue to align our business values, purpose, and strategy with sustainability principles divided into four main areas, namely Environment, Social, Sustainability Governance, and Marketplace.

Environment

As the world continues to face challenges relating to global warming, we are becoming increasingly aware that our presence on this earth has an impact on the environment. This message was carried forward into 2022 from the COP26 climate conference, which took place in Glasgow, Scotland, in November, 2021. Labelled as "the world's best last chance to get runaway climate change under control," world leaders reached a consensus to accelerate action on climate change in this decade. This included initiatives such as pledging to end deforestation, and for the first time, deliberations and wide support to "phase out" coal, which nevertheless ended with a "phase down" compromise.

In November 2022, following the COP27 climate conference in the Egyptian city of Sharm el-Sheikh a decision was reached to establish and operationalise a loss and damage fund for the most climate vulnerable communities. However, the delegates failed to make any firm commitments to phase out fossil fuels.

Indeed, in spite of the noble and good intentions of the previous COP meetings, the reality is that the UN climate process has been running for almost 30 years and during that time CO₂ emissions have only gone one way – up.

It is becoming increasingly evident that the landmark Paris Agreement target to limit global warming to well below 2, preferably 1.5 degrees Celsius, compared to pre-industrial levels is going to be extremely difficult to achieve

if not impossible. According to calculations published by The Economist, the world now has a remaining carbon budget of 400 billion tonnes - the maximum amount of greenhouse gasses that can be emitted with some probability limit global warming to 1.5 degrees. Currently the world is emitting almost 40 billion tonnes per year from the burning of oil, coal, gas and from the production of cement.

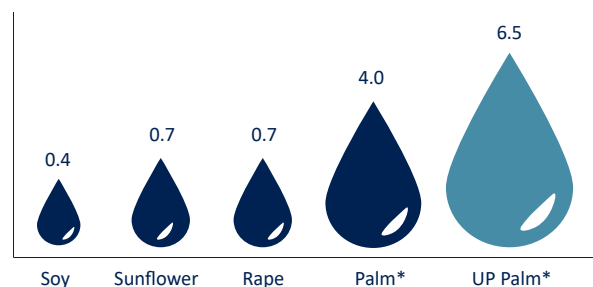
The agreements reached at the last two COP conferences may therefore seem surprising, especially considering that 70% of global CO₂ (-eq) emissions continue to come from the burning of fossil fuels. Palm oil on the other hand, accounts for 0.6% of global CO₂ (-eq) emissions, (22 times less than the livestock sector), yet continues to be singled out as the lightning rod for the public's growing anger on issues concerning deforestation and climate change. This past year has been no exception with criticism and accusations of the palm oil industry causing habitat destruction, the endangerment of protected species, indiscriminate burning, as well as social conflicts and climate change continuously highlighted by the media and NGOs alike.

Whilst palm oil production has and still contributes to certain aspects of the above and whilst there are rogue players who blatantly violate most environmental laws, it is important that the accusations are backed by holistic facts and presented objectively instead of painting the entire industry with the same brush. In this connection it must be everyone's duty to be better at deciphering the data from the narrative failing which we risk being blinded by the narrative, which is just not the same as data. Herein it is important to reiterate that the palm oil industry today accounts for less than 0.5% of the world's total agricultural area, yet accounts for 35% of the global oils and fats production cementing the oil palm's unequalled efficiency in terms of the small land area required to produce a large quantity of edible oils and fats.

Leading conservationist and NGOs have on several accounts acknowledged that alternate crops will require up to 8-10 times more land compared to the oil palm to produce the same quantity of oils and fats.

The Oil Palm - A Highly Efficient Crop

MT Oil/Ha



Source: UN Food and Agriculture Organization (FAO)

* Includes Crude Palm Oil and Palm Kernel Oil

It is nevertheless true that forests have been cleared. Indeed, 5.85 million hectares of oil palm have been planted in Malaysia over the last 110 years, compared to more than 15 million hectares of soy planted in Brazil and



UP's light railway network stretching 600km remains of vital importance in terms of facilitating an efficient and fragile transportation of freshly harvested crop from the fields to the mills.

Argentina over the last 10 years, and 2.7 million hectares of forest cleared every year for cattle farming. Less nuanced accusations keep tarnishing the image of the industry without offering solutions or taking ownership of problems relating to deforestation. I firmly believe that this behaviour will get us nowhere, apart from negatively impacting the livelihoods of millions of people, whose sole objective is to uplift themselves out of poverty.

The palm oil industry is complex and far too often it is subject to sweeping statement, failing to recognise the positive and proactive measures taken by many different stakeholders, to promote the responsible production and consumption of sustainable palm oil.

In UP we recognise that we are not fault free and that we must take ownership and do our part towards facilitating the journey towards a more sustainable society. In doing so we believe that committing ourselves towards producing palm oil sustainably is the best and only way forward. In this context it is important that all stakeholders support multistakeholder certification standards like the RSPO, or other credible initiatives, in order to make sustainable palm oil the aspiration if not the ultimate goal. This above all else should be our shared objective within the industry, be this in South East Asia, Africa or Latin America in order to make a positive difference.

Reducing our Carbon Footprint



In line with our Group's commitment to environmental leadership, the mitigation of our carbon footprint and Greenhouse Gas (GHG) emissions remain a top priority, to which new initiatives and investments continue to be made.

Since 2005, our company has been working with 2.0-LCA consultants from Denmark on a very comprehensive Life Cycle Assessment (LCA) study, which was finalised in 2008 becoming the first LCA on palm oil ever.

This pioneering study was fully compliant with and critically reviewed according to the international ISO 14040 and ISO 14044 standards for LCA. Another update was undertaken during January to February 2022 building on top of five other large studies carried out for United Plantations Bhd in 2008, 2011, 2014, 2017, 2020 & 2022.

In this connection, I am pleased to report that the summary of the LCA clearly demonstrates that United Plantations Bhd has shown a 62% reduction in its GHG emissions per kg of palm oil produced from 2004 to 2022 when including indirect land use change (iLUC) and nature conservation.

We have thereby already reached our goal of a 60% reduction (including iLUC and nature conservation) of the GHG emissions by 2025.

In line with the spirit of accelerating the action of mitigating GHG emissions, the Board of UP remains committed to its target of reaching a 66% reduction in GHG emissions per kg of palm oil by 2030.

This shall relentlessly be pursued through new innovations inspired by our strong collaboration and network in Scandinavia. Please refer to page 62 for more information on our carbon reducing initiatives.

To that end, new investments were made during 2022 to further expand our light railway network, which uses 1/10th of the fossil fuels compared to tractor/ lorry transportation when transporting one unit of Fresh Fruit Bunches from the fields to our 4 mills in Malaysia. The total length of our light railway network has expanded from 479km in 2015 to 600 km as of 31 December 2022, thereby contributing significantly to reducing the use of fossil fuels and with that GHG emissions.

Collaboration with Copenhagen Zoo



Conservation of jungle reserves and promoting biodiversity remain of vital importance to the UP Group. It continues to be our view that conservation means development as much as it does conservation, and that all growers should strive towards reaching this balance, and in doing so, simultaneously aspire to fulfil the United Nations Sustainable Development Goals (SDGs). This is the only sustainable and holistic approach that will help ensure that positive changes take place.

Herein, I am delighted that our collaboration with Copenhagen Zoo, which was initiated in 2007 and officially established in 2010, continues to develop positively with many success stories arising from the hard work, research, and fascinating studies undertaken to date.

The commitment and skills introduced by Copenhagen Zoo have been extremely valuable, not least from a conservation point of view. This has helped our Group operationalise one of the vital components of sustainability, namely building an in-house capacity, through our Biodiversity team, to manage conservation and nurture the 8,203 Ha of jungle reserves under our Groups' landbank.

Today, the team's responsibility extends beyond the establishment of wildlife sanctuaries, green corridors, and many other initiatives, as they play a pivotal role in operationalising conservation into sustainable agricultural practices implemented throughout our Group. Nevertheless, more can be done and there are still areas in need of greater attention, which will be a primary focus in 2023.

Social Responsibility & Human Rights

In the current landscape of sustainable palm oil, the conversation and media headlines are no longer only centred around the environment and deforestation alone. As highlighted in last year's report, there are growing concerns and risks pertaining to especially migrant labour and human rights have rocked several industries in Malaysia, most notably the rubber glove industry, but also the palm oil sector. In this storm, several companies have been hit by accusations from NGOs and Human Rights activists and been issued with a Withhold Release Order ("WRO") by the US Customs and Borders Protection ("CBP") for allegedly being in violation with several of the 11 Forced Labour Indicators published by the International Labour Organization ("ILO").

This is indeed a serious issue for Malaysia, as well as the many industries relying on migrant workers from neighbouring countries. In light of this issue, which has evolved exponentially over the last few years, evidence suggests that past practices specifically related to the recruitment process were not sufficient enough in safeguarding and mitigating the risk of deception and abuse of vulnerability taking place during migrant workers journey from the village in the source country to the employer in the host country and thereby increasing risks of exploitation and migrant workers becoming victims of debt bondage, a serious indicator of Forced labour.

In this context, UP has been working closely with Verité, a human and social rights NGO, since 2020, together with Fuji Oil and Mars, to further strengthen our recruitment and other human rights practices. These initiatives have also been discussed and worked on together with all our key customers, in the spirit of shared responsibility, to create awareness and minimise risks of forced labour in our supply chain.

As a part of this journey and our commitment to continuous improvement, all our Guest Workers have been reimbursed for the recruitment fees they paid to third parties in the past, and all new recruitment must strictly follow the Employer Pays Principle, in order to eliminate the risk of exploitation. Indeed, we are far from perfect, but we have noble aspirations and are prepared to do what it takes to tighten up where necessary, and set even higher social standards for our workforce within all areas of our operations.

We also acknowledge other emerging initiatives, such as the European Union's introduction of a green taxonomy aimed at defining and categorising environmentally friendly activities, as well as enhancing human rights protection, and the EU Regulation on Deforestation-Free Supply Chains aimed at driving transparency in corporate supply chains to halt deforestation, biodiversity loss and greenhouse gas emissions.

This new regulation involves commodities including palm oil, cocoa, coffee, soya, timber and rubber, and will prevent companies from placing commodities linked to deforestation and forest degradation onto the EU market.

We welcome initiatives that aim to tackle the global challenge of deforestation and improved social standards. However, such initiatives must be based on a balanced approach to ensure small-scale farmers are not excluded from global supply chains and that developing countries in general also have the right to move up the ladder of development in order to meet their basic needs and to have the opportunity to lead richer, more fulfilling lives.

In addition, any such initiatives must ensure that all agriculture related commodities are subject to the same rules thereby operating on a level playing field without any form of discrimination.

Safety

With the COVID-19 pandemic still lingering in Malaysia throughout 2022, we have continued to deal with positive cases on a regular basis and even small clusters at times, in several of our estates and other workplaces.

To keep our employees and their families safe during these extraordinary times, we have continuously adapted our Standard Operating Procedures (SOPs) to meet the ever-changing circumstances. Additionally, all our hospital assistants from our Group Hospitals and clinics throughout our estates are trained and certified to conduct COVID-19 testing, allowing us to act swiftly, isolate positive cases, therefore keeping COVID-19 mostly at bay, without any major disruptions or forced shutdowns to our operations.

These efforts are a tremendous testimony to the Group's determination, resilience, and united resolve, which have enabled us to remain buoyant in very challenging times. With the virus having now moved to an endemic phase, COVID-19 is something we are learning to live with, not least thanks to our targeted efforts that have led to almost 100% of our employees and their families, including our Guest Workers being fully vaccinated. Our employees have been and will always be our core assets and a key pillar for the success and continued growth of our Group, and their welfare and rights as well as a safe and healthy workplace are of key importance in every aspect of our operations.

In this connection, I am pleased to report that the affirmative steps we took in 2020 towards this commitment, by creating a Safety Division under the Human Resources, Sustainability and Safety (HRSS) Department are paying off, with the total number of accidents having declined by 25% during 2022 vis-à-vis 2021.

Safety leadership and strategies targeting risk reduction continue to be a top priority for the Group, as we value the lives and well-being of our employees and their families, contractors, visitors, and local communities throughout our operations. Whilst it is pleasing to note that the overall accidents have declined significantly, we shall relentlessly continue to pursue new avenues for improvement, in order to reduce the accident rate even further, as our common goal on safety must be, "one accident is one too many."

The Safety Division, now totalling six safety officers, has throughout 2022 been briefing the Company's Executive Committee Members on a regular basis providing an unfiltered status on the progress made, as well as any shortcomings encountered, which are addressed punctually.

A higher degree of vigilance, coupled with a more systematic and disciplined approach, continues to be galvanised through training programmes, "Reach and Teach" and "Reach and Remind" sessions and HIRARC programmes. Furthermore, impromptu safety audits across our mills, estates, and refineries are an integral part of our ongoing safety procedures.

Community

UP is committed to doing our part for the global community and bringing about positive change to the lives of our employees, their families, and the surrounding communities, which have given so much to our company over the last 117 years.

Amongst our initiatives, we engage and work closely with local communities to uplift their living standards and to offer business and employment opportunities to interested parties wherever possible, thereby contributing to the wealth, resources, and expertise of local economies. We are committed to taking ownership and striving to remediate any problems that may arise, both in and around the locations in which we operate.

During 2022, our desire to engage with various stakeholders were still compromised by the COVID-19 pandemic. We will resume our various engagements with the smallholder societies in 2023, conducting smallholder field days, with the overall objective of knowledge sharing, so that the smallholder farmers can improve their yields, enhance sustainable agricultural practices, safety awareness, conservation, and thereby their livelihoods.

In Indonesia, we remain fully committed to the Plasma scheme and continue our positive progress in establishing additional areas that benefit farmers, families, and the neighbouring communities. Through respect and engagement with local communities and community leaders in Indonesia, we have seen positive developments in alleviating conflicts relating to land rights, which are handled in an amicable and transparent manner through proper grievance procedures, and in line with the spirit of the RSPO.

Improvements to maintain the highest possible welfare standards for our workforce and to ensure high standards of educational facilities provided for their children also continued throughout 2022. This includes the continuous upgrading of our housing facilities provided to our employees, be they guest workers or local employees.

A total revamp of the infrastructure has taken place on our newly acquired Tanarata Estate with all of the earlier employee houses being demolished as it did not live up to the UP's housing standards. The construction of new, modern, and spacious houses with proper facilities, along with new sundry shops and other social amenities, Tanarata Estate thereby mirrors the standards present on our other Estates.

Governance & Certification

At UP, we believe in the core principle of good corporate citizenship, robust governance, and risk management. All our sustainability commitments are transparently operationalised and monitored through our governance structures and risk management policies, and we continue to strengthen this important focus area based on third party independent assessments, feedback from customers, partnerships, and other stakeholders. This

commitment is evidenced by the fact that UP became the world's very first Roundtable on Sustainable Palm Oil (RSPO) certified oil palm producer back in 2008. Our commitment was further reinforced by obtaining the Malaysian Sustainable Palm Oil (MSPO) certification in 2018 and Indonesian Sustainable Palm Oil (ISPO) certification in 2019.

Today, we remain 100% committed to the RSPO, MSPO and ISPO certification standards, which are among the most robust agricultural standards globally, with clear commitments to No Deforestation, No New Planting on Peat (regardless of its depth), and No Exploitation (NDPE).

Furthermore, reinforced protection of human and labour rights, adequate protection to the rights of workers (and their families), gender equality, stronger alignment with the Core International Human Rights Treaties and relevant ILO Conventions are also key criteria in the evolving standards. Nevertheless, we continue to support further advancements that are reasonable, pragmatic, and based on a multi-stakeholder approach, in the spirit of shared responsibility.

It is initiatives like these, reinforced by proper implementation that operationalise sustainability on the ground, and enable the industry to meet the ever-increasing consumer requirements shaping the landscape for tomorrow's demands. We see this as a necessary commitment to ensure the industry's future remains relevant, credible, and accepted by consumers around the world.

This compels Management to keep stimulating new progressive ideas, failing which, the positive momentum created by so many individuals in our Group over the last 117 years will diminish.

In connection with these evolving standards, we are pleased to share that all UP Mills and Estates have been successfully certified against the latest RSPO P&C 2018, including our latest acquired plantation, Tanarata Estate, which took place in April 2022.

At this juncture and on behalf of Management I want to nevertheless acknowledge that much more can and must be done. We therefore intend to continue working hard at further integrating and operationalizing sustainability into our DNA, so that it remains "built-in" and not "bolted-on".

To achieve this, the materiality assessment has once again been carried out in 2022, in close collaboration with our stakeholders, to gauge their views and expectations on various topics, thereby enabling us to identify and map the most relevant issues pertaining to our economic, environmental, and social risks and opportunities.

This rewarding exercise is fundamental to ensuring that expectations throughout the supply chain are aligned, thereby pushing in the same direction, as we continue on this shared sustainability journey.

Marketplace

In UP, we are committed to the world's highest standards of sustainability, quality, food safety, and product traceability. This is key to open up market opportunities amongst reputable brand manufacturers and retailers globally who more than ever demand full traceability to ensure that the supply of palm oil they receive is safe as well as produced ethically.

We welcome this level of transparency and acknowledge that the trust between a brand and a consumer can only be built through actions and not through greenwashing or glossy brochures. Ultimately, our Group's behaviour is our brand and our licence to operate therefore depends on behaving well.

With UP being one of the most sustainable, efficient, and integrated medium sized plantation companies in the world, our two refineries, Unitata Bhd and UniFuji Sdn Bhd, are uniquely positioned to live up to this. By controlling all areas of the production, we are able to offer certified sustainable high-quality products with the lowest GHG footprints and contaminant levels in the world based on full transparency and traceability and in the principle of responsible sourcing.

For our downstream operations, we can trace all our palm oil back to the various palm oil mills and plantations, whereas the palm kernel oil used can be traced back to the palm kernel crushing plants and palm oil mills. To trace all the palm kernel oil back to the plantations is still a challenge and a process that will be further improved in the coming years.

Whilst we believe that we have come a long way on our sustainability journey, we also acknowledge the many challenges ahead which we will have to meet as we continue our strive towards building long-term relationships with our customers, suppliers, business partners and other stakeholders in the global marketplace, in the spirit of shared responsibility. The points I have touched on above serve only as highlight to this report and will be further elaborated upon in the following pages (pages 93 to 100). Furthermore, I would recommend that you seek additional information under the sustainability section on our website, <https://www.unitedplantations.com/sustainability/>.

Finally, I thank you for your interest in our sustainability efforts and I hope that you will find our journey interesting. I would also like to thank our Board of Directors for their continuous support, guidance, and interest in this report as well as all our partners and stakeholders including NGOs for their active and valuable participation and inputs that continues to be of much value to our Group. With the continuous commitment by our Group including an active participation by all our stakeholders, I am confident that we will be able to face most challenges ahead of us as we keep moving forward with our sustainability commitments.

Dato' Carl Bek-Nielsen
Chief Executive Director (CED)



Newly replanted oil palm fields at Tanarata, with lush cover crop establishment which till today remains a key company policy in order to safeguard the fertility of the soil.



Since the acquisition of Tanarata Estate in 2019, all replanting has now been completed.

Materiality

This report addresses key sustainability matters which have been identified after taking into consideration both the Group's view on significant environmental, economic, and social aspects, impacts, risks and opportunities which are vital to the success and continued growth of the Group, and the views and responses from our stakeholders on pressing material issues.

In identifying the material sustainability matters, and opportunities, we have drawn information from various internal and external sources of information which include the views of the Group Sustainability Reporting Team within our organisation, stakeholders, industry groups, standards recommended by global and industry specific reporting bodies, such as the Roundtable for Sustainable Palm Oil (RSPO) and the Global Reporting Initiative (GRI) and existing peer literature.

As a result of the abovementioned exercise and evaluation of the Group's Sustainability Risks and Opportunities, we have this year identified 23 key sustainability issues under four main headers, namely Environment, Social (Employees, Community), Sustainability Governance and Marketplace, which we have assessed as being of high concern to stakeholders and of high significance for our Group in 2022.

Data collected from various stakeholders are then analysed and used to create a materiality matrix which

also includes the assessment on the significance of the identified key sustainability matters and the prioritisation of stakeholders to the organisation.

The resulting Materiality Matrix is as shown on the following page. Material issues which have been identified are then assessed by the Sustainability Reporting Team to establish if there are policies and procedures in place to address and manage these issues, and if none, to ensure implementation plans are drawn up and presented to the management for follow up as part of the Group's sustainability commitment.

Quantifiable indicator data and targets are assigned where relevant and are communicated to our stakeholders via this Sustainability Report. The materiality assessment has been reviewed and endorsed by the Executive Committee (EXCOM) of UP.

United Nations Sustainable Development Goals (UN SDGs)



















UP respects and recognises the importance of its role in this global initiative. As such, the Group has mapped the relevant SDGs with each materiality topic and identified eight (8) UN SDGs with their specific targets that are most relevant to its business operations as well as key concerned materiality topic highlighted by the stakeholders.

For more information, please refer to our website, www.unitedplantations.com/sustainability/.



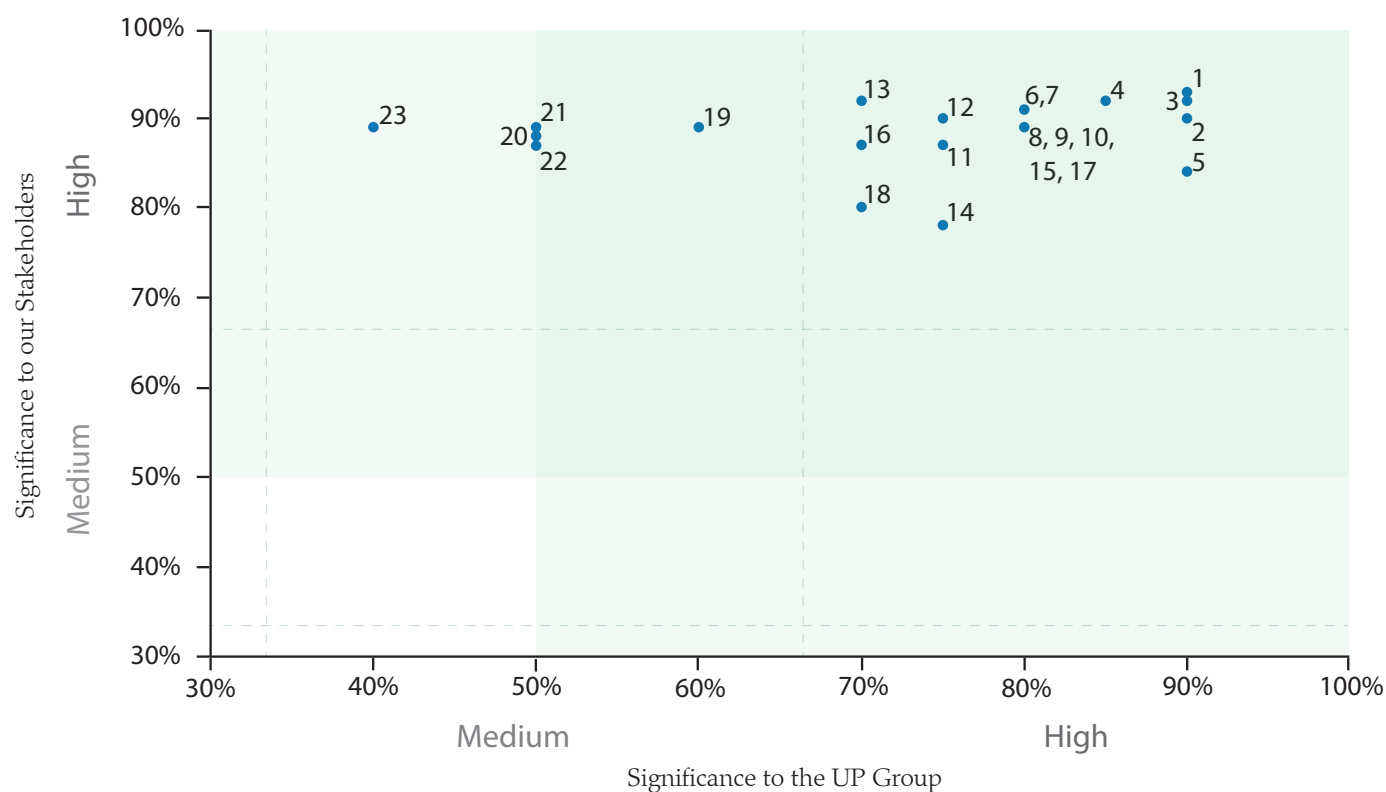
Our CED hosting a visit by AAK's Quality and Food Safety Director, Ms. Adina Creanga and Mr. Michael Boeker, Director of Operations Asia, at the newly upgraded Jendarata Palm Oil Mill.

Summary of Materiality Matters

23 Key Sustainability Issues	Relevant UN SDGs*	UP supports UNSDGs
1. Human rights protection, child labour and fair & decent wages	1,8	  
2. Precautionary measures on COVID-19	3,9	  
3. Product Quality	12	  
4. Occupational Safety & Health	3,9	  
5. Commodity Prices	12	  
6. Social commitments and Amenities	2,4,8	  
7. Certifications for Food Safety, Sustainability and Others	12	
8. Biodiversity & Conservation	14,15,16,17	
9. Deforestation/ High Carbon Stock	13	
10. No Exploitation-Free, Prior and Informed Consent	16	
11. Climate Change, GHG emissions, Discharges & Waste Management	7,9,13,16,17	
12. Fire and Haze	13	
13. Code of Conduct, Governance and Anti-Corruption	8,16	
14. Community Development and Welfare	3,4,8	
15. Business Ethics and Compliance	16	
16. Smallholder and Plasma Development	2,12	
17. Talent retention, Development and Training	4,5,8	
18. Currency Fluctuation	-	
19. Grievance Resolution	16	
20. Peat Development	13	
21. Water Impacts	6,9	
22. UP's Evaluation of Suppliers/ Contractors' Sustainability Commitment	12	
23. Pesticides and Chemical usage	12	

*Stakeholder groups consist of shareholders, employees, customers/consumers, local communities/smallholders, government agencies/regulators, non-governmental organisations (NGO), palm oil industry group and suppliers/contractors.

Materiality Matrix



Our Value Creation Model

We strive to remain a leader within responsible agriculture based on our core values of integrity, discipline, innovation and R&D combined with a dedicated focus on sustainability. Our value creation model enables us to focus on the resources we have available and how we can create value for our stakeholders over time through our integrated business activities. Through our integrated business, we support and contribute towards the United Nation Sustainable Development Goals (UNSDGs).

Short, Medium and Long-term Business Resources (Input)

FINANCIAL RESOURCES	HUMAN RESOURCES	INTELLECTUAL RESOURCES	SOCIAL RESOURCES	MANUFACTURED RESOURCES	NATURAL RESOURCES
<p>Strong and stable financial position enabling investments</p> <p>Strong Balance Sheet with high borrowing capacity</p>	<p>Dedicated and competent employees</p> <p>Succession planning and training</p> <p>Sustainability focus</p>	<p>Vast experience and knowledge</p> <p>Innovation and R&D capabilities</p> <p>Good agricultural practices and policies</p>	<p>Key stakeholders including suppliers and international customers</p> <p>Good collaboration with local government institutions and surrounding communities</p>	<p>Well-functioning palm oil mills and refineries integrated with estates</p> <p>Quality control and R&D investment in place</p>	<p>Fertile and strategically located land bank</p> <p>Biomass availability</p> <p>Water availability through adjacent rivers</p>
<p>MARKET CAP</p> <p>RM6.37 billion</p> <p>CASH AND SHORT TERM FUNDS</p> <p>RM779 million</p> <p>DEBT/EQUITY RATIO</p> <p>0.14</p>	<p>EMPLOYEES</p> <p>6,381</p>	<p>SINCE</p> <p>1906</p> <p>R&D ESTABLISHED</p> <p>1951</p>	<p>PLASMA</p> <p>1,392 Ha</p> <p>COPENHAGEN ZOO COLLABORATION</p> <p>Since 2010</p> <p>SOCIAL COMMITMENTS</p> <p>RM21 million</p>	<p>REFINERIES</p> <p>2</p> <p>PALM OIL MILLS</p> <p>5</p> <p>BIOGAS PLANTS</p> <p>5</p>	<p>LAND BANK</p> <p>63,000 Ha</p> <p>PLANTED AREA</p> <p>50,956 Ha</p> <p>CONSERVATION</p> <p>8,203 Ha</p>

Our Integrated Business

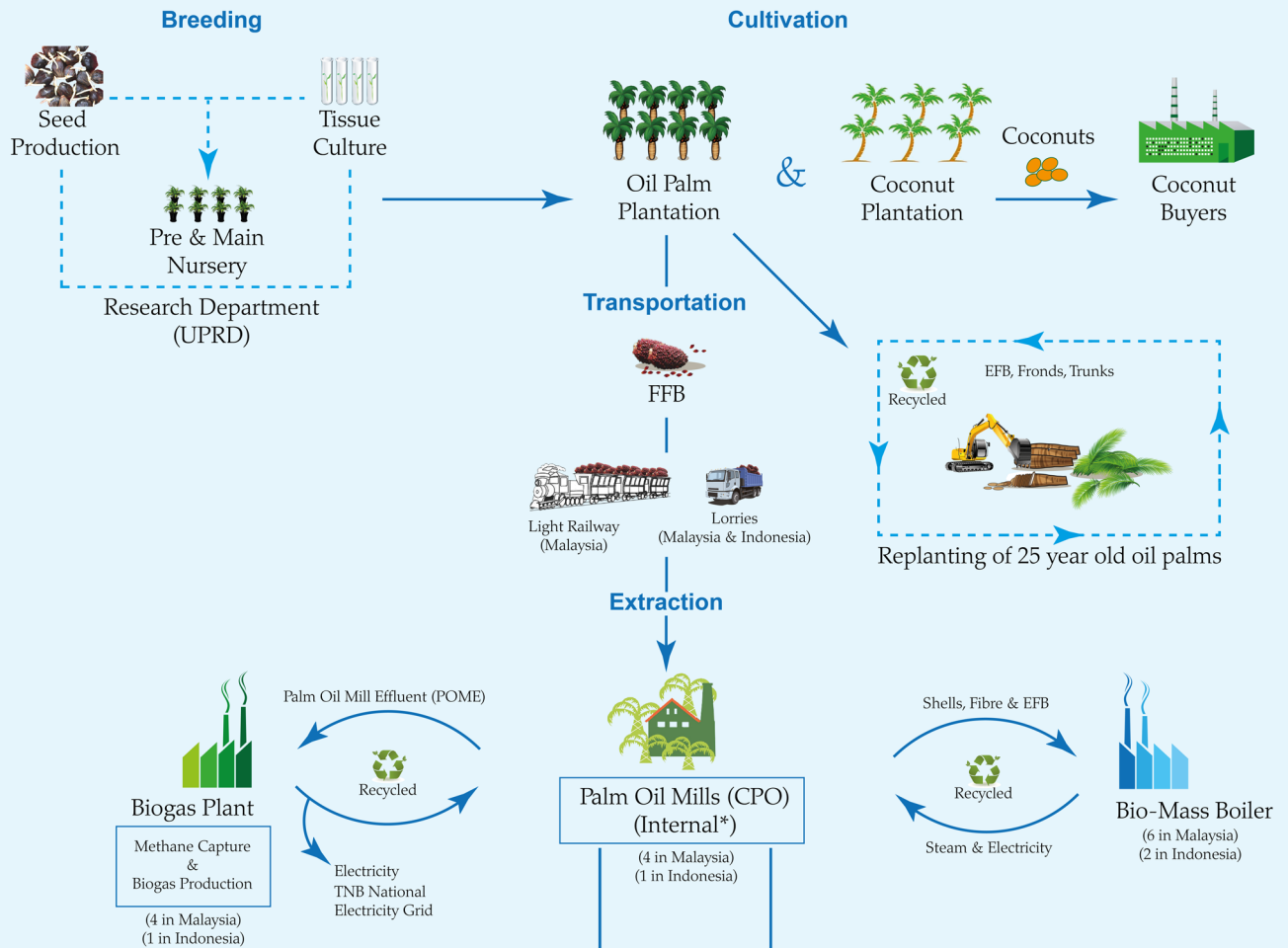


Short, Medium and Long-term Business Resources (Output)

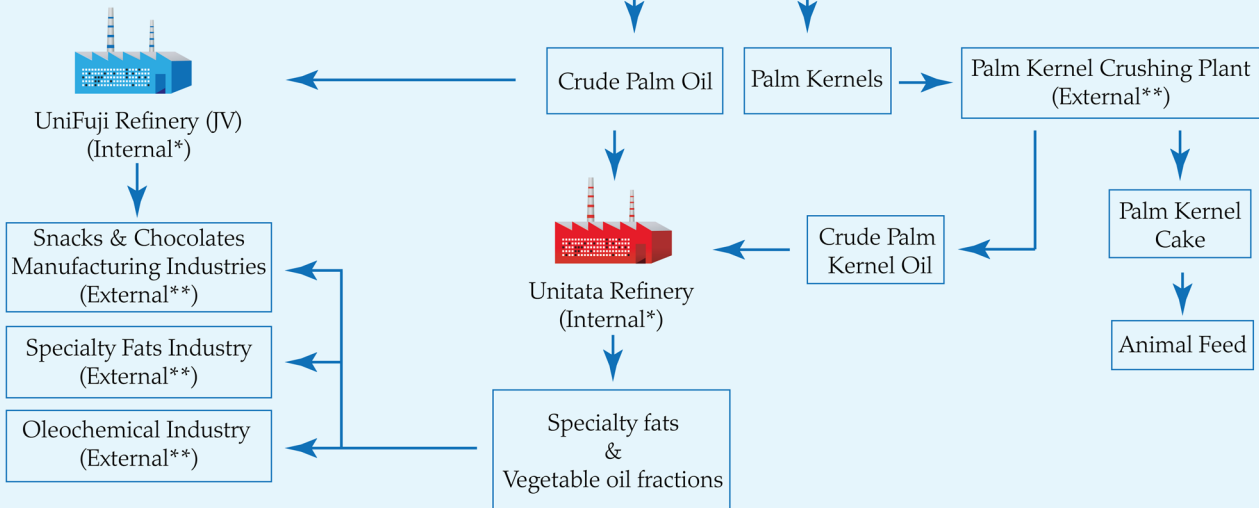
SHAREHOLDER VALUE	EMPLOYEE SATISFACTION AND SHARED VALUE	CERTIFIED SUSTAINABLE PALM OIL	BALANCE BETWEEN ECONOMY AND ECOLOGY	QUALITY PRODUCTS	GREEN HOUSE GAS EMISSIONS AND WASTE
<p>Value created through good performance</p> <p>Capital appreciation and sustainable dividends over time.</p>	<p>Safe and respectful work environment</p> <p>Good housing, medical & education facilities</p> <p>Advancing the economic and social condition in the surrounding communities</p>	<p>Sustainability practices operationalised</p> <p>Increasing sales of certified sustainable products of high quality</p>	<p>Focus on R&D and efficiency to optimise yields</p> <p>Preserving the environment through conservation efforts</p>	<p>Delivering premium quality products and services that are safe and based on a high level of responsibility</p>	<p>Key focus and investments in the circular economy where waste is converted to renewable energy.</p>
<p>PROFIT AFTER TAX</p> <p>606 million</p> <p>EARNING PER SHARE</p> <p>145 sen</p> <p>DIVIDEND YIELD</p> <p>9.15%</p>	<p>SAFETY PERFORMANCE</p> <p>UP MALAYSIA : LTIFR - 4.13</p> <p>UP INDONESIA : LTIFR - 97.10</p> <p>PLASMA FARMERS</p> <p>850</p>	<p>RSPO CERTIFIED PALM OIL</p> <p>235,000 MT</p> <p>RSPO CERTIFIED PALM KERNEL</p> <p>48,000 MT</p> <p>RSPO CERTIFIED AREA</p> <p>84%</p>	<p>FFB YIELD/Ha</p> <p>27.57 MT</p> <p>OER</p> <p>21.35%</p> <p>CPO YIELD/Ha</p> <p>5.89 MT</p> <p>TOTAL ANIMAL SPECIES</p> <p>498</p>	<p>CERTIFICATION</p> <p>ISO 9001, HACCP, HALAL, KOSHER, BRC, GMP, MeSTI, FDA, GMP +B2, MPCA, SEDEX, RSPO SCCS, MSPO SCS</p> <p>LOW CONTAMINANTS</p> <p>3-MCPD < 0.5 ppm</p> <p>GLYCIDYL < 1.0 ppm</p>	<p>REDUCTION OF GHG EMISSIONS SINCE 2004 (INCLUDING ILUC & NATURE CONSERVATION)</p> <p>62%</p> <p>GROUP BIOMASS UTILISATION RATE</p> <p>99.6%</p>

Creating Value Through UP's Integrated Business Activities

Upstream (Plantation Division)



Downstream (Manufacturing Division)



Internal* : Within the UP Group.

External** : Stakeholders, outside the UP Group.

Segmental Contribution 2022

UPSTREAM	DOWNSTREAM	OTHERS
74.8%	25.4%	(0.2)%
RM453 million	RM154 million	(RM1) million

Environmental, Social and Sustainability Governance

The prominence of the Environmental, Social and Governance (ESG) methodology to identify industry leaders and laggards according to their exposure to risks is fast gaining support, requiring companies to provide a clear and concise position on how they demonstrate stewardship and create value for their stakeholders at all levels, both now and in the future.

At the same time, there is a growing demand for international businesses to move from a profit maximisation lens to a value optimisation lens, and from a short-term profit focus to a longer-term consideration of profits and impact to customers, employees, communities, and the environment.

At United Plantations, we welcome these developments and believe they align well with our philosophy of “striving towards being recognised as second to none within the plantation industry, producing high quality products, always focusing on the sustainability of our practices and our employees’ welfare, whilst attaining acceptable returns for our shareholders.”

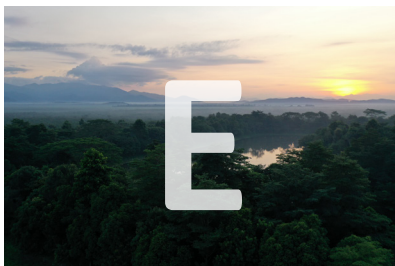
To achieve this goal, mitigating ESG risks through dedicated sustainability governance is an integrated part of our pursuit of long-term value creation and is of utmost importance to ensure we remain relevant in sustainable global supply chains and thereby continue to catalyse positive developments.

In this respect, whilst we have always sought to lead by example and set the highest standards within the conditions of the day, we recognise that we can deliver even greater impact by partnering with subject matter experts and like-minded customers on this sustainability journey, in the spirit of shared responsibility. In the following sections, we first highlight our ongoing commitment to mitigating environmental risk through sustainable agricultural practices focused on responsible growth, reduced carbon footprints, and striking the right balance between conservation and development.

Secondly, we delve into the social and human rights aspects concerning our employees, communities, and the implementation of sustainable labour practices – a topic that has taken up much space in Malaysia as well as international news over the last few years.

Lastly, we gauge the relative importance of various sustainability issues for our stakeholder groups through our materiality assessment and discuss other matters pertaining to governance, such as governance structure, certifications, targets, and initiatives, as well as internal and external reporting standards. Off the back of the ESG framework, we then look towards the marketplace as the closing piece of our Sustainability Report, where we highlight our commitment to quality, traceability, food safety, and certification across our downstream refinery operations.

Environmental, Social & Governance factors are an integrated part of UP’s pursuit of sustainable value creation



ENVIRONMENT



- No Deforestation, No New Peat Development & No Exploitation
- Integrated biodiversity department and 8,203 Ha. jungle conservation
- GHG carbon footprints reduced by 62% per kg. palm oil since 2004



SOCIAL



- Setting the highest standards for employees and their families
- Free housing, utilities and schools
- Partnering for human rights leadership and strong labour practices in line with emerging global standards



GOVERNANCE



- Strong governance structures and robust risk management policies
- The World’s First RSPO certified palm oil producer in 2008
- Independent external verification of targets and achievements

Environment



UP is committed to being a leader in sustainable agricultural practices and is aware of the footprint it leaves on the environment, and therefore our Group constantly strives to reduce variables that negatively impact the environment. Since 2010, we have strictly adhered to No Deforestation and No New Development on Peat soils regardless of its depth, and have focused on the reduction of GHGs, energy, water, and waste, in line with the concept of the circular economy as a vital part of our environmental strategy.

No Deforestation and No New Planting on Peat

Global plantation development has contributed significantly to economic development and prosperity. However, deforestation and other unsustainable practices have many negative consequences for people and the environment, thus, our Group is fully committed to protecting forests, peatlands, and human and community rights.

As an important part of our sustainability journey, we work closely with other growers, suppliers, contractors, processors, NGOs, brand manufacturers and industry stakeholders to take part in transforming the industry, as well as creating further awareness on the importance of sustainable palm oil production.

In addition to our focus on continuous improvement to minimise waste and our overall carbon footprint, we are committed to the Principles and Criteria of the RSPO, MSPO and ISPO. Our Group has, through investments, and a dedicated Group Sustainability Committee, introduced policies to break the link between palm oil and deforestation.

Furthermore, we have strengthened our High Conservation Value (HCV) assessment by combining it with the High Carbon Stock (HCS) assessment and Land Use Change Analysis (LUCA) for new plantings in 2014. With this, we strive to maintain an open and dynamic approach towards continuous improvements for the protection of peat soils, HCV, HCS and other fragile areas.

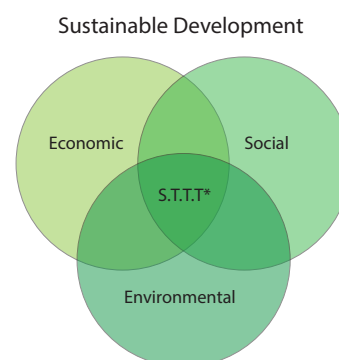
We conduct our operations under the best principles of agriculture and are committed through our more than 8,203Ha of conservation areas to promote biodiversity and the protection of the natural environment within our group's land banks.

Key milestones of our Environment and Biodiversity Policy are summarised below and we expect our employees, contractors, suppliers, trading partners and stakeholders to adhere to this policy too, thereby further enhancing sustainability within our supply chain based on transparency, traceability, and trust.

For more information, please see the sustainability section on our website.

Key environmental milestones achieved are as follows:

- Zero-burn policy (1989)
- No primary forest clearing policy (1990)
- No bio-diesel production/supply policy (2003)
- Methane capturing facilities introduced (2006) and all mills equipped with methane capturing facilities (2018)
- HCV assessment introduced (2007)
- LCA on Palm Oil production completed in (2008) with annual updates since then
- No Deforestation, No new development on High Conservation Value (HCV) areas and No new development on peat soils regardless of its depth (2010)
- Total phase-out of Paraquat (2010)
- HCV combined with HCS assessments and LUCA for new plantings (2014)
- Total phase-out of Class 1A/1B chemicals (Monocrotophos/Methamidophos) (2020)



*Sustainability through Transparency, Traceability & Trust

Environmental Commitments of the Group

	2022 (RM)	2021 (RM)	2020 (RM)	Grand Total (RM)
Environmentally Friendly Operational Activities	7,877,945	6,144,925	5,817,120	19,839,991
Environmentally Friendly Projects (Biogas, Biomass, others)	3,936,559	429,207	443,185	4,808,951
Biodiversity & Conservation (Forest reserve, Endangered Tree Species Projects, Collaboration with Copenhagen Zoo)	900,097	927,143	923,167	2,750,407
Total	12,714,601	7,501,275	7,183,472	27,399,348



These Proboscis Monkey (*Nasalis Larvatus*) are closely associated with riverine-riparian forests, mangroves, and swamp forests, eating primarily leaves and fruits when in season and are among the largest species of monkeys found only on the island of Borneo, these primates are listed as endangered.

Peat Developments

Since 2010, the Group has strictly adhered to No New Development on peatland, regardless of depth, whilst carefully managing pre-existing oil palm plantings on peat. In Malaysia, the total peat area is 4,130Ha out of a total planted oil palm land bank of 37,507Ha, whereas in Indonesia, the total peat area is 417Ha, out of a total planted land bank of 8,800Ha. In total, peat therefore makes up approximately 9.81% of the total area planted with oil palms throughout our Group.

In 2022, our Research Team reassessed the peat area in our Indonesian estates, where significant areas of peat subsided over the years, and as a result, some of the peat area with high water table has been set-aside as peat rehabilitation area. This is in line with the latest peat inventory, which has been submitted to the RSPO Secretariat.

New Planting Procedure (NPP) and Responsible Land Use Planning

The RSPO New Planting Procedure (NPP) consists of a set of assessments and verification activities to be conducted by growers and certification bodies (CB) prior to new oil palm development. The intention is that no new oil palm plantings will negatively impact primary forest, HCV, HCS, fragile and marginal soils, or local people's lands. UP subscribes to and supports this stance, as it is not enough to only set aside areas for conservation.

Conservation areas need to be patrolled in order to protect these areas from intruders and fires, so that biodiversity can be truly conserved. In this regard, our BioD Division utilises the SMART system, which is the world's most comprehensive and user-friendly conservation monitoring system. The added advantage of using SMART is its statistical power that allows the BioD to compile and develop trendlines and other forms of analyses pertaining to the management and protection of conservation areas and species.

For more information on our HCV and HCS assessments, please refer to our website, www.unitedplantations.com/sustainability/.

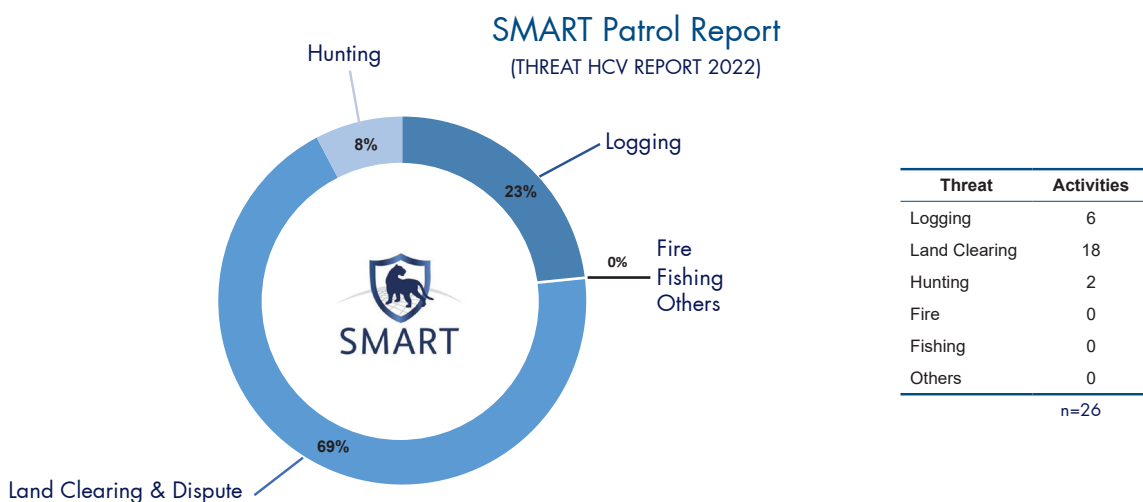
New EU Legislation on Deforestation

Throughout 2022, the discussion about halting deforestation was a hot topic for debate amongst many EU delegates. This culminated on 6 December 2022, when the European Parliament and the Council of the European Union reached a provisional agreement on the EU regulation on Deforestation-Free Supply Chains. This new regulation involves commodities including palm oil, cocoa, coffee, soya, timber, and rubber, and aims to prevent companies from placing commodities linked to deforestation and forest degradation onto the EU market.

Once this regulation comes into effect later this year and following an implementation period of 18 months, importers, and exporters of the said commodities must prove that the implicated products are deforestation-free. This includes providing geographical information on the farmland where the product was produced, to prove that the land has not been subject to deforestation after 31 December 2020, and that the product complies and has been produced in accordance with all relevant applicable laws in the country of production. These rules will also apply to a number of derived products including selected palm oil-based derivatives (used for example as components in personal care products).

Whilst there are still many unanswered questions in relation to the implementation of this new legislation, we welcome initiatives that aim to tackle the global challenge of deforestation. However, such initiatives must be based on a balanced approach to ensure smallholder farmers are not excluded from global supply chains and that developing countries also have the right to move up the ladder of development, in order to meet their basic needs, and to have the opportunity to lead richer, more fulfilling lives.

In addition, any such initiatives must ensure that all agriculture related commodities are subject to the same rules, thereby operating on a level playing field without any form of discrimination. In any case, we shall relentlessly continue our pursuit of sustainable value creation, by always aiming to set the highest sustainability standards within the conditions of the day.





A group of Smooth otters (*Lutrogale perspicillata*) are seen here "cooling off" at our mangrove conservation area in Lada Estate.

Partnership, Biodiversity and Conservation



Conservation of jungle reserves and wildlife sanctuaries as well as promoting green corridors are examples of our commitment to the environment. To date, United Plantations has set aside 8,203Ha of land for conservation purposes representing approximately 13% of our total planted area in order to encourage biodiversity and wildlife on our estates. In Indonesia, UP has set approximately 42% of its land concession for the purpose of conservation.

Riparian reserves are maintained to preserve flora and fauna, provide wildlife corridors, ensure water quality and prevent erosion. In order to develop effective conservation strategies, we have established a series of collaborations and partnerships with experts within this field. One such partnership was initiated in 2007 with Copenhagen Zoo (CPH Zoo) and officially established on 1 October 2010, through a Memorandum of Understanding (MOU). It marked an important milestone for our target of producing certified sustainable palm oil in Indonesia and being able to document the environmental integrity of our Indonesian operations.

Biodiversity Department

In order to better manage our large conservation areas, UP set up its Biodiversity Department (BioD) in 2011 under the purview of Dr. Carl Traeholt, our Group's Chief Environmental Advisor.

The Biodiversity team consists of a Division Manager with solid natural resources management experiences, supported by five subject specialists and five field staff.

This is supplemented by additional contract-workers when needed. The team is responsible for mainstreaming environmental concerns into standard operational procedures and focus on activities primarily within the following areas:

- Biodiversity (Fauna and Flora)
- Habitat and Ecosystem
- Forestry and rehabilitation
- Hydrology and Limnology
- GIS and Mapping
- Integrated Pest Management
- RSPO and ISPO
- Protection and Monitoring
- Community Outreach

One of the key components in making the BioD a success was to develop the internal capacity to manage and conserve UP's ecological resources, and to make first-hand information about biodiversity assets easily available.

This is possible with the current BioD headed by Dr. Carl Traeholt, our Group's Chief Environmental Advisor and Mr. Muhd Silmi, Manager BioD and their team including essential topic specialists, such as a limnologist, a forester/botanist, zoologist, herpetologist and database officer. These subject specialists are supported by two chief rangers and a number of ranger assistants, as well as a native tree nursery manager.

Biodiversity Department's activities

Since 2011, the BioD has undertaken an impressive amount of activities in support of the company's commitment of producing sustainable palm oil and

conserving the natural environment. For example, the Biodiversity Division has worked with leopard cats, *Prionailurus bengalensis*, as predator of rats to replace the environmentally detrimental chemical control.

The work with the Sumatra cobra (*Naja Sumatrana*) and king cobra (*Ophiophagus Hannah*), the world's largest venomous snake has not only produced some amazing results, it has also attracted one of the world's best known and respected herpetologists, Romolus Whitaker, who continues to grace UP/PT SSS and offer support and capacity building.

The Biodiversity Division has also undertaken numerous camera trap surveys, bird and tree surveys to document the biodiversity within the company's conservation areas.

In addition, the BioD has recorded many of Borneo's endangered species to date, among them Asia's only great ape, the orangutan, *Pongo pygmaeus*.

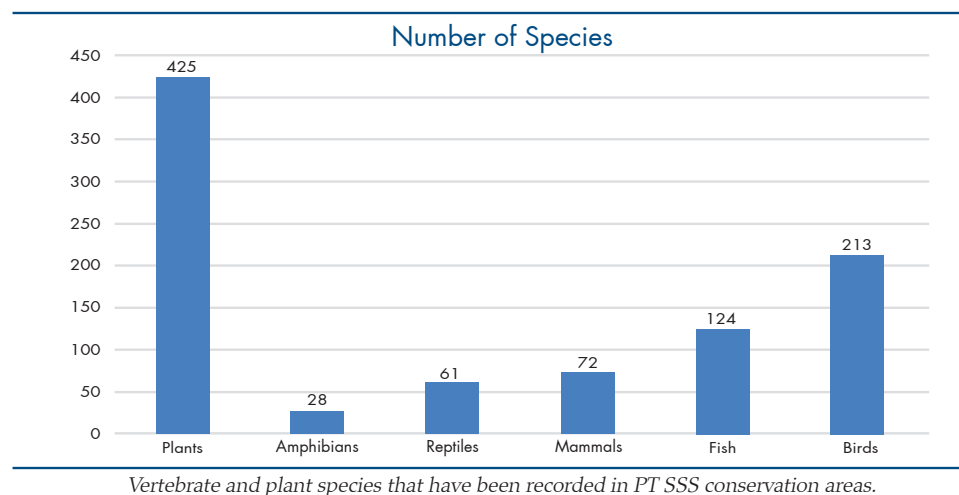
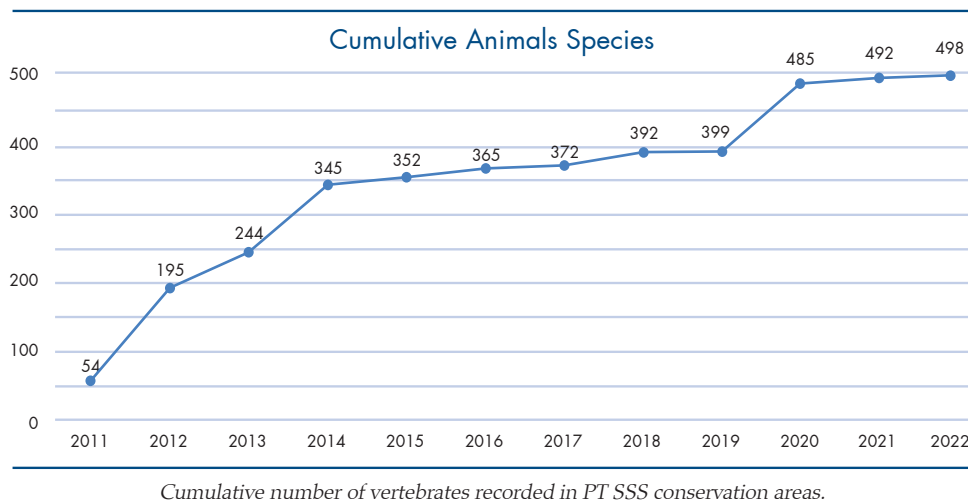
While these are exciting and inspiring stories about exotic species, the BioD is far more than that. An entire host of other activities commenced right from the modest beginning in 2011, including developing a GIS database that incorporates literally all the team's recorded data, be it from camera trap pictures, radio-tracking locations, number of tree seeds collected, time and place of illegal logging or recovery of aquatic fauna. Most of these stories can be found on our website.

Biodiversity activities during 2022 in PT SSS

In 2022, the global COVID-19 pandemic eased and by the end of the year, most affected countries were back to normal again. However, new variants emerged and Indonesia chose to maintain a state of high vigilance. At the same time, the number of domestic and international airline departures remain well below pre-COVID levels. This has caused delays in supplying various types of equipment including cars, camera traps, computers, and general spare parts.

Despite the challenging times, the BioD Division continued work at near normal capacity throughout 2022. The Division continued to focus on wildlife conservation and its management within our landbank to fulfil RSPO principles and criteria. While many urban based activities have been hit hard by COVID-lockdown, the BioD team was less affected, because most activities took place in conservation areas with few people present. During surveys, the team encountered very few other humans, but fortunately a lot of biodiversity, which meant that the team could continue to carry out its duties without compromising the company's COVID-19 safety protocols.

In 2022, the team added six new species to our species list, namely two reptiles, one fish, and three birds. To date, the BioD has recorded a total of 498 different vertebrate species of which 72 are mammals, 213 birds, 61 reptiles, 28 amphibians and 124 fish. In addition, 425 tree species have been recorded in PT SSS conservation areas. The total number of species is expected to increase significantly in the future when more surveys are completed, and rehabilitation areas mature.



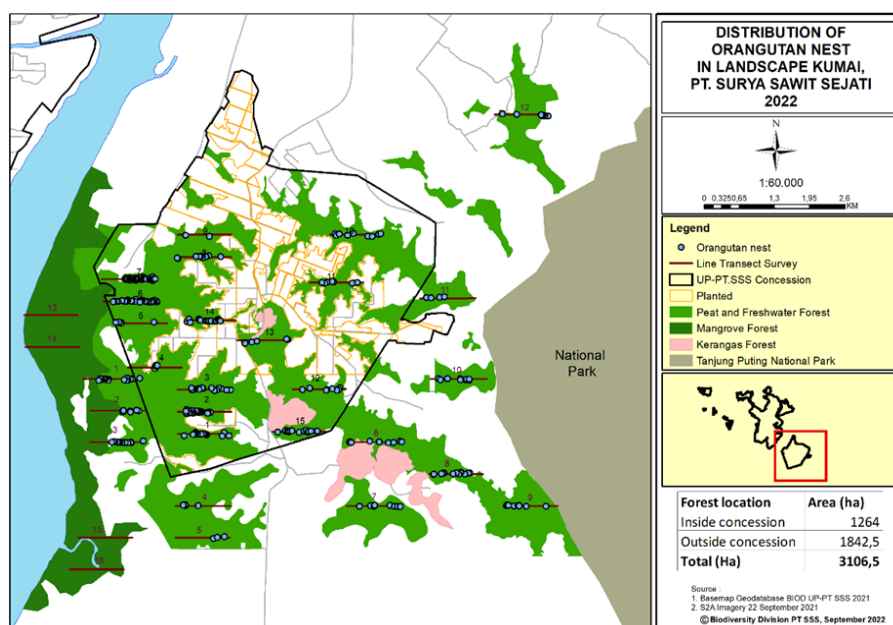


The orangutan survey team consisting of members from PT SSS BioD Team, the local Government BKSDA, KPHP authorities and OF-UK at Kumai Estate.

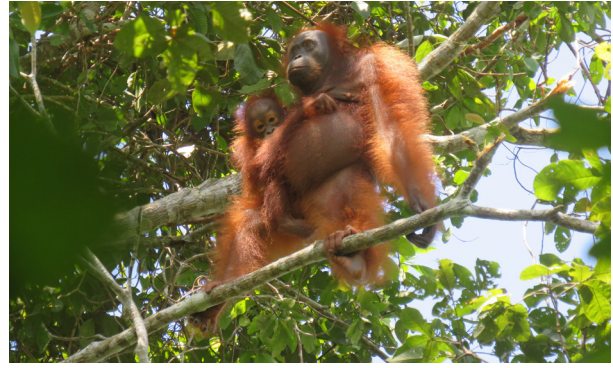
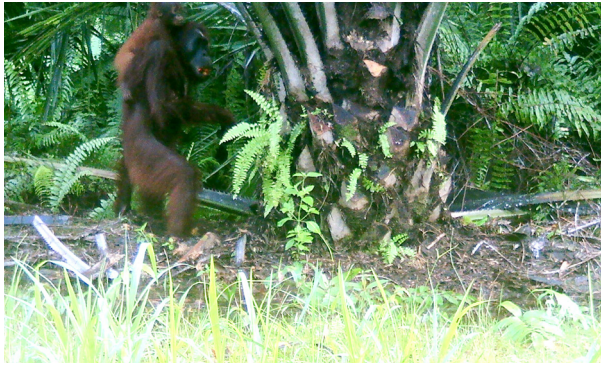
Orangutan population survey in Kumai Estate

The BioD Team collaborated for the second time with the Natural Resources and Ecosystem Conservation agency (BKSDA - Ministry of Environment and Forestry) Kalimantan Tengah and Orangutan Foundation United Kingdom OF-UK, and Kesatuan Pengelolaan Hutan Produksi (KPHP - Ministry of Environment and Forestry) Kalimantan Tengah to undertake an orangutan population survey in a forest corridor connecting PT SSS Kumai Estate to Tanjung Puting National Park (TPNP) from 19 June to 26 June 2022. This survey marked a milestone for the BioD Team, because it constituted the first time that PT SSS officially worked together with BKSDA, KPHP and OF-UK who were responsible for protecting and safeguarding orangutans. It was also the first time the BioD Team formally participated in an

orangutan survey outside PT SSS landbank. The survey team consisted of three researchers from BKSDA, two officers from KPHP, two researchers from OF-UK and seven officers from the BioD Team. The population density surveys followed a standard nest counting procedure. The results revealed the presence of a significant number of orangutans with an estimated 22 individuals roaming the forest corridor. This constitutes a density of approximately 1.22 individuals/Km². The survey team also conducted a nest count survey inside PT SSS concessions from 8 August to 6 October 2022 to complete the survey in all forest areas that have been set aside as High Conservation Value area (HCV) in the Kumai Estate landscape. The results produced an estimated 34 individuals (range 24-47 individual) roaming PT SSS conservation areas, or approximately 1.1 individuals/Km².



Distribution map of orangutan nest in Kumai Estate landscape that links PT SSS to Tanjung Puting National Park. This has very high conservation priority for many endangered species.



Female with baby and juvenile (3-4 year) old kids of orangutan that has been capture by camera trap and direct photo in Kumai Estate all around the year 2022.

The estimated population densities appear surprisingly high and is not consistent with the BioD Team's monitoring data. Nest counting is associated with several uncertainties and biases that may appear from surveys in "small patches of forest." For example, in a small forest fragment, orangutans are forced to build nests in a relatively smaller area than if they were able to disperse freely over a larger area. This may result in surveys recording many nests in a small area, however, they may all be built by the same one or two individuals. In the end, the successful collaboration and results from the joint population survey offers real positive opportunities for future collaboration concerning orangutans and other endangered species outside public protected areas.

The BioD Team, however, will continue to develop more accurate and reliable density estimate. The continued research and tests undertaken in 2018, by a drone manually fitted with a forward-looking-infrared (FLIR) camera proved very effective in helping to identify orangutans in their nests at midnight. At the end of 2022, the BioD Team bought a new drone that is fitted with a normal and a FLIR camera as well as a laser range finder. This new drone is expected to help the BioD Team increase the detection rate and accuracy and thereby be able to produce better population estimate of orangutans in a specific area. An expansion of the wildlife surveys and management into sites adjacent to PT SSS estates will also be executed under the RaCP programme.

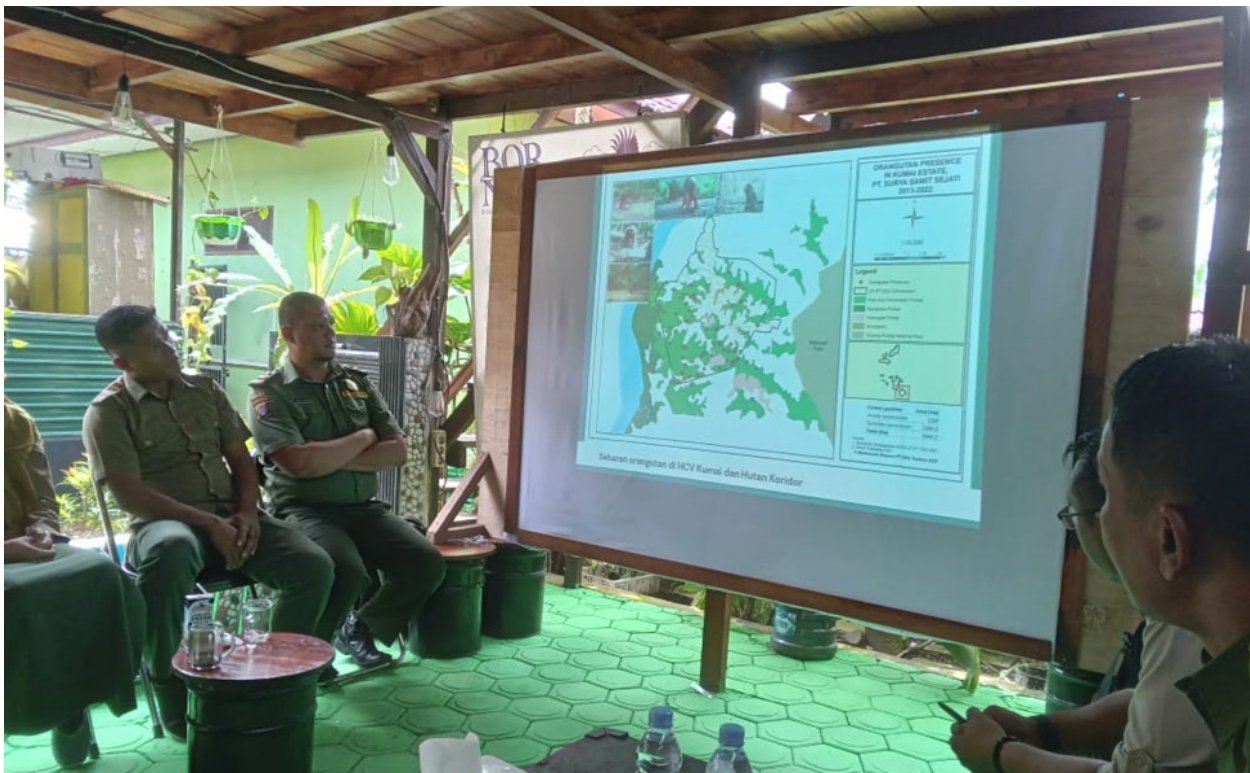
Baby and Juvenile Orangutan In Plantation Landscape

Orangutan presence in PT SSS conservation areas were already recorded during the early stages of plantation development, 14 years ago. What surprised the BioD Team then was the fact that the small population of orangutans remained healthy and were reproductively active. At the time, such few scattered and isolated

populations were captured and moved into so-called "rescue centres" by local authorities, even if they did not specifically need to be "rescued." Therefore, the BioD Team did not request removal of PT SSS orangutans but put priority in managing their existing habitat.

This included monthly monitoring and habitat enrichment, to ensure the few individuals roaming PT SSS HCV-areas had sufficient food. Unexpectedly, the BioD Team frequently recorded females with babies or juvenile estimated at around 1-4 years, often as second and third generation from the same female. This was fantastic evidence of the species' resilience and adaptability to changing habitat circumstances, as well as a validation of the original decision to leave them where they were. In the face of ongoing scepticism and critics, by 2022 the BioD Team has recorded 11 photos of orangutan babies and juveniles that are estimated to be less than 4 years old. At least nine of these belong to different mothers and new-borns have been recorded almost every year since 2013.

It is this success that laid the foundation for the current collaboration with the local authorities BKSDAE and KPHP as well as OF-UK. The BioD Team is proud of having been instrumental in influencing a new strategy for Indonesia's orangutan conservation efforts. This strategy proposes that orangutans should be left where they are found, except for circumstances where they suffer ill health, malnutrition, or any other form of distress. The BioD Team formed an important part of the recent publication *Importance of Small Forest Fragments in Agricultural Landscapes for Maintaining Orangutan Metapopulations* that was published together with the world's leading orangutan conservationists. Having taken the lead in this approach, PT SSS is also faced with several future challenges and will be embarking on more advanced conservation intervention such as meta-population that is inherently reliant on genetic assessments at site level.



Meeting with District BKSDA SKW 2, Central Kalimantan, in Pangkalan Bun

In addition, studbook keeping may become relevant for small, isolated population that need occasional genetic infusion in the form of translocated male(s) to ensure the orangutan population in plantation landscape are genetically viable. This requires even deeper collaboration with BKSDA as well as KSDA at Central level.

Landscape based conservation planning - discussions with BKSDA Central Kalimantan

Borneo's once vast rainforests are increasingly being replaced by forest patches intersected by urban and agricultural landscape. Many species that were common and found in large cohesive populations are now found in much smaller numbers, as well as in isolated fragmented populations.

The challenge posed by managing endangered species in isolated fragmented populations is not new. However, the scale of it is. The BioD Team has grappled with this scenario since its formation and it has constantly communicated this challenge to the local conservation authority, BKSDA Kalimantan Tengah. Fortunately, the BKSDA now seems to acknowledge that there is a need for a solution. Using orangutan as an umbrella species the BioD Team has highlighted the challenges of conserving the species in small forest patches within the plantation landscape. For more than 10 years, the BioD Team has recorded and monitored the local orangutan population dynamics and is happy to report a slight increase in numbers. Unfortunately, such small habitat fragments reach a population carrying capacity relatively fast, and the subsequent overpopulation of a specific species will cause conflicts with local communities and/or result in a higher degree of inbreeding. This problem can be solved either by active population intervention i.e., managers will manage genetic drift actively by

translocating individuals between various isolated habitat fragments, or establish a natural corridor where animals can disperse freely in the landscape.

The HCV areas in PT SSS Kumai Estate is home to 20-30 orangutans. To date, the population seems to be within the biological capacity of the area. Since they are confined to the HCV area without any possibilities of dispersing to other habitats that are suitable for their survival, orangutans will, over time, suffer inbreeding depression. Interestingly, there is a natural corridor that links Kumai Estate to Tanjung Puting National Park. This area belongs to different stakeholders, but BKSDA agreed to collaborate and undertake a joint orangutan survey in the area, with the aim of securing the area as a future protected biological corridor.

In this process, the BioD Team has played a major role and proposed that PT SSS, under the RaCP scheme, assume joint management responsibility of the area. This will benefit species conservation in the area and provide a blueprint for how endangered species can be managed in a future fragmented landscape across Indonesia.

For the past two year the BioD Team has had numerous formal and informal meetings with Government authorities to promote the idea of landscape-based conservation, and to encourage proactive intervention. In conservation and management of natural resources, there are a few examples of the Government engaging in a collaboration with a private entity, such as PT SSS.

Because of this, the BioD Team has been aware of the need to develop trust between PT SSS and BKSDA, and since 2020 the shared interest and desire for a long-term conservation solution has developed into a stronger collaborative unit.



Hatched python eggs that was found in the plantation landscape.



In fact, in December 2022 the director of BKSDA Central Kalimantan, together with PT SSS, were invited to present their ideas of a joint conservation programme to the Ministry of Environment and Forestry, Jakarta.

The meeting was hosted by the Director of KKH (Direktorat Konservasi Keanekaragaman Hayati – Department of Conservation and Biodiversity) at the Ministry office in Jakarta.

The BioD Team hopes that this inaugural meeting will lead to additional on-the-ground collaboration and a model of how to implement meta-population management of endangered species in a fragmented landscape.

Python population in the plantation landscape

Reticulated python (*Malayopython reticulatus*) is a beautiful and colourful snake that is commonly seen roaming the plantation landscape. It feeds on an abundance of prey species found in the estates, such as rats, leopard cats, wild boars and lizards.

Pythons are of particular interest to plantation operation, because they are effective as biological pest controllers. Pythons consume many rats every day and are excellent rat hunters even when these are young in nests as well as in the palms.

However, pythons can reach a size of 5-6m, and large pythons are dangerous to human beings too. With the many workers active in the estates daily, the BioD Team is monitoring the python population, and especially the average size to make sure that all staff can safely roam the plantation.

As part of the safety procedure, the BioD Team therefore introduced a policy of capturing all pythons above 3.5 metres and translocate these individuals to conservation areas managed by BKSDA Central Kalimantan.

Amphibian surveys

Kumai Estate was the first of UP's plantations that was setup as an integrated agriculture-conservation landscape right from the beginning. This landscape is unique as it is both delivering high palm oil yield as well as enjoying a very high degree of biodiversity.

In September 2022, the BioD Team conducted an amphibian baseline survey, where 19 line transects were setup in the HCV areas. In total, 15 species from 5 families were recorded, which is a record for PT SSS.

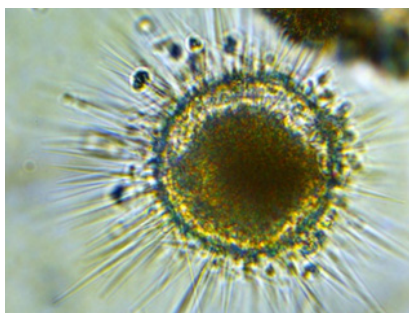
In the future, the data will be used to monitor possible changes and trends in species distribution and population. Amphibians are specifically important as indicator species, because they are very sensitive to even slight changes in the environment and can provide the BioD Team with insight into how well the ecosystem is functioning.

Water quality monitoring and the Plankton Diversity

Water is the most important natural resource on earth that all known living organisms are dependent on. Therefore, the BioD Team places the highest priority on this and focuses on protecting watersheds and maintain good water quality to support aquatic life as well as provide clean water to communities. The BioD Team has continuously monitored the water quality in PT SSS



Amphibian diversity in the Kumai Estate plantation landscape



Acanthocystis turfacea



Tabellaria fastiagata



Monostyla quadridentata

The plankton diversity forms an important part of the food web in river ecosystems. The three species illustrated above are collected from a stream in Kumai Estate.

to ensure that the actual water conditions in the water bodies across the estates remain as pristine as possible. For this, the BioD Team uses biodiversity of biotic organism in the water as an indicator of water quality. Aquatic invertebrate samples have been taken from streams and ponds located inside estate and conservation areas in Lada, Runtu, and Kumai estates. Sampling sites are fixed points and to date the BioD Team has recorded 100 Phytoplankton and 35 Zooplankton species.

Diversity sampling of plankton in Kumai, Lada and Runtu estates indicate that the water condition in the rivers surrounding the estate falls into the “medium condition” category. This means that the water is slightly polluted but showing signs of improving. In addition, the rehabilitation of riparian forest along the streams in PT SSS is showing positive effects by minimizing organic and inorganic pollution washout in all three estates.

Success Story from Rehabilitation Areas as Carbon Storage and Mother Trees Sources for Tree Seedling

The BioD Team has recorded positive progress from the rehabilitation activities that commenced in 2011. In some rehabilitation areas, trees such as Blangiran (*Shorea balangeran*) and Rengas (*Gluta renghas*) have grown above 10m tall and even become “mother trees” for the first time. The BioD Team collected a lot of seedlings

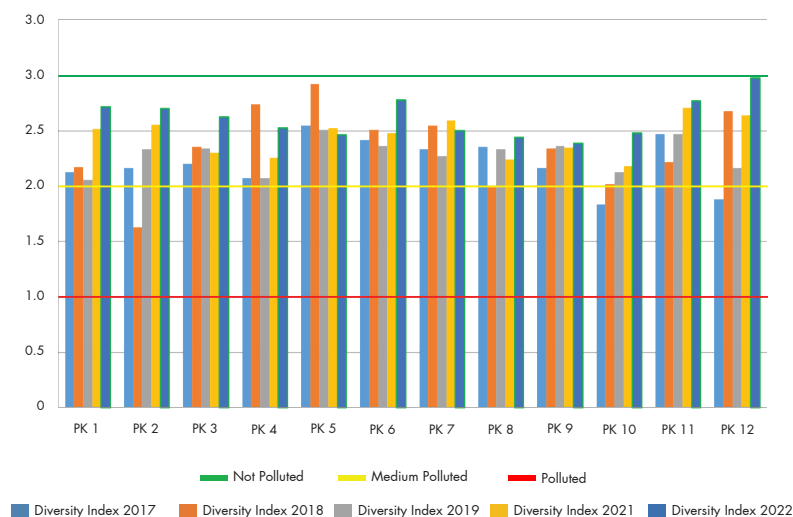
and fruits from these, which are considered the second generation of the species. Some seedlings have also been recovered and moved into polybags in the jungle tree nursery site at Lada Estate. Here, the seedlings will grow for 10 -14 months before they are ready to be planted at a rehabilitation site. The BioD Team is proud to have reached this important rehabilitation milestone. With this, PT SSS is becoming an “independent” producer of some species of trees and can propagate these internally.

Furthermore, our rehabilitation areas have also become effective carbon storage sites. In 2011 there was nothing but grass in the rehabilitation areas, and from the first 80cm seedlings with little carbon storage value, many of these areas are now overgrown with 10-12m tall trees. The DBH (diameter at breast height) of some trees measure 43 cm which indicates healthy and strong growth and significant carbon sequestration. To better measure this effect and understand the carbon storage potential in the rehabilitation areas, the BioD Team have setup a 10,000 m² permanent plot that will be used as a live laboratory to measure the many aspects related to tree growth, species succession and plant diversity dynamics.

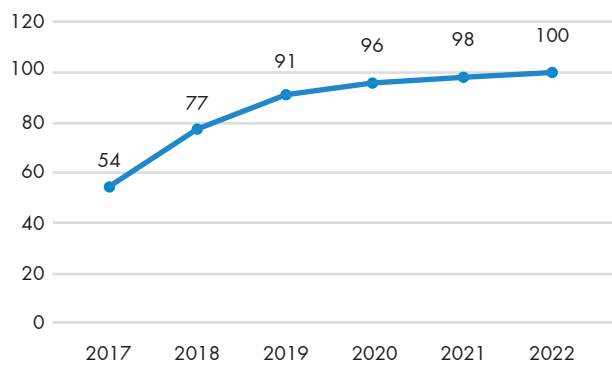
When planted trees form new canopy the area begins to attract other species, especially birds and rodents. These are also known as important seed dispersers, and from the five tree species originally planted, the BioD Team has recorded

Diversity Index in Kumai Estate

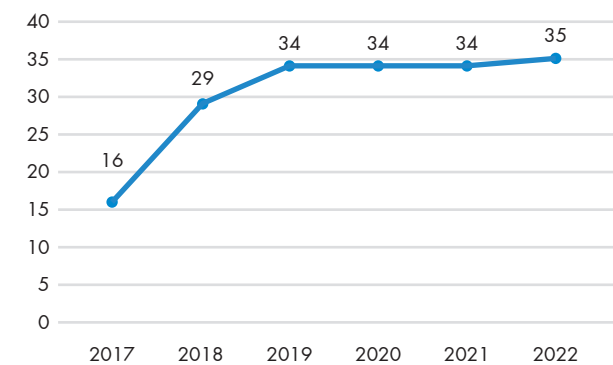
Plankton diversity index used to evaluate the quality of water bodies.



Cumulative Phytoplankton

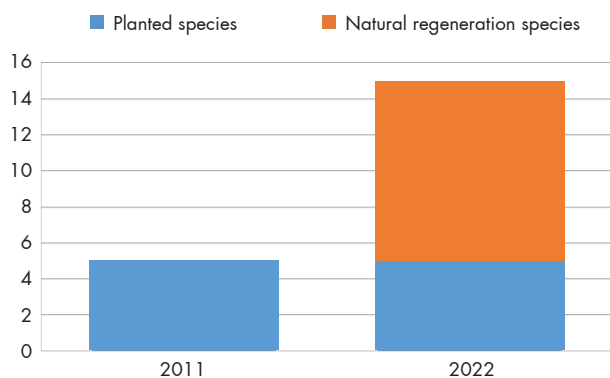


Cumulative Zooplankton

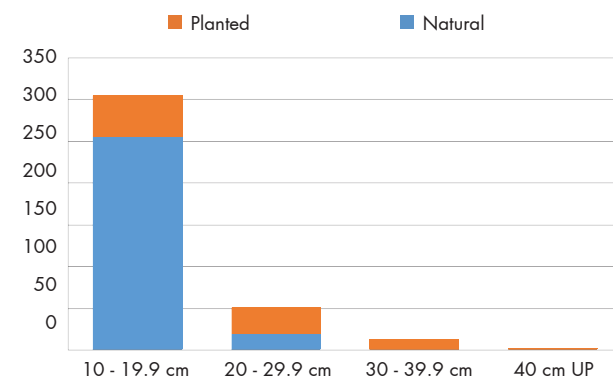


Base line data of plankton diversity in stream/river in Kumai, Lada and Runtu estate concession.

Species composition of trees in Field 86 permanent plot



Diameter at Breast Height (DBH) of Tree Trunk

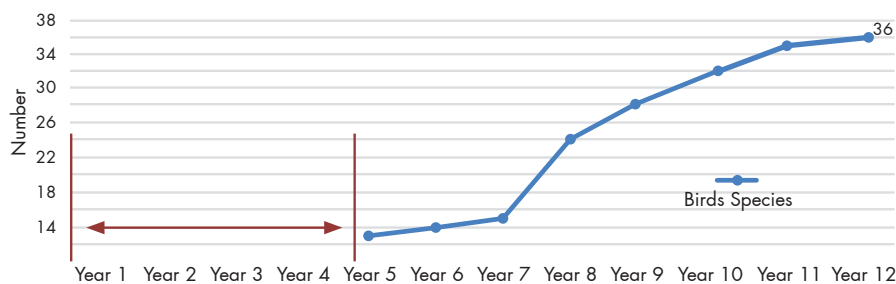


BioD field team are collecting seedlings of the Blangiran tree around the mother trees at the rehabilitation areas in block 86.



The rengas trees in rehabilitation area block 86 has become a mother tree after it was planted from the first time in 2011.

Cumulative Curve of Birds Species Recorded in Rehab Areas Period 2011-2022



The number of bird species has increased every year in the rehabilitation area Field 86. This is clear evidence of the rehabilitation process showing positive recovery trends.

10“new” species in several rehabilitation sites. Since most of the tree species belong to large-seed trees, these are likely not dispersed by wind but by birds and mammals that have taken up residence in the rehabilitated habitat. The natural “recruitment” of seeds seems to work well in PT SSS areas and the BioD Team will continue to measure and monitor the effect of this local evolution.

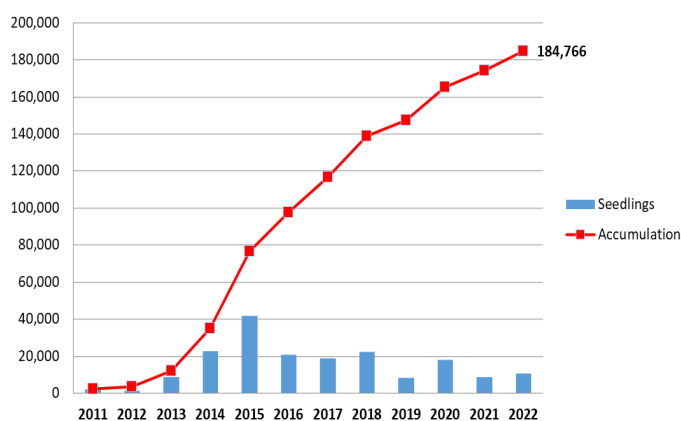
Birds Diversity in Rehabilitation Area

Rehabilitation activities in Lada Estate has been ongoing since 2011. The first phase of habitat rehabilitation was to plant as many native trees in degraded areas as possible to recreate a natural canopy cover.

The BioD Team assumed that a good tree diversity with extensive canopy cover will attract many wildlife species, since it provides shelter and foraging areas for particularly understory birds and microbats. To date, approximately 300 ha have undergone rehabilitation activities during which the BioD Team has planted $\pm 184,766$ native tree seedlings from 125 tree species. Despite difficult conditions, an estimated 65% of the seedlings have survived and are growing well today.

Concurrently with planting new trees, the BioD Team monitors biodiversity in the rehabilitation areas, and Lada Field 86, Division 2 is mainly used as a large experimental site. The understory bird diversity is a good indicator of habitat condition that also reflects the condition of the forest canopy.

Seedlings planted from 2011- 2022



They prefer habitat with dense canopy cover and are often cryptic and difficult to see, even when using binoculars. Therefore, mist-netting was used to capture birds in the area, in addition to direct observation. The bird monitoring began 4 years into the rehabilitation process, when the first planting activities were initiated.

Subsequent monitoring reveals an increasing number of bird species throughout the years. From a mere 13 species in 2015, the BioD Team recorded 36 bird species in 2022. This is another testament to a successful rehabilitation process, and it is expected that the bird diversity will continue to increase in tune with the increasing canopy height of Field 86. The next big milestone is when endangered and critically endangered birds begin to return to the area in the future.

Building Science Communication by Attending Conference and Conservation Workshops

In addition to all the above mentioned on site activities, the BioD team is actively attending several national and international workshops and conferences that are relevant to biodiversity conservation and management. In multiple cases, representatives from the BioD Team have been invited to speak or present at conservation events, primarily about research and conservation activities in plantations landscape.

The specific topic of managing biodiversity in the plantation landscape has become increasingly important in a larger national as well as international context, because industrial agriculture at a global level is one of the main producers of CO₂. At the same time, the BioD Team continues to engage with colleagues and experts at national and international level to learn and increase its own capacity and to become even more effective and valuable for the company in the future.

The BioD Team has already become one of the leading biodiversity research and management entities and is known for its expertise within the palm oil sector and beyond.

Dr. Carl Traeholt
UP Group Chief Environmental Advisor
and
Mr. Muhd Silmi
Manager Biodiversity Division



From a mere 13 species of birds in 2015, the BioD Team recorded an astounding increase of 36 bird species in 2022. This is another testament to a successful rehabilitation process.



UIE's Kingham-Cooper tree reserve, is a flagship reserve holding above 250 species and 12,500 indigenous trees, today stands as a natural sanctuary for birds and other wildlife as well as provides a seed garden for future plantings.

Kingham-Cooper Lagoon Tree Reserve

UIE estates have since 2008 become an indigenous tree seed-garden pioneer which holds one of Malaysia's finest and most diverse collections of native jungle tree species. The Kingham-Cooper Lagoon Tree Reserve established in 2008 is the flagship reserve holding above 250 species and 12,500 indigenous trees thereby being the main gene bank for mother trees used for seed collection and further propagation and distribution of saplings to other estates within our group. This evolving sanctuary which surrounds the lagoon is stocked with varieties of fish thereby attracting fish eagles, the Malayan Otter, Monitor Lizards, King Fishers, bee-eaters as well as a wide variety of smaller mammals. It has also become colonized by two species of monkey namely the short and long tailed Macaques.

The UIE Main-Office Park

Additional extended areas of 13 hectares, surrounding the Lagoon had been further enriched and planted out with a wide variety of rare and endangered jungle tree species, which has added to diversity with the likes, amongst others, of rare species such as *Shorea Macrophylla*, a Dipterocarp species of Meranti known locally as Enkabang by the native Ibans of Sarawak for deriving shea butter.

The Sungei Anak Macang Riparian Reserve

This 5.85-kilometre strip of land along the narrow boundary river covers an area of 11 hectares. It was planted up in

2020 and has been established with a wide variety of rare and endangered jungle trees sourced from the Kingham-Cooper Lagoon Tree Reserve.

UIE Tree Nursery

Our successful establishment of the various reserves, which are our precious gene bank of mother trees, have enabled us to collect a wide variety of seeds for further propagation at our UIE tree nursery.

During 2022, UIE was able to deliver 2,350 diverse tree species seedlings to several Estates in the Group (Jendarata, Tanarata, Ulu Bernam, and Alpha Bernam) for planting into their own landscapes, Riparian Reserves, and parks.

Mr. James Kingham - Malaysia's Tree Guru passes away at 86

Over the years, United Plantations has been very fortunate to have had a close working association with the late Mr. James Kingham. A passionate conservationist, an experienced planter, generous with his time and knowledge, often sharing his wisdom and expertise gained from his encounters with the local indigenous community, forest rangers and anyone with a keen interest and eager ear, he indeed leaves behind a rich and colourful legacy.

We sincerely thank James Kingham for a lifetime of tree plantings, not least at UIE, which has benefitted our Group immensely.



Surrounded by the lagoon and a vast variety of flowering and fruits trees, the Kingham-Cooper Tree Reserve is a haven for food and shelter to many types of birds and other fauna.

Carbon Footprint Initiatives and Climate Action

In UP, we respect and recognise the importance of global initiatives to protect fragile ecosystems and combat climate change. Since 2005, UP has actively been pursuing means of identifying ways to reduce its Greenhouse Gas (GHG) emissions and with that its reliance on fossil fuels. On a global perspective much more attention must be directed towards the adverse impacts of fossil fuel usage and minimising this as about 70% of all CO₂ (-eq) emissions continue to come from the burning of fossil fuels.

Palm oil on the other hand, accounts for about 0.6% of the global CO₂ (-eq) emissions, which is much less than for instance the production of milk, pigs, and poultry, and about 22 times less than the livestock sector overall. Positive change can be made through individual accountability and collective action, and it is therefore important that we focus on a balanced approach where we all have to help minimise the impact of deforestation and greenhouse gas emission and not just a selected few. There must be a commensurate effort in reaching this goal and therefore things should be put in perspective and acknowledgement given to the fact that palm oil production is not a main driver of the global GHG emissions. In this connection, ongoing initiatives must be intensified to minimise the impact of not just agriculture but all activities that in one way or the other contribute to deforestation and global warming.

Life Cycle Assessment (LCA)

In 2006, following the completion of the world's first peer reviewed Life Cycle Assessment (LCA) study on the "cradle to grave" production of 1 MT of refined palm oil, various areas were identified within our production chain, which could mitigate GHG emissions. Following that, UP finalised the world's first comprehensive LCA in accordance with ISO 14040 and 14044 International Standards on palm oil in 2008, which subsequently underwent a critical panel review.

Further annual updates to this LCA were carried out by 2.0-LCA Consultants involving Professor Jannick Schmidt from Aalborg, Denmark including the latest update undertaken for year 2022. The updated 2022 LCA model is based on the new EXIOBASE background database and the contributions from indirect land use change, peat emissions and nature conservation have been reviewed in light of new data. These

studies indeed helped to identify additional areas in need of further improvement within our Group. At this juncture, it should be noted that the GHG emissions per kg palm oil calculated in this study cannot be compared with the results obtained with the GHG accounting tool PalmGHG, due to key methodological differences between the two models.

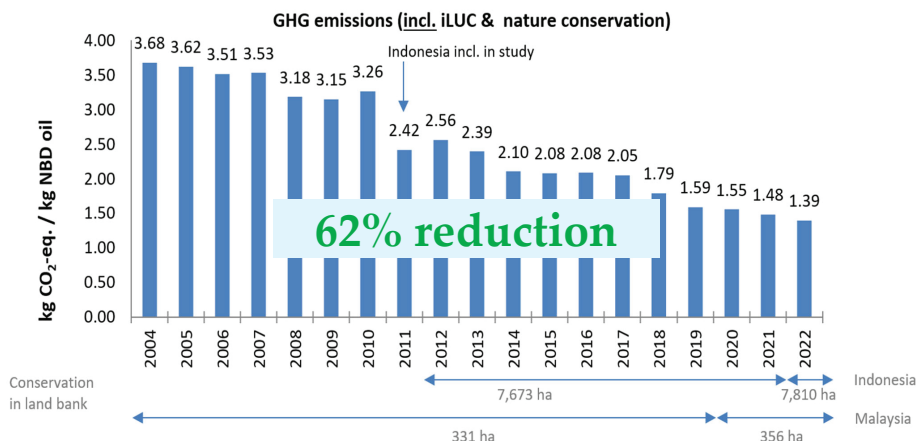
This effectively means that GHG emissions calculated in the LCA study are systematically higher compared to a similar calculation using the PalmGHG calculator, which adopts a different approach to deal with land use changes, nature conservation and the modelling of by-products. The PalmGHG calculator also ignores the emissions from the production of pesticides, and results are presented per kg crude oil, whereas the LCA results are presented per kg refined palm oil, and include scope 3 emissions.

Significant reduction in UP's GHG emissions since 2004

Looking at the below time series of GHG emissions from palm oil at UP, it is most pleasing that we have again managed to reduce our footprint from 1.48 kg CO₂-eq emissions per kg NBD oil in 2021 to 1.39 kg CO₂-eq emissions per kg NBD oil in 2022 including indirect land use change (iLUC) and nature conservation. This is equivalent to a reduction of 6%, which can mainly be attributed to a reduction in the emissions from our field activities and agricultural inputs in particular. Moreover, this represents a substantial reduction in our GHG emissions of 62% vis-à-vis 2004, galvanising the fact that UP's palm oil has a significantly lower carbon footprint when compared to average RSPO certified palm oil as well as Rapeseed and Sunflower oil produced in Europe as seen in the graph on the next page.

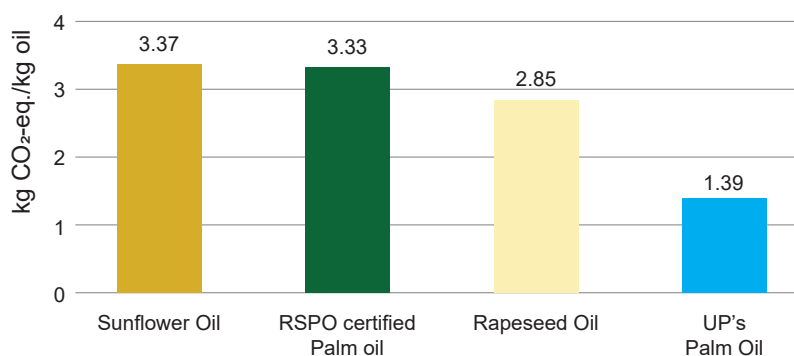
2030 Target

In 2021, we achieved our internal goal of reaching a 60% GHG emissions reduction per MT of refined palm oil produced by 2025 when compared to 2004 levels (with iLUC and nature conservation), four years ahead of time. However, in line with our Group's commitment to environmental leadership, we acknowledge that even more can be done and we therefore set a new target of reaching a 66% reduction by 2030 when compared to 2004 levels (with iLUC and nature conservation). We shall relentlessly pursue to reach and exceed this through more initiatives and further investments over the next 8 years.



Time-series for NBD palm oil at United Plantations Berhad 2004-2022. Results include contributions from iLUC and off-setting from nature conservation.

Comparison of Palm Oil Produced in United Plantations Against Average RSPO Certified Palm Oil and Other Oils



The 2022 GHG emissions from UP's palm oil production have been compared with industry averages of RSPO certified palm oil (Malaysia/Indonesia), rapeseed oil (Europe) and sunflower oil (Ukraine). The industry averages are based on Schmidt and De Rosa (2020) and Schmidt (2015).

Emissions Reductions & Biogas Plants

As a necessary element in our pursuit to combat climate change, significant investments have been made in promoting green energy starting with the Biomass Reciprocating Boiler cum Power Plant and the first Biogas Plants built and commissioned in 2006. Today, all of our mills are equipped with Biogas Plants.

These projects combined have since helped to significantly reduce our emissions of CO₂ by 70% and CH₄ by 80% at the respective operating units thereby paving the way for additional green investments.

For more information on our LCA assessment, please refer to our website, www.unitedplantations.com/sustainability/.

Biogas to Grid Project

The UIE biogas plant began operations in 2010 where biogas generated from the palm oil mill effluent is sold as electricity to the grid or used as a substitute fuel in the mill boiler. In 2022 a total of 6,654MWh of electricity was generated from the biogas plant and sold to the grid which is similar to the quantum supplied in the previous year.

Photovoltaic Cell Pilot Project

A pilot project was initiated in 2020 to evaluate the feasibility of photovoltaic cells to produce green electricity from sunlight to offset electricity consumption from the grid. Located on the roof of the Tissue Culture Laboratory, these cells generate about 525kW/day for the Tissue Culture Laboratory, with the unutilised electricity channelled to other laboratories in the Research Department. A total of 193 MWh of renewable electricity was generated in 2022. In May 2022, a larger photovoltaic project was commissioned at the Unitata

Refinery, which generated 460 MWh of electricity throughout the rest of 2022.

Biomass Reciprocating Boiler

The first Biomass Reciprocating Boiler (BRB1) was successfully commissioned in 2006 and supplied green steam to Jendarata Palm Oil Mill as well as the Unitata Refinery, thus playing a crucial role in reducing the fossil fuel consumption at the refinery. Since then the Company has built and commissioned another 7 biomass reciprocating boilers with the latest unit at UIE (M) installed in 2019.

Isokinetic Monitoring of Gaseous Emissions from the Palm Oil Mills

In conformance to the Department of Environment's stipulations as well as to monitor the quality of our gaseous emissions, flue gas compositions were regularly checked by certified assessors throughout 2022. In all Malaysian mills the average dust concentrations were below the limit of 0.15g/Nm³ set by the Department of Environment as per the Environment Quality Act (Clean Air Regulations) 2014 and the Lada mill emissions is well within the 0.3g/Nm³ set by the Peraturan Menteri Negara Lingkungan Hidup No 07 Tahun 2007 in Indonesia.

VORSEP Dust Collector System

The VORSEP dust collector system was first installed on our Biomass Reciprocating boiler at Ulu Basir Palm Oil Mill replacing the old conventional multi-cyclone dust collector system. The unit was commissioned in June 2015 followed by progressive installation of additional units in the rest of the mills. With the commissioning of the VORSEP system at UIE(M) mill in 2019 all of UP's palm oil mills are now fitted with the VORSEP dust collector system.

Palm Oil Mill	Average Dust Concentration (g/Nm ³)
Jendarata - BRB 1 & 2	0.128
Ulu Bernam - Boiler 1 of 2	0.105
Ulu Basir - Boiler 4	0.145
UIE - Boiler 3	0.133
Lada - Boiler 1 & 2	0.051

These units were installed primarily to meet the DOE's Environmental Quality Act (Clean Air Regulation) 2014 which among others requires a cleaner emission standard from the boiler with the following conditions: -

- The dust concentration emitted from the stack should not be more than 0.150g/Nm³
- The smoke should not exceed shade No. 1 on the Ringlemann chart and should be less than 20% opacity

Palm Oil Mill Effluent (POME) and Palm Oil Refinery Effluent (PORE) Treatment

Palm oil mill effluent and palm oil refinery effluent are treated in treatment ponds to reduce their BOD and COD contents before they are used to irrigate the oil palm fields. The quality of effluent is monitored monthly and reported to the respective Government authorities. The summary of the effluent's quality for all UP's processing facilities in 2022 is shown below. With the implementation of Biogas plants and other initiatives to reduce the BOD and COD of effluent, we aim to reduce the BOD and COD by 10% from the respective averages of 550 and 2200 mg/L in 2021, by 2025. In addition, we will soon start commissioning a polishing plant to treat POME from the Optimill with the objective of reaching a BOD level of <30ppm.

		Malaysian Operations			Indonesian Operations		
		2022	2021	2020	2022	2021	2020
Parameters (mg/L)	BOD	466	594	623	453	478	502
	COD	2121	2615	2686	2068	2025	2076

Biomass utilisation and economic value

In 2022, a total of 720,969 MT of biomass residues were generated through UP's various field and mill operations in Malaysia.

Almost all of the total biomass generated (99.6%) or 718,279 MT were effectively utilised as organic mulch in the nursery and field or as fuel source, thereby enriching our soils and displacing the use of fossil fuels whilst enhancing the value of the biomass generated.

Our Indonesian operations generated a total of 156,805MT biomass dry matter in 2022. Here too, a very high proportion of the biomass (156,316MT or 99.7%) was utilised through recycling in the field or as a green energy source.

Biomass utilisation is an important part of our nutrient recycling programme and in line with our Environment and Biodiversity Policy which demonstrates our commitments to minimise the use of chemicals, pesticides as well as fertilizers in our operations.

Similar commitments apply to our FFB suppliers whom we educate on Best Management Practices during our annual Smallholders' Field Day.

Production and Level of Utilisation of Oil Palm Biomass Residues in UP in 2022

Malaysian Operations (Dry Matter Basis)	Quantity Produced (MT)	Quantity Utilised (MT)	% Utilisation	Method of Utilisation
Trunks and fronds at replanting	69,042	69,042	100	Mulch
Pruned fronds	362,135	362,135	100	Mulch
Spent male flowers	34,821	34,821	100	Organic matter recycled on land
Fibre	74,479	74,479	100	Fuel & mulch in nursery
Shell	47,786	47,786	100	Fuel & mulch for polybag seedlings
POME	35,870	33,180	93	Biogas generation, nutrient source, field irrigation and base for organic fertiliser production
EFB	96,836	96,836	100	Mulch and Fuel
Total	720,969	718,279	-	-
Level of utilisation = 99.6%				

Indonesian Operations (Dry Matter Basis)	Quantity Produced (MT)	Quantity Utilised (MT)	% Utilisation	Method of Utilisation
Trunks and fronds at replanting	-	-	-	-
Pruned fronds	86,331	86,331	100	Mulch
Spent male flowers	8,301	8,301	100	Organic matter recycled on land
Fibre	19,493	19,493	100	Fuel & mulch in nursery
Shell	11,996	11,996	100	Fuel & mulch for polybag seedlings
POME	6,523	6,034	93	Biogas generation, nutrient source, field irrigation
EFB	24,161	24,161	100	Mulch and Fuel
Total	156,805	156,316	-	-
Level of utilisation = 99.7%				

Fertilizer Equivalent and Monetary Value of Oil Palm Biomass Residues Recycled on Land in UP in 2022

Malaysian Operations

Biomass Residues	Method of Utilisation	Quantity Utilised on Dry Basis (MT)	Fertiliser Equivalent (MT)			
			Urea	Rock Phosphate	Muriate of Potash	Kieserite
Trunks & fronds at replanting	mulch	69,042	863	290	1,110	529
Pruned fronds	mulch	362,135	8,164	2,656	6,905	4,520
Spent male flowers	organic matter	34,821	1,120	742	2,060	1,069
EFB	mulch	43,007	748	315	2,079	478
Digested POME	biogas generation & irrigation	33,180	1,154	730	1,814	1,327
Total (MT)		542,185	12,049	4,733	13,968	7,923
Monetary value (RM)			41,449,137	2,626,628	34,780,048	10,340,156
Total monetary value (RM)			89,195,969			

Indonesian Operations - Lada and Runtu estates

Biomass Residues	Method of Utilisation	Quantity Utilised on Dry Basis (MT)	Fertiliser Equivalent (MT)			
			Urea	Rock Phosphate	Muriate of Potash	Kieserite
Trunks & fronds at replanting	mulch	-	-	-	-	-
Pruned fronds	mulch	86,331	1,946	633	1,646	1,078
Spent male flowers	organic matter	8,301	267	177	491	255
EFB	mulch	23,072	401	169	1,115	256
Digested POME	biogas generation & irrigation	6,034	210	133	330	241
Total (MT)		123,738	2,824	1,112	3,582	1,830
Monetary value (RM)			8,039,226	949,018	10,513,392	2,636,350
Total monetary value (RM)			22,137,986			

With our commitment to sustainability and good agricultural practices, the recycling of field and mill biomass residues back to the oil palm land remains a cornerstone in UP's practices. These measures have been shown to maintain and even improve soil fertility in the long term and enhance palm growth and yield.

In 2022, the total organic matter recycled on land in UP amounted to 542,185MT of dry matter which is equivalent to 314,467MT of carbon. This translate to an annual recycling rate of 15MT organic matter or 8MT of carbon to each hectare of land, thereby being an important contributor to replenish the soil carbon stock which is a vital component of soil health.

Upon mineralisation, the organic residues release substantial quantities of previously locked plant nutrients to the soil which is available for palm uptake. The fertiliser equivalent of the material recycled on land is of the order of 38,673 MT NPKMg fertiliser which in

itself has a monetary worth of RM 89.2 million based on the unusually high fertiliser prices in 2022.

For our Indonesian operations, a total of 123,738MT of biomass was recycled back onto our plantation land. This is equivalent to enriching our soils with 71,768MT of organic matter which on a hectare basis is akin to returning 15MT organic matter or over 9MT organic carbon to the land.

On the more sandy soils in Indonesia such inputs will improve long term soil health significantly as the soil carbon status is built up over the years. The nutrient content in the recycled biomass is equivalent to 9,349MT of inorganic NPKMg fertilisers, with a value equivalent to RM22.1 million at 2022 prices.

In these unusual times the monetary value of nutrients in the recycled biomass, combined for our Malaysian and Indonesian operations, exceeded RM 100 million in total.

Triple rinsed plastic pesticide containers (MT)

	2022	2021	2020
Malaysian operations	14.5	12.9	14
Indonesian operations	3.2	1.0	1.4

Spent lubricants (lit)

	2022	2021	2020
Malaysian operations	45,801	38,712	51,167
Indonesian operations	2,900	5,060	4,677

Used batteries (pieces)

	2022	2021	2020
Malaysian operations	142	68	107
Indonesian operations	0	0	11

Spent fuel filters (pieces)

	2022	2021	2020
Malaysian operations	5,086	3,934	4,936
Indonesian operations	96	204	195

Waste Management

To avoid contaminating the environment and prevent misuse of pesticide containers and other scheduled wastes we have been collecting and disposing off triple rinsed pesticide containers, spent lubricants, used batteries and spent fuel filters through certified waste managers.

The waste managers will either safely recycle these items or dispose of them in accordance with government regulations. There is no deemed hazardous waste under the terms of Basel Convention Annex I, II, III and VIII, that were transported, imported, exported or treated.

Climate Risk Assessment

In UP, we recognise the threat of climate change and its effect on the planet and livelihoods. Unpredictable and

extreme weather patterns directly impact agriculture operations and are a risk to food production. This may have substantial financial or strategic impact on our business too.

We have therefore conducted an assessment in line with the guidelines by the Task Force on Climate-Related Financial Disclosures (TCFD) to identify risks, opportunities, and challenges across all our operations in Malaysia and Indonesia to build resilience for our business and mitigate climate change.

The identified transition risks are summarised in the table below, which has been produced by the Sustainability Team of UP who is well-versed with the TCFD guidelines and the identification of transition and physical risks.

Climate related transition risks, opportunities and challenges

Types of transition risks	Risks	Opportunities	Challenges
Current and emerging regulations <ul style="list-style-type: none"> Adhering to existing and new rules and regulations on emissions or climate change mitigations. 	<p>Higher compliance costs (additional costs associated to carbon pricing, taxes imposed on fossil fuels, etc)</p> <p>Failure to comply with new regulations which restrict emissions or promote climate-change adaptation.</p>	<p>Low carbon footprint operations will significantly reduce the operational costs arising from increasing carbon prices and the dependence on non-renewable fuels.</p>	<p>Significant investments needed to meet new requirements.</p>
Technology <ul style="list-style-type: none"> Innovative technology to optimise efficiency of production. 	<p>New processing methods and technology lead to different waste output and environmental impact.</p> <p>Increasing costs associated with conventional systems that are energy inefficient.</p>	<p>New innovative technology and circular economy solutions could bring about efficiency in energy usage and resilience in the use of natural resources.</p>	<p>High costs associated with the advancement of new technologies to reduce carbon footprints.</p> <p>Availability of new proven technologies to continuously reduce carbon footprints.</p>
Market <ul style="list-style-type: none"> Increasing consumer awareness on climate change and expectations to manage climate-related impacts. 	<p>Failure to comply with increasing customer expectations and requirements insofar as low carbon products are concerned.</p>	<p>Benign low footprint could give access to markets and customers with strict carbon emissions regulations and requirements.</p>	<p>Reduced pool of compliant suppliers.</p> <p>Reduced demand for commodities that fail to meet market expectations.</p>
Reputational <ul style="list-style-type: none"> Increased scrutiny from non-governmental organisations (NGOs) and consumers. 	<p>Reputational risks as stakeholders are increasingly focusing on the companies' carbon footprint and plan to manage climate risks.</p>	<p>Improved environmental score and reputation could lead to new opportunities with conscious customers.</p>	<p>The industry as a whole must raise the bar or all companies risk being painted with the same brush regardless of individual efforts.</p>

Physical Risks

Types of physical risks	Risks	Opportunities	Challenges
Acute <ul style="list-style-type: none"> Temperature change and increase frequency of extreme weather events such as floods and droughts. 	<p>All our properties are in areas with relatively low acute weather risks, meaning that operational disruption due to such event taking place is relatively low.</p>	<p>Safeguard operations by ensuring that emergency response teams are prepared to deal with fire and flood during drought and flood seasons.</p>	<p>Peat areas possess high risk of fire outbreaks during drought seasons and maintaining adequate water levels is therefore crucial.</p>
Chronic <ul style="list-style-type: none"> Rising sea levels. 	<p>We have some properties located close to the coast and there are risk related to the rising sea levels.</p>	<p>Develop mitigation plans to address the risk of rising levels, and identify alternative water sources and water retention facilities to increase operational resilience.</p>	<p>Significant cost associated with establishing additional water retention facilities.</p>



Early morning at the Kumai River with its beautiful mangrove area bordering Lada Estate on PT SSS.

UP is committed to continuously improve and operationalise the short-, medium- and long-term measures and strategies to minimise the identified climate risks. This goes hand in hand with our strategic focus on the “circular economy” concept of converting waste into renewable energy via innovations and investments in new technologies to reduce our GHG emissions.

The UP Group’s GHG emissions intensity baseline and target covering plantations, milling, and refining operations are assessed and monitored annually, and in line with the TCFD’s recommendations, we have also initiated our disclosure of GHG emissions for Scope 1, 2 and 3. For more information on our journey to reduce the company’s carbon footprint vis-à-vis our baseline monitoring in 2004, reduction trends and targets, please refer to page 62.

All strategies, programmes and developments related to the climate risk assessment are headed by the Chief Executive Director of UP and any significant resources required for related projects are subject to approval by the UP Board. The climate risks will be deliberated and reviewed as deemed necessary during the Group Sustainability Committee (GSC) Meeting. Lastly, climate change is also listed as an important indicator under our materiality assessment and the level of prioritisation is assessed annually based on feedback from our stakeholders.

Water Management

Water management is particularly important on acid sulphate and peat soils. These soils are fragile and if over drained, they will rapidly deteriorate. On acid sulphate soils, the water level should be maintained up to the jarosite layer, thereby submerging the pyrite (FeS_2) and preventing it from oxidising to sulphuric acid, which can cause a steep drop in the soil pH.

Weirs for Moisture Conservation

To conserve moisture during dry periods, a series of weirs are constructed across the collection drains to hold back water and raise the water-table to within 50-75 cm from the surface. To regulate the height of the water table, wooden planks are slotted into the desired level. The density of weirs varies with the soil type, slope, rainfall and cropping system.

On average, one weir is provided for every 40 to 60 hectares or every 600-1000 meters along the collection drain. Assisted by the water gates at the discharge ends of the main drains, the weirs are very effective in minimising the adverse effects of the moisture stress. Our Research team is undertaking a Drainability Assessment in our peat areas which are due for replants in the next 5 years in accordance with RSPO Peat Drainability Guidance. This will help us better understand the hydrological characteristics of our peat areas.

Monitoring of Meteorological Parameters

Weather stations have been set up at strategically important locations throughout our Group. These provide a large amount of micro-climate information critical to, particularly, make accurate fire-risk predictions. Being able to predict the risk of fire allows the management in each estate to implement proactive measures, to prevent and minimise the risk of fire, as well as to be on high alert with firefighting equipment, in case of fire outbreak.

Water Impacts

UP fully appreciates that more can be done to preserve and protect water ways and manage the use of water throughout our organisation. In order to maximise the available water resources, United Plantations has since 1913 gone to great length to construct an extensive system of water gates, bunds, weirs, canals and drains hereby enabling us to harvest and optimise the usage of rain water.

In addition, leguminous cover crops are established in all our immature plantings to conserve moisture in the relatively open environment of immature plantings. In this context, it is important to mention that except for the nursery areas, none of UP's planted areas under oil palms or coconuts are irrigated.

Indeed, all our areas are under rain-fed agriculture, thus making use of whatever water which comes naturally from above. We are continuously working to mitigate our water footprint related to mill waste, maintaining buffers along natural waterways, harvesting rainwater, frugal domestic water usage and judicious use of pesticides and weedicides.

The consumptive water use (evapotranspiration) ranges from 120-150 mm per month. To meet this requirement, the monthly rainfall should equal or preferably exceed this figure, failing which moisture stress would occur.

The rainfall in the UP Group ranges from 1,600 to 2,500 mm per year, with the average being 2,000 mm. Monthly distribution is reasonably uniform, but drought does occur when some estates receive less than 100 mm of rainfall over 2-4 months as experienced in past years. Weirs have been constructed across the collections drains to harvest rainfall and hold back water to raise the water table.

Hydrology and Limnology

Clean water is critical to sustain all kinds of life form on Earth. In rural Indonesia thousands of local residents are dependent on water supplies from lakes and rivers. Maintaining a clean and uninterrupted supply of water constitutes one of the most critical components in sustainable palm oil production.

The Biodiversity team has developed a "Hydrology map" and identified a number of permanent sites for sampling water quality. Using state-of-the-art equipment, the team measures and records organic, inorganic and physical pollution parameters in the field.

Potential trace elements and toxins are measured with a spectrophotometer in the laboratory. In the event of a sudden deterioration in water quality, the team will identify the source of pollution and initiate a process to rectify the problem.

This includes identifying any unusual organic contamination, usually due to empty fruit bunches that mistakenly have slid into a stream or if an unusual high level of inorganic contamination is detected, it is usually a result of excessive wash-out of fertilizer. Such information is communicated to the respective estate managers, allowing them to rectify a potential problem within a very short time period.

In our pursuit to conserve this depleting precious gift, every effort is being done to educate our residents to be frugal on water usage. Old water pipes, water tanks and faulty taps are being replaced from time to time to arrest leakages. In addition, by having various awareness programme on water and energy saving programmes, we aim to reduce our domestic water consumption by

10% from the average of 80 gallons per capita per day in 2025. The domestic water is sourced from either Government supply or our own treated water from river or reservoir. In 2022, upgrading work in our mills and estates resulted in the increase of domestic water consumption in Malaysia as seen from the table below.

Domestic Water Consumption (gallons per capita per day)	2022	2021	2020
Malaysian operations	81 (0.37m ³)	77 (0.35m ³)	73 (0.33m ³)
Indonesian operations	75 (0.34m ³)	84 (0.38m ³)	77 (0.35m ³)

Erosion Monitoring Plots

To better understand the dynamics of soil, water and nutrient loss that can occur in our property, several erosion monitoring plots measuring 6m x 20m were set up in one of our estates on slightly sloping land under mature oil palm.

Thereafter the amount of soil loss, surface runoff and nutrient losses in each of these fractions are being closely monitored to determine the major routes of soil, water and nutrient loss. Such studies illuminate the areas of major loss through which mitigating measure can be developed to minimise the depletion of these vital natural resources.

Rain Harvesting

As part of our effort to conserve water resources and minimise wastage we have embarked on a programme to fit workers' housing with tanks to store harvested rain water which is especially beneficial during periods of prolonged dry weather.

Mill Water Consumption Rate

We also monitor the water consumption for processing of FFBs and ensure optimum water consumption without unnecessary wastage. Any leakage in water supply will be repaired immediately. With this, we aim to reduce our mill water consumption by 10% in 2025 compared with the average of 1.6 MT water/MT FFB in 2020.

Mill water consumption (MT water/MT FFB processed)	2022	2021	2020
Malaysia operations	1.5	1.5	1.7
Indonesia operations	1.2	1.2	1.1

Pesticides and Chemical Usage

Conducting our operations under the best principles of agricultural management is a key priority for the UP Group to reduce chemical and pesticides usage thereby minimising the impact to the natural environment.

Furthermore, our employees' safety is a top priority and in this connection all sprayers are trained extensively and are required to use full Personal Protective Equipment.

United Plantations Palm Oil (Malaysian Operations*)				Soybean**	Sunflower**	Rapeseed**
	2022	2021	2020			
Pesticides / Herbicides (kg per MT oil)	0.568	0.76	0.76	3.95	28	3.73

*Includes palm oil+palm kernel oil (UP, 2020-2022 - Malaysian operations)

**Data from FAO, 1996- Pesticide data for soybean and rapeseed updated in 2007/9 and 2010 respectively

According to CropLife International, a global federation representing the plant science industry, 42% of crop production throughout the world is lost as a result of insects, plant diseases and weeds every year. Indeed, in the tropics crop losses can reach as high as 75%.

Careful use of pesticides can deliver substantial benefits for our society by increasing the availability of good quality and more affordably priced food products. However, pesticides are inherently dangerous and it is in everyone's interest to minimise the risk they pose to people and the environment.

Integrated Pest Management (IPM)

According to FAO, IPM means a pest management system that in the context of the associated environment and the population dynamics of the pest species, utilizes all suitable techniques and methods in as compatible a manner as possible and maintains the pest population at levels below those causing economically unacceptable damage or loss.

UP has a strong commitment to Integrated Pest Management (IPM), and in line with the Principles and Criteria of the RSPO we are continuously working on reducing the usage of pesticides. This commitment towards continuous improvements has resulted in minimising the usage of pesticides in relation to other major oil seed crops, primarily through Good Agricultural Practices and improvement in planting materials.

Today, UP's use of pesticide is 6-7 times lower per tonne of oil produced compared to Rapeseed and Soybean farmers and about 40-50 times lower compared to Sunflower growers.

Establishing Beneficial Flowering Plants

A total of 274,782 broadleaf flowering plants have been planted in our Malaysian and Indonesian plantations to encourage parasite and predator activities which is a vital part of our IPM programme.

Flowering plants planted	Malaysia	Indonesia
<i>Cassia cobanensis</i>	42,358 planted	15,122 planted
<i>Tunera subulata/ulmifolia</i>	104,293 planted	80,331 planted
<i>Antigonon leptopus</i>	14,806 planted	97 planted
<i>Carambola sp</i>	3,554 planted	10 planted
<i>Others</i>	5,577 planted	8,634 planted
Total	170,588 planted	104,194 planted

United Plantations Palm Oil (Indonesian Operations*)				Soybean**	Sunflower**	Rapeseed**
	2022	2021	2020			
Pesticides / Herbicides (kg per MT oil)	0.273	0.26	0.15	3.95	28	3.73

*Includes palm oil+palm kernel oil (UP, 2020-2022 - Indonesian operations)

**Data from FAO, 1996- Pesticide data for soybean and rapeseed updated in 2007/9 and 2010 respectively

There has been a steady increase in the number of beneficial plants planted in our properties over the last few years to function as shelter and food source for the beneficial insects.

Surveillance and Monitoring of Pest Outbreaks

Regular surveillance and monitoring is key to minimising both the economic impact of pest and environmental impacts from excessive use of pesticides. Treatment is only carried out when the damage exceeds established critical thresholds.

Several census gangs are deployed on each estate to survey the extent of pest infestation. This is coupled with regular aerial reconnaissance in order to track and pre-empt pest build-up thereby more effectively treating potential outbreaks.

Use of Biological Pesticides and Pheromones

First line treatment against leaf pests i.e. Nettle Caterpillar and Bagworm is by biological treatment in the form of *Bacillus thuringiensis*. The use of pheromones to trap Rhinoceros Beetles thus reducing the dependency on chemical pesticides are also adopted on all estates.

Besides trapping out the beetles, pheromone traps also provide management with statistical information of the severity of the beetle problem and supplements the chemical spraying operations to minimise beetle damage.

Overpopulation of rats, beetles and various kinds of weeds can have profound negative impact on production yields. The UP Group attempts to minimise the usage of chemical control-agents where possible, and the BioD undertakes a number of research projects to maximise the usage of biological control agents where possible.

For example, the leopard cat (*Prionailurus bengalensis*) is one of the key-predators of rats and other small rodents, and preliminary studies on the effect of these cats as rat-controllers in a plantation landscape is ongoing.

The results have been very promising, and UP's biodiversity team is currently exploring ways to enrich the habitat conditions for leopard cats, to maximise the population density and thereby reduce the effect of rat damage.

Apart from leopard cats, the team also records ecological parameters along with the effect on rat populations of other predators such as barn owls (*Tyto alba*), Spitting cobras (*Naja sumatrana*) and water monitor lizards (*Varanus v. salvator*).

5-Step Integrated Pest Management Programme approach taken to contain and/or control Bagworm outbreak.

1) Integrated Pest Management

E.g. planting of beneficial plants to enhance the natural parasitic and predator activities against bagworm. A total of 274,782 beneficial broadleaf flowering plants have been planted in both Malaysia and Indonesia.

2) On-going Monitoring

Census gangs deployed on each estate who take random frond samples in a pre-determined pattern throughout each estate. These fronds are subjected to insect counts and damage assessments by trained personnel.

3) Aerial Surveillance

Regular aerial reconnaissance is carried out to better detect, pre-empt and treat potential outbreaks.

4) Use of biological control agents

*E.g. *Bacillus thuringiensis* as the first line of treatment against an outbreak.*

5) Final Resort

As a final resort and only when Steps 1 to 4 have proven to be futile in containing or controlling the natural equilibrium between pest and beneficial predator, our trained personnel intervenes with the specific treatment of trunk injection.

Monocrotophos and Metamidophos phased out completely

In 2020, we successfully phased out monocrotophos and metamidophos, which was a key milestone for the UP Group. Concerted efforts to source and evaluate alternatives for the Class 1A insecticides, monocrotophos and metamidophos, have been ongoing since 2006 through our collaboration with several multinational chemical companies, amongst others Bayer and BASF (Germany), Syngenta (Switzerland), Cheminova (Denmark), Sumitomo (Japan), Rainbow Agrosiences (China) and UPL (India).

Multiple experimental and existing insecticidal compounds have been evaluated for bagworm control with our partners with no success in matching the efficacy of monocrotophos and metamidophos. In recent years our Research Department was able to test new formulations of an existing insecticide that hitherto gave inconsistent bagworm control.

It has now been established that with these new formulations we are able to have a commercially viable and effective alternative to monocrotophos and metamidophos with a Class II toxicity rating which is a much safer product.

As a result, we have since September 2020 successfully phased out the use of monocrotophos and metamidophos for trunk injection to control bagworm. This is a significant achievement as our plantations can now dispense with the use of WHO Class 1A or 1B pesticides for bagworm control and replaced them with an equally effective but safer product.

Nonetheless, bagworm is an endemic pest in Lower Perak and the Federal Government has gazetted this as a "Dangerous Pest" on 15 November 2013. It is an offence under the Plant Quarantine Act 1976 if this dangerous pest is left without any control and companies can be

financed up to RM10,000. Outbreaks of bagworms continue to occur in the properties neighbouring UP in the State of Perak, West Malaysia. This is of great concern as it is important that collaborated effort by the government authorities, neighbouring smallholders and other plantations are put in place to eradicate this serious pest. UP is working closely together with its neighbours as well as the authorities in the form of the Malaysian Palm Oil Board (MPOB) to achieve positive progress on this concerning issue.

UP has also extended as a service to the neighbouring plantations the use of its airstrips for aerial bagworm control and taking the plantation managers for aerial reconnaissance flights to monitor the extent of bagworm infestations in the region.

As can be seen in the table on the next page, the quantity of agrochemicals (fertilizer nutrients and pesticide/herbicide) per tonne of oil produced in oil palm cultivation at UP over the last three years remain substantially lower than annual oilseed crops such as soybean, sunflower and rapeseed, a reflection of the resource utilisation efficiency of the oil palm crop.

The Pesticide usage in 2022 was lower than 2021 level in Malaysia with less herbicide use whereas the very wet conditions in the Indonesian operations resulted in higher herbicide usage in the past year. The direct fossil fuel energy consumption in 2022 was similar to 2021 and based on similar cropping levels.

Biological Control Agents to Substitute for Chemical Insecticides

Leaf eating pest outbreaks in immature oil palms will need to be treated with insecticides. The use of biological insecticides such as *Bacillus thuringiensis* is therefore encouraged at this young crop stage to minimise collateral damage on beneficial insects in the field as well as to reduce dependency on chemical insecticides.

Agrochemical and Energy Inputs in the Cultivation of Oil Palm and Other Oilseed Crops

Input	Per tonne oil basis					
	Oil Palm*			Soybean**	Sunflower**	Rapeseed**
	2022	2021	2020			
Fertiliser nutrients						
Nitrogen (N-kg)	19	15	19	315	96	99
Phosphate (P ₂ O ₅ -kg)	9	9	8	77	72	42
Potash (K ₂ O-kg)	45	43	43	NA	NA	NA
Magnesium (MgO-kg)	7	6	7	NA	NA	NA
Pesticides/Herbicides (kg)	0.568	0.76	0.76	3.95	28	3.73
Energy (GJ)	0.56	0.56	0.55	2.90	0.20	0.70

* includes palm oil + palm kernel oil (UP, 2020-2022 - Malaysian Operations)

** Data from FAO, 1996- Pesticide data for soybean and rapeseed updated in 2007/9 and 2010 respectively

Fortunately, we have not had any severe infestation in neither our Malaysian operations nor in Indonesia over the last several years, hence there has been no use of *Bacillus thuringiensis*.

Quantity (kg) of <i>Bacillus thuringiensis</i>	2022	2021	2020
Malaysia operations	0	0	0
Indonesia operations	0	0	0

Mowing of Harvesters' Paths

Harvesters' paths are mowed to maintain a flora which is favourable to natural enemies of crop pests and minimise erosion. For this reason, blanket weeding is discouraged, whereas soft weeds with shallow root system which do not grow to excessive heights are encouraged outside the weeded palm circle.

Harnessing advances in pesticide technology to reduce herbicide inputs in mature oil palm

In the wet tropics, weed species rapidly cover the ground and compete with the palms for nutrients and water as well as interfere with field operations.

Consequently, herbicides are an important tool to keep the palm circles weed free. Of the total pesticides used in a mature field, herbicides will therefore account for more than half of the total pesticide load.

Thus, any improvement in the length of control for weeds will contribute significantly to a reduction in pesticide use for mature palms. Over the years UP has actively cooperated with leading agrochemical manufacturers to evaluate a range of novel herbicidal compounds.

Arising from the close collaboration with Bayer CropScience a new compound, Indaziflam, with long lasting weed control was extensively tested in our fields and was found to be able to slash the number of herbicide rounds from

four rounds a year with the standard herbicide mix to two rounds a year with the Indaziflam combination.

This confers the clear benefit of almost halving the herbicide input in a field and greatly improving labour productivity where this approach has been adopted.

The introduction of Indaziflam has contributed to reducing the overall herbicide usage per hectare in our Malaysian operations in 2022 but the significantly higher rainfall in the Indonesian operations has necessitated an increase in herbicide spraying in the past year.

Herbicide usage (kg a.i./ha)	2022	2021	2020
Malaysia operations	2.97	4.13	3.84
Indonesia operations	1.46	1.33	0.81

Calibration for Pesticide Application Equipment

The Company engages the services of equipment suppliers to regularly monitor the calibration of our pesticide application equipment to avoid application error (under and over applications) and ensure the safety of our operators. Furthermore, regular training and refresher courses are implemented, all of which are audited by the MSPO/ ISPO/ RSPO accredited auditors every year.

Chemical Health Risk Assessment (CHRA)

In line with the Use and Standards of Exposure of Chemicals Hazardous to Health (USECHH) Regulations 2000, UP first appointed a certified assessor to conduct CHRA in 2004, for all chemicals utilized in the respective plantations, oil mills and refineries.

This is being reviewed every 5 years by the assessor as stipulated in the Regulations and annual medical health surveillance is conducted on all spray operators.



Rats eat both palm fruits and male flower in the oil palm fields and are considered one of the main pests in oil palm fields. Leopard cats (*Prionailurus bengalensis*) and Barn Owls (*Tyto alba*) significantly reduce rat population and usage of rodenticides.

Biological pest control of rats

Rats thrive in the oil palm ecosystem with an abundance of food sources (palm shoots, fruit mesocarp, kernels, weevil grubs etc.) as well as plentiful harborage amongst the cut frond heaps. The common rat species encountered in an oil palm field are the Malaysian wood rat (*Rattus tiomanicus*), the padi field rat (*Rattus argentiventer*) and the house rat (*Rattus rattus diardii*).

With its prolific reproductive rate, whereby a sexually mature female can conceive multiple times a year and produce an average of 8 pups in each litter, rat populations can mushroom if given the right condition resulting in high crop losses. Various researchers have estimated crop loss caused by rats feeding on fruit mesocarps to be able to reduce oil yield by 5 – 10% (Wood, 1976; Liau, 1990). Badly gnawed male and female inflorescences, as well as young palms killed by rat attacks further contribute to crop loss.

Barn Owls

The Barn owl is a much-loved countryside bird by oil palm planters as it predares on rats, resulting in major reduction of rodent damage. This bird is the best partner to growers due to its ability to adapt well to oil palm plantations. It survives on a staple diet of 99% rats, and it is estimated that a pair of barn owls together with its chicks consume about 800 to 1,000 rats per year.

The barn owls are medium sized (34-36cm) with long legs that have feathers all the way down to their grey toes. The owls have large, round heads without ear tufts and pale heart-shaped facial discs. The owls ingest the rat whole and use their digestive juices to dissolve the nutrients of the fleshy parts. The tougher indigestible parts such as the bones and skulls are regurgitated out.

Barn owl population in tandem with preys' availability can be expanded in the plantation by construction of nesting boxes at vantage points – about 5 meters from the ground and shaded by the palms' canopies.

A zinc baffle or collar should be placed on the pole to prevent snakes etc. from predation of the owl's eggs and new born chicks. These boxes should be inspected regularly and repaired where necessary in order to optimise its' occupancy.

At United Plantations, the barn owl is the first line of defence against this serious pest. Where owls cannot cope with the high rat population, first generation rat baits such as warfarin are employed to selectively bring down the population.

Warfarin baits are preferred as they are relatively safer to barn owls than second generation rat baits. Based on the low usage of rodenticides in the past years, we can infer that the barn owl programme has been fairly successful in keeping rats under control, augmented with rodenticide baiting in selected areas.

Leopard cats

Since its formation in 2011, the Biodiversity Division in UP/PT SSS has recorded a surprising number of leopard cats, *Prionailurus bengalensis*, in the estates. The species is common throughout Southeast Asia in undisturbed as well as altered habitats.

They are common in some oil palm estates too, however, little is understood about their role as rat predators in a plantation landscape although studies have shown that rats and mice constitute 93% of the leopard cat's mammalian diet (Rajaratnam et al., 2007). Field observations demonstrate a negative relationship between cat numbers and the rat population, with high abundance of cats associated with low rat numbers and vice versa (Silmi et al., 2013).

Barn Owl Data	2022	2021	2020
Total Boxes	2765	2,707	2,717
Total Area Under Owl (Ha)	33,081	32,624	32,603
Box to land ratio in Scheme	11.96	12.05	12.00
% Occupancy in Scheme	46.65	45.33	48.58
Total Planted Area (Ha)	34,242	33,033	34,158
Box to land ratio over Total Planted Area	12.38	12.20	12.57
Rodenticide ai/planted Ha (kg/Ha)	0.0002	0.006	0.0006

Since 2015, nine individual leopard cats have been collared and continuously tracked for 23 months and aided by 40 camera traps set up in a 800m by 800m grid generated estimates of the respective cats' home-ranges and dispersal patterns. With at least 2-4 individual/km² the leopard cat density in the oil palm estate is much higher than in the conservation forest with a density of less than 1 individual/km².

The cats are strictly nocturnal and prefer to hide and rest in thick bush, primarily consisting of sword-fern (*Nephrolepis sp*) during day-time, but forage both on the ground and in the palm canopy at night.

Some preliminary results conclude that leopard cats can feed, reproduce and thrive in palm oil estate, with a mean home range (95% MCP) for male leopard cats 1.39 km² (n = 5; SD = 1.40 km²) and a mean home range of female cats smaller at 1.26 km² (n = 4; SD = 0.36 km²). In areas where rats constitute the main prey, leopard cats eat an average of 2-3 rats per day. Amphibians, snakes and birds are also on the menu.

With a body weight range of 2.5-4.0 kg leopard cats are expected to consume more food than the much lighter barn owl, a factor which may be favourable in its role as a rat control agent (Silmi et al., 2013). Our observations reveal that leopard cats can reproduce rapidly with some females giving birth to 4 cubs, with a reproduction cycle every five to six months.

Fighting the Haze and Preventing Fires

There shall be no use of open burning/fire in new or ongoing operations for land preparation, land management, waste management, or any other reason other than justified and documented cases of phytosanitary emergency.

Zero Burning Policy

We are pleased to inform that there were no fire incidents within our Malaysian and Indonesian operations in 2022. Our Emergency Response Team (ERT) is well-trained and equipped with all necessary equipment, and periodic fire drills are conducted in all estates throughout our Group to ensure preparedness of the ERT. To further enhance the fire patrol, four additional fire watch towers were constructed at strategic points and purchased additional six units of GPS devices.

On top of this, we will be conducting a series of community workshops to educate our local communities about the environmental and social consequences of slash-and burn farming, as well as to promote alternative methods of land clearance. With this, our goal is total eradication of fire as a means to clear land by the local communities in the surrounding areas. This year thankfully there was no severe drought in Indonesia.

Hectares Burnt in Fires

	2022	2021	2020
Non Planted	0	0	0
Planted	0	0.05	1.06
Total	0	0.05	1.06

Outer Ring Range of ≤500 m

	2022	2021	2020
Outer ring ≤500 m (Ha)	0	0.004 *Community oil palm area neighbouring Lada	13.2 *Grassland in outer ring of Kumai



Fire patrols are conducted regularly in our Indonesian estates during the dry season.



A joyful Merdeka parade by school children from the Jendarata Tamil school in Division 1.

Social

UP's founder, Aage Westenholz, who established our company in 1906, was known for setting the highest standards for the workforce, within the conditions of the day. This legacy remains a hallmark of the UP Group to this day, where we are as committed as ever towards providing the best social amenities for our employees and their families, as well as advancing the economic and social conditions in the surrounding communities.

Our Employees

The success and achievement of our Group is related to our employees, both past and present, who loyally through hard work, strong leadership, honesty and respect have committed themselves to serve and dedicate their career and livelihood at UP. We promote a working environment where there is mutual trust and respect and where everyone feels responsible for the performance and reputation of our group as "No One at the top is stronger than the pyramid of people who support him/her".

In this connection, it is most pleasing that UP was recognized for our sustainable development solution initiatives being undertaken in Malaysia during the launch of The Malaysia Chapter of the UN Sustainable Development Solutions Network (UN-SDSN) in 2015. In the SDSN Malaysia Chapter, UP was identified as a "Business with a soul". This acknowledgement was indeed pleasing and indicated our commitment to being a leader

in economic, environmental and social sustainability. We recruit, employ and promote employees on the sole basis of the qualifications and abilities needed for the work to be performed and meritocracy is a hallmark of our Group. Our employees are the Groups' core assets, without which the success and stability of UP would not materialise. We are committed to diversity and have an equal employment opportunity policy.

Whilst we actively promote the employment of women at UP, we also recognise that some work on our plantations is potentially more suitable for men due to the heavy physical nature of the tasks. Male workers predominantly perform tasks such as harvesting fresh fruit bunches, crop collection and evacuation to the railway cages for transport to the mills, while women are assigned lighter work such as weeding, gardening and loose fruits collection. We provide crèches, playgroup classes and kindergartens at all operating sites to support our employees and their children.

Employees – Year 2020 to 2022

	2022	2021	2020
UP Bhd	4,513	4,217	4,550
Unitata Bhd. and UniFuji Sdn. Bhd.	305	291	291
Butterworth Bulking Installation Sdn. Bhd.	-	-	14
PT SSS, Indonesia	1,563	1,227	1,243
Total	6,381	5,735	6,098

*On 1 November 2021, UP disposed of its interest in a wholly-owned subsidiary, Butterworth Bulking Installation Sdn. Bhd.

Summary of our Group's employees gender mix

	UP Indonesia (PT SSS)	UP Malaysia	UP Group
Percentage Female Employees	20.22%	10.00%	12.51%
Percentage Male Employees	79.78%	90.00%	87.49%

Category of Employees (Malaysian) as at 31 December 2022

Employee Classification	Gender Classification		Age Classification			Ethnic Classification				Total
	Male	Female	18-30	31-50	>50	Malay	Chinese	Indian	Others	
Directors	1	-	-	-	1		1			1
Management	120	25	15	94	36	29	23	91	2	145
Staff	182	131	59	153	101	79	5	224	5	313
Workers - PT SSS	489	310	202	362	235	249	-	546	4	799
Total	792	466	276	609	373	357	29	861	11	1,258

Category of Employees (Other Nationalities) as at 31 December 2022

Employee Classification	Gender Classification		Age Classification			Ethnic Classification					Total
	Male	Female	18-30	31-50	>50	Others	Indonesia	Nepalese	Indian	Bangladeshi	
Directors	2	-	-	2	-	2*	-	-	-	-	2
Management	17	3	3	12	5	3*	17	-	-	-	20
Staff	43	13	13	41	2	-	55	-	-	1	56
Workers - PT SSS	1,185	300	450	904	131	-	1,485	-	-	-	1,485
Guest Workers - Malaysia	3,544	16	1,239	2,260	61	4	569	9	928	2,050	3,560
Total	4,791	332	1,705	3,219	199	9	2,126	9	928	2,051	5,123

* Danish, British and Japanese

Grand Total = 6,381



Our CED presenting on UP's sustainable practices to a group of foreign visitors.

Code of Conduct and Business Ethics

A key element of UP's sustainability framework is our Code of Conduct & Business Ethics. We implement responsible and ethical business policies and practices in all aspects of our operation. The Government of Malaysia, in line with its anti-corruption drive has announced the S17(A) MACC Amendment Act (2018) which came into force on 1 June 2020. To comply with this new enactment, the Code of Ethics & Governance Policy was reviewed and expanded to include all associated persons as defined under the Act.

The changes were made under the Business Integrity and Corruption section of this Policy as follows:

- UP has a zero-tolerance to fraud, bribery, and corruption and this applies to all dealings by our directors, employees, suppliers, consultants, agents and any persons associated with UP.
- UP as a responsible corporate citizen has been and shall continue to give scholarships and donations to deserving cases on the condition that this is not corruptly given as defined under Section 17 A(1) of the MACC Amendment Act 2018. However, UP has a general policy of not giving political contributions to any political parties or candidates.
- UP does not prohibit the giving of meals and gifts in the course of business dealings as long as these are of reasonable value, not in cash and are not corruptly given.

- Corruption and bribery risk assessment was done and adequate procedures have been put in place to minimise the exposure to the Group. This risk like all other identified risks shall be periodically assessed and reported in the Statement On Risk Management and Internal Control.
- Directors and officers have been sent for training to familiarise themselves with S17A MACC Amendment Act (2018). In-house anti-bribery training has been and will continue to be conducted in all operating units. Associated persons like contractors, agents, consultants, suppliers with bribery risks have been made aware and they have undertaken to comply with this Policy.
- The Internal Audit Manager has been appointed as the competent person responsible for anti-corruption compliance matters and he is to report all his findings on this area to the Chairman of the Audit Committee who is an independent director. The Chairman of the Audit Committee shall after deliberation at the Audit Committee report the findings to the Board.

In addition to the above, all directors and employees who are vested with approval authorities on purchasing or enter into trades are to declare in the Annual Conflict of Interest Statement their compliance with the section on Conflict of Interest under this Policy.

Human Rights

It is important to acknowledge that running a business today requires a greater level of transparency compared to before. What a few years ago may have been considered to be enough is no longer adequate. Companies therefore have a choice: To continue with the status quo and gradually move towards fossilization or to adapt to the changing business environment and consumer requirements shaping the landscape for tomorrow's demand. In UP, we have chosen the latter option in accordance with our striving toward being recognized as second to none within the plantation industry.

Social care and strong emphasis on human rights for employees are increasingly seen as non-negotiable principles by global consumers worldwide. In line with our founding principle of setting the highest welfare standards, UP is fully committed to continuous human rights advancements, and we therefore engage closely with our customers and other stakeholders on new emerging standards and other requirements, in the spirit of shared responsibility.

Human Rights Policy

Our Human Rights Policy provides the over-arching principles which we embed into our standard operating procedures and systems to ensure that our human rights commitments are upheld and operationalised throughout all business functions.

We adhere to the fundamental elements of the International Labour Organization (ILO) Convention and the United Nations Declaration on Human Rights, the Rights of Indigenous Peoples and other core values as ratified by the countries in which we operate. We are also committed to the protection and advancement of human rights including prohibiting retaliation, intimidation, and harassment against Human Rights Defenders (HRD), whistleblowers, complainants, and community spokespersons, and we acknowledge and respect all universal human rights including prohibiting the use of child or forced labour in our operations.

In line with our continuous improvement approach, we are focusing on minimising risks of any human rights violations within our supply chain. Not least risk associated to forced labour, which is a critical yet complex area that is evolving rapidly and gaining significant international and local attention.

Indeed, according to the latest estimates by the ILO from September 2022, there are 50 million people globally in situations of modern slavery on any given day, either forced to work against their will or in a marriage that they were forced into. This translates to nearly one of every 150 people in the world. Of this, forced labour accounts for 27.6 million, a number which has increased by 2.7 million over the last 5 years, and virtually touches all industries right from services, manufacturing and construction to agriculture and domestic work. In this regard, the ILO's

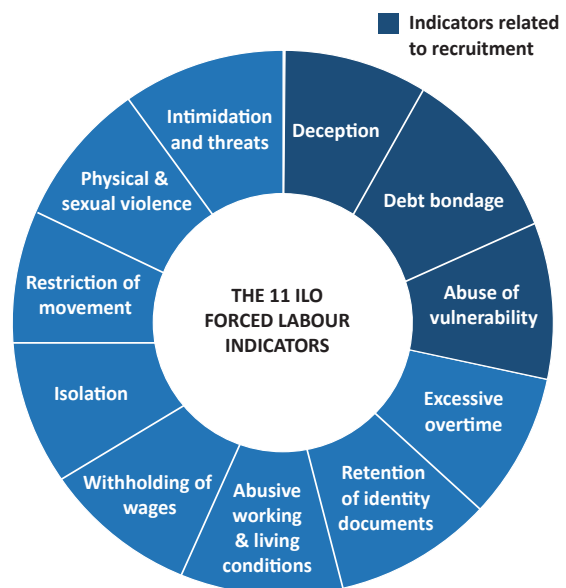
11 forced labour indicators highlighted in the flywheel below, are important to help companies evaluate whether forced labour is taking place within their supply chains.

We recognise that it is of utmost importance to identify and address any such risks that may be present within our operations. It is our responsibility to mitigate the potential adverse impacts of these risks on our workers by ensuring that proper checks and balances are in place. This requires a strong implementation culture, systems as well as structures to assure that the risk mitigation initiatives are "built in" and not just "bolted on."

Whilst UP is far from perfect, we dedicate a significant amount of management's and the EXCOM's time to keep ourselves abreast with the latest developments within this important field of forced labour. In combination with a solid understanding of all our working environments and production processes this enables us to spot and thereby react on any warning signals before they materialise into systemic problems on the ground.

On 21 March 2022, Malaysia became the 58th country in the world, and the second ASEAN Member State to ratify the ILO Protocol of 2014 to the Forced Labour Convention, 1930 (No. 29). With this ratification, Malaysia commits to fight forced labour in all its forms, including human trafficking, and improving the access to legal remedies for victims of forced labour.

On top of this, the Ministry of Human Resources (MOHR) with the support of the ILO, have developed a National Action Plan on Forced Labour 2021-2025, which outlines the next 5 years' course of action focusing on awareness, enforcement, labour migration as well as access to remedy and support services with the aim to eliminate forced labour in Malaysia by 2030. This is a testament to the government's commitment to accelerate the efforts to eliminate forced labour, which we applaud and fully support in UP.



Nevertheless, more can be done and there are still areas in need of greater attention, which shall continue to be given our unwavering commitment and focus in 2023. This includes the three forced labour indicators that are directly related to the process of recruiting guest workers, i.e., deception and abuse of vulnerability leading to debt bondage, which will be covered in more detail in the next section on guest workers.

Strengthening human rights standards is a journey with no finishing line, and we remain totally committed to our partnership with Verité – an international labour rights NGO – which began in 2020, and with whom we work closely to transparently address and improve human rights and safety gaps within our supply chain, in line with new emerging practices.

With partnerships and collaborations such as this, and through our “Reach and Teach, Reach and Remind” sessions which are carried out meticulously, we want to ensure a workplace that respects and promotes human rights for all regardless of religion, race, age, gender, nationality, or physical disability.

Please refer to our website, www.unitedplantations.com/policies/ for more details and information on our human rights policy.

Ethical recruitment of Guest Workers

The Malaysian Plantation sector remains reliant on guest workers, who provide about 80-85% of the industry's labour requirement today. This is not at the expense of taking jobs away from local Malaysians as they prefer to work in urban cities and are just not interested in being employed as harvesters or to work with other field activities.

In UP, as of 31 December 2022, we have 3,560 guest workers – mainly from Bangladesh, India and Indonesia – whom we consider as guests, and they are vital partners in our business along with our local workers. In some of these countries, there are risks of systemic human rights abuses, which is an important topic that has escalated exponentially in 2021 and 2022 through numerous reports and media articles, particularly on the corrupt practices of undisclosed middlemen as part of the guest workers' recruitment process.

In light of this, it has become evident that the fees guest workers pay to unscrupulous middlemen to secure a job abroad can be way in excess of the statutory and legally permissible recruitment fees. In combination with today's improved understanding of forced labour risks and indicators, we agree to the growing consensus that more needs to be done to safeguard guest workers during their recruitment, from potentially becoming victims of deception, abuse of vulnerability and debt bondage. In this connection, we have conducted an internal assessment and interviewed our guest workers, and extensively deliberated on various guidelines and studies on guest worker recruitment and risks related

to forced labour by the ILO, The United Nations, The International Organization for Migration (IOM), The Responsible Business Alliance and other relevant organizations.

We have also engaged and held discussions with numerous stakeholders and experts from all over the world. This investigation was completed in early January 2022, and has indeed been a learning experience.

In the absence of a widely accepted multi-stakeholder framework to address the abovementioned concerns and risks, through close collaboration with Verité and key customers, we have therefore decided to proactively incorporate ethical recruitment and employer pays principles in our updated Guest Worker Policy, effective 31 December 2021.

This is to ensure that all our Guest Workers are recruited fairly and ethically; no forms of forced labour or trafficked labour are used; and that all reasonable and legitimate costs incurred by Guest Workers during our recruitment processes are covered by UP, thereby ensuring that no guest workers pay any recruitment fees to come and work for UP. Further, a provision for corrective action, investigation, and remediation process in case of a breach of the recruitment protocols is also added together with a comprehensive Standard Operating Procedure (SOP) to support the implementation and enforcement of this policy.

In addition, we continue to work with Verité to diligently strengthen our recruitment procedures and protocols even further, which includes taking immediate action against any actors in our supply chain who are found to be in violation of our policies. The updated Guest Workers Policy and SOP were revised in collaboration with- and subsequently endorsed by Verité. For more information, please refer to our website as follows: <https://unitedplantations.com/policies/>.

Reimbursement of retrospective recruitment costs

Whilst strengthening our policies going forward, we also acknowledge that reasonable remediation of past recruitment practices plays an additional role in alleviating the risk of forced labour in our operations. We therefore initiated an investigation which included interviews with more than 300 of our guest workers from various source countries during different recruiting periods. This investigation was completed in January 2022 and established beyond doubt that our Guest Workers too had paid undisclosed recruitment fees to third parties in exchange for a job in UP Malaysia.

This process was carried out in close collaboration and partnership with social NGO Verité as well as Fuji Oil and Mars. The investigation resulted in all eligible Guest Workers receiving a reimbursement payment for the undisclosed recruitment fees paid to third parties in the past, calculated as an average figure based on their nationality and period of entry. This payment was made on 5 December 2022, and amounted to RM 24.7 million in total.



Briefing given by Mr. C Mathews, Group Advisor, HRSS on the details of reimbursement cost related to recruitment expenses to our Guest workers.

Recruitment of new Guest Workers

In early 2022, whilst waiting for the Malaysian Government to re-open the recruitment avenues for Guest Workers and release their updated recruitment procedures and MOUs with the respective source countries, we established an In-House Call Centre to help disseminate our updated Guest Workers Policy and bridge the gap between the candidates in their villages and our accredited recruiting agents located in the larger cities.

This is to address the fact that a big part of the problem often lies here, with unknown middlemen in the rural villages trying to charge exorbitant fees to the village folks in exchange for a job.

The Call Centre, manned by employees who speak the respective local languages, clarify the overall recruitment process, the do's and don'ts to the interested workers, as well as the job scope at the plantation.

Although it is still early days, the feedbacks from the prospective Guest Workers who are made aware of their rights, entitlements, and watch-outs upfront through clear communication and expectation setting, have been very positive.

This was also the message received from the first batch of new Guest Workers who arrived in UP on the 11 April 2022 following the announcement

by the Malaysian Government just 10 days earlier on the reopening of its international borders which had been closed for almost two years due to the COVID-19 pandemic.

Not all recruitment avenues opened up right away, though, and for Bangladesh, UP therefore participated in a Government-to-Government project for the safe and ethical recruitment and employment of Bangladeshi workers in Malaysia, which was announced in September 2022 by the Malaysian Ministry of Human Resources under the MoU signed between the two countries in December 2021.

This gave us a chance to work closely with the Bangladesh Overseas Employment and Services (BOESL), through whom we managed to bring in the first batch of new Guest Workers from Bangladesh in November 2022 after having signed an MoU on 30 September 2022 covering our previously described ethical recruitment principles.

With this, UP has recruited up to 31 December 2022 993 workers including some from Indonesia and India, through the rigorous implementation of our ethical recruitment principles, including on-site verification of newly arrived Guest Workers to ensure that all procedures have indeed been in place and followed without compromise.

This has been a most pleasing development, and whilst it has of course increased the cost of recruiting new Guest Workers substantially, we are hopeful that all parties along our supply chain will acknowledge this added cost of doing business in the spirit of shared responsibility, thereby helping to minimize the risk of forced labour.

At the end of the day, addressing forced labour and minimising recruitment risks is also about recognising and tackling the systemic issues that enable abuses. Having in place appropriate government legislation and an effective enforcement of laws and regulations, is therefore a vital part of this common objective of reducing the risk of labour exploitation.

Whistleblower Policy

We are committed to high standards of ethical, moral and legal business conduct. This policy aims to provide an avenue for employees, that they will be protected from reprisals or victimization for whistle blowing.

Paying Fair Wages and Employees' Benefits

The average monthly earnings of our workers in Malaysia amounts to RM2,698 which includes productivity incentives and overtime. This is higher than the minimum monthly wage of RM1,500 rate set by the Malaysian Government from 1 May 2022. We practice gender equality policy on wages payment and remuneration for all our employees.

For our Indonesian operations, the average monthly earnings of the permanent workers amount to IDR3,743,662 which includes productivity incentives and overtime. The monthly minimum wage set by the Indonesian Government in 2022 was IDR3,077,218. The average earnings per worker per month are reflected in the table below.

Total Average Earnings per worker per month	2022	2021	2020
Malaysian operations – Mills and Plantations	RM2,698	RM2,204	RM1,894
Malaysian operations – Refineries	RM2,414	RM2,041	RM2,582
Indonesian operations - Permanent Workers	IDR3,743,662	IDR3,459,936	IDR 3,423,246
Indonesian operations - Temporary Workers	IDR3,547,633	IDR3,205,956	IDR3,279,475

Ratio of Basic Salary and Remuneration of Female Employees to Male Employees

Region	Employee Category	Ratio
Malaysian operation	Executives	1:1.64
	Staff	1:1.28
	Workers	1: 1.14
Indonesian operations	Executives	1: 1.38
	Staff	1: 1.1
	Workers	1: 1.36

*The salary and remuneration package varies based on the history of employment (length of service, performances, and designation).

Decent Living Wage (DLW)

The RSPO Secretariat is in the process of commissioning benchmarks for Malaysia and Indonesia for the palm oil sector and will develop methods to calculate and/ or define DLW applicability for all palm oil producing countries in which RSPO members operate.

In 2019, UP has proactively worked with several large growers in the industry to engage Monash University for a fair and decent wage assessment and we will strive to commit our suppliers to live up to the payment of DLW to their workers too. Until the national benchmark is established by RSPO Secretariat, we are adhering to the applicable regulations in relation to the national Minimum Wages in the countries where we operate.

However, we are conducting the prevailing wage assessment as per the RSPO Prevailing Wage Calculation Guidance to understand and compare the benchmark of DLW determined by the third-party assessment as mentioned above against the prevailing wage.

Guest Workers Repatriation and Leave

With 85% of our workforce being guest workers, there is a frequent turnover of employees within our Group. In this respect, we strongly promote freedom of movement, which can be seen in the table below.

Repatriation and Leave during the year	2022	Total number of guest workers (%)
Total number of guest workers	3,620	100
Repatriation	382	11
Gone on leave	612	17
Gone on leave and returned	508	14
Gone on leave and didn't/ couldn't return	104	3

During 2022, 382 guest workers were repatriated upon completion of their employment tenure. Another 612 guest workers went back on leave to their respective home countries of which 508 have returned.

Freedom to form a Union

Our staff and workers have the right to form and become members of Labour Unions on a voluntary basis. Through these Unions, they are free to carry out collective bargaining as permitted under Malaysia and Indonesia laws to promote this option. We conduct regular briefings on our Human Rights Policy for all employees to raise awareness on this important Right.

UP Group (Malaysia)	2022	2021	2020
% of staff as members of All Malayan Estates Staff Union (AMESU)	74	74	74
% of workers as members of National Union of Plantations Workers (NUPW)	14	17	15
% of workers as members of Food Industry Employees' Union	49	52	56
UP Group (Indonesia)	2022	2021	2020
% of workers as members of Union*	9	5	6

*In Indonesia, the union committee has been re-established and membership drive is in progress.

Grievance Redressal Procedure

UP commits to the highest level of transparency while dealing with grievances from our stakeholders. All requests, complaints, grievances, consultations for internal stakeholders are lodged in a standard template called Stakeholders Logbook and shall be addressed in a timely manner.

Request and Grievances	Malaysian Operations	Indonesian Operations
Housing repair and maintenance issues	375	86
Request for leave/repatriation	994	N/A for local Indonesian workers
Human rights related matter	0	0
Land dispute	0	0
Others	0	0

For more information on the grievance redressal procedure for internal stakeholders, please refer to www.unitedplantations.com/employees/#Grievance-Redressal-Procedure.

We will also be establishing an in-house helpline to deal with request and grievances such as but not limited to housing repair, request for leave/repatriation, human rights related matters, land dispute and any other request or complaints. This will be done in collaboration with Verité to strengthen our Grievance Redressal Procedure and evaluate the effectiveness of our consultation and communication process with our workers and other affected stakeholders.

Social Commitments and Social Amenities

UP is committed towards providing quality housing and social amenities and maintaining the highest possible welfare standards for the families of our workforce.

Improving and providing social amenities remains very much a hallmark within our Group, and continuous improvements were made during 2022 to provide our workforce with the best possible facilities which are significantly above the latest amendments to the Employees' Minimum Standards of Housing, Accommodations and Amenities Act 1990.

For babies and young children, UP continues to provide and maintain crèches for child care thereby ensuring that employees are comfortable about their children while at work.

Today, our Group has 9 Primary Schools and 7 Kindergartens which are maintained by the Company, providing education for more than 500 children ranging from ages of 5 to 12 years. Bus subsidies for school children above the age of 12 years old are also provided for. Finally, places of worship, Group Hospitals & Clinics, an Old Folks' Home to care for the unwell, aged and the homeless as well as a fully operational Danish Bakery are also part of our care and commitment towards the wellbeing of our employees.

In addition, 22 scholarships were granted to children of our employees during 2022 thereby enabling these students to pursue their tertiary studies.

For more information of our social amenities, please refer to our website, www.unitedplantations.com/sustainability/

Training and Development

In UP, our human capital is indispensable and our approach is "Reach and Teach" as well as "Reach and Remind". Training schedules are prepared for our employees annually in the respective Estates and other Departments to ensure that the various training modules are being carried out on a regular basis throughout the year.

Social Commitments of the Group	2022 RM	2021 RM	2020 RM	Grand Total RM
Hospital & Medicine for Employees, Dependents & Nearby Communities	3,004,886	2,828,114	2,464,774	8,297,775
Retirement Benevolent Fund *	915,963	486,202	692,500	2,094,665
Education, Welfare, Scholarships & Other	344,857	314,887	247,273	907,017
Bus Subsidy for School Children	228,372	88,312	132,354	449,038
External Donations	135,620	307,835	539,806	983,260
New Infrastructure-Road, TNB and Water-Supply for domestic use	129,800	197,401	1,138,072	1,465,273
Employee Housing	8,460,864	10,149,666	6,828,433	25,438,963
Infrastructure Projects, Buildings, Community Halls, Places of Worship	1,881,688	1,963,058	584,829	4,429,575
Provision of Social Amenities	5,918,837	6,109,270	5,416,182	17,444,288
Total	21,020,886	22,444,745	18,044,223	61,509,854

* The above payments are in addition to the regulatory contributions by the Group to the Employees' Provident Fund, Social Security Contributions and other benefits.



FFB collection in progress at a mature oil palm field.

This is monitored and verified by the HRSS team and also through external auditors during RSPO/ MSPO/ ISPO annual audits. As for Staff and Executive levels, training is generally conducted on a group basis.

These trainings modules cover Occupational Safety & Health, Human Rights, Best Agriculture & Management Practices, Industrial Laws and other relevant topics for our employees and stakeholders including our neighbouring communities.

The competence and skills of our Group's employees are the main contributors to our Operational Success. This training helps them to enhance their capabilities and build capacity.

Life-long learning, through training programme, conferences and seminars which are relevant to the Group's businesses are identified on an ongoing needs basis and the Company allocates a dedicated training budget to support the continuous development of our employees.

Occupational Safety and Health

At UP we are committed to providing a safe and healthy workplace environment for our employees through the implementation of best preventive safety practices. These practices are monitored continuously based on the saying that "an ounce of prevention is worth a pound of cure".

This is of paramount importance for all employees and our respective Managers/Head of departments who are responsible for implementing and complying with our OSHA policy.

Our Safety and health Management system is comprised of:

- Hazard Identification, Risk Assessment and Risk Control (HIRARC) conducted on all our operations to identify weak links and to raise the level of awareness of the risks before the occurrence of an accident.
- A well-planned occupational safety and health planner are established involving all the respective business unit to ensure that UP's safety programmes are carried out as planned.
- Impromptu safety audits in our mills, estates, research department and refineries are carried out by our competent safety and health officers to measure the level of compliance towards the safety management system.
- Our "Reach & Teach, Reach & Remind" training is an integral part of our behaviour-based safety program to make awareness while increasing the safety knowledge for our employees and to further inculcate a safety-oriented culture throughout all our respective business units.



Briefing on safety awareness program.

- Quarterly safety meetings are carried out as a communication platform to discuss on occupational safety and health matters with the participation of all level of employers and employees.
- Occupational health services with the provision of two group hospitals and inhouse clinics at all respective estates to provide medical facilities for our employees with the guidance and assistance by visiting medical officer / occupational health doctors.

In 2020, the company has established a dedicated safety division with six safety officers under the Human Resources, Sustainability and Safety (HRSS) Department to strengthen our commitment in establishing a safe work environment.

In addition to this, we are appointing Safety and Health Coordinators throughout all our business units as an effort to reinforce our safety management and to comply with the new amendment of the local workplace safety legislation which will take place in 2023.

With this, we are pleased to inform that there were no occupational related fatal accidents within our Malaysian and Indonesian operations in 2022.

The leading cause of accidents in 2022, involved harvesting operations accounting for about 35% (injury from thorn pricks, debris falling into eyes during harvesting and pruning, injury from stalk cutting, and buffalo related accidents) followed by commuting accidents, slip and falls cases, and accidents related to locomotives/cages.

Fatal Accident Rate (FAR per 1000 employees)

	2022	2021	2020
Malaysian operations	0	0	0.39
Indonesian operations	0	0.75	1.41

Lost Time Injury Frequency Rate (LTIFR per million hours worked)

	2022	2021	2020
Malaysian operations	4.13	5.02	8.31
Indonesian operations*	97.10	87.41	117.20

*The differences of LTIFR between our Malaysian and Indonesian operations is due to 8 working hours per day for Malaysia while 7 working hours per day in Indonesia.

In addition to that, the OSHA of Indonesia stipulates that any accident regardless the manday lost shall be reported to JAMSOSTEK whereas OSHA of Malaysia stipulates that any accident above 4 mandays lost shall be reported to DOSH/JKKP and SOCSO.

Our Communities

Our business provides livelihood to families, small businesses and organisations in and around the plantations resulting in many people depending on our Group. Close bonds with our local communities are therefore a key priority to our organisation and we are committed to promoting socio-economic policies and progress in the local communities we operate in.

UP has an obligation to monitor and manage any impact our operations might have on these communities and at the same time ensure that they receive financial, social support enabling them to develop by creating jobs, paying taxes and doing business with local enterprises.

Continuous Stakeholder Engagement

UP engages - both formally and informally - with various stakeholders in and around our areas of operation. This is a key aspect of sustainable development and all enquiries by stakeholders are recorded and monitored in order to resolve any ongoing issues.

Grievance Resolution

Under our MSPO, ISPO and RSPO frameworks, we are obligated to deal with issues openly. The respective Principles and Criteria state the need for a commitment to transparency and mutually agreed systems for dealing with complaints and grievances shall be in place and implemented.

This procedure ensures that local and other interested parties understand the communications and consultation process for raising any issues with UP.

UP accepts its responsibility as a corporate citizen and wants local communities to be aware and involved in

the communications and consultation methods it uses, thereby aiming to resolve grievances (including those originating from employees) through a consultative process. Any system must therefore resolve disputes in an effective, timely and appropriate manner that is open and transparent to any affected party.

Recognising the value and importance of communication and consultation in clearing up misunderstandings/ conflicts and or grievances or raising any issues with UP, the following procedure is adopted in an effective, timely and appropriate manner that is open and transparent to all affected parties.

Procedure for Handling External Stakeholders' Issues

All request, complaints, grievance and consultations for external stakeholders are lodged in a template called the Stakeholders Logbook. External stakeholders are considered to be Statutory Bodies, NGOs, Local Communities, Smallholders, Contractors, Third Party FFB Suppliers and Services Providers, whereas internal stakeholders are all employees of UP and their respective trade unions.

Alternatively, these enquiries/grievances can be submitted anonymously to the respective Estate Managers or Heads of Department or directly to the Company Secretary, in order to ensure the complainant does not face the risk of reprisal or intimidation. The complainant is free to appoint any independent legal and technical advisor as well as any individuals or groups to support them and/or act as observers, including a third-party mediator.

The Company Secretary of United Plantations Berhad is responsible for the handling of all external enquires and grievances against the Company. The Company Secretary's address is as follows:

Social Commitments



Education

Today, our Group has 9 Primary Schools and 7 Kindergartens on its properties which are maintained by the Company, providing education for more than 500 children ranging from ages of 5 to 12 years from within and outside the plantations. Continuous improvements were made during 2022 to maintain the highest possible welfare standards for our workforce and ensure high standard educational facilities for the children. Scholarships are provided to needy children among the Indonesian villages in which we operate.



Infrastructure investment and support

We finance and provide services to improve rural communities' access to services and markets, as well as to create employment. Our initiatives include the construction, maintenance and renovation of roads, bridges, places of worship, and community facilities such as community halls, sports and cultural facilities.



Estate Group Hospitals

The Company operates two well-equipped estate group hospitals in Malaysia and Indonesia with trained resident Hospital Assistants supervised by a Medical Doctor. Medical services are open to our rural neighbours who in the past lacked access to basic healthcare and immunisation programmes.

The Company Secretary
 United Plantations Berhad
 Jendarata Estate
 36009 Teluk Intan
 Perak Darul Ridzuan, Malaysia
 Tel : 05-6411411; Ext – 215,334
 Fax: 05-6411876
 Email; up@unitedplantations.com

For further details on our grievance redressal procedures for external stakeholders, please refer to our website, www.unitedplantations.com/sustainability/.

Land Disputes and Free, Prior and Informed Consent (FPIC)

We are committed towards the principles of Free, Prior and Informed Consent (FPIC) and adhere to these principles in all our negotiations and interactions with stakeholders prior to any development or acquisition of land.

In Indonesia, land disputes are inevitable and part of managing plantations in the country. To minimise land issues, free, prior and informed consent sessions with stakeholders are conducted as a vital part of sustainable plantation development.

UP has been involved with several thousand land deals with the local community and whilst most cases of disputes have been amicably resolved, there still exists unresolved cases that are in the process of being resolved based on facts and full transparency under our Standard Operating Procedure (SOP) for Land Disputes Settlement as per FPIC.

In this connection, we are pleased to inform that the pending dispute case in our Indonesian operations since 2014 (Pak Jaka Suherman) has been finally resolved amicably.

For further details on SOP for Land Disputes Settlement as per FPIC protocols, please refer to our website, www.unitedplantations.com/sustainability/.

Landscape Approach

A landscape approach is all about having communities discuss and agree on various sustainability issues to provide an optimal balance between community, commercial and conservation interests.

At United Plantations, we recognise that community engagement, assessment and feedback are an integral part of our global sustainability strategy and initiatives. The community groups which are key to our operations and which have significant influence over the impacts of our business are carefully identified and are engaged at various platforms and intervals throughout the year. The community engagement process, which includes a proactive and both formal and informal approach, is carried out to fully understand their sustainability

concerns and issues with a view to ensuring that their key interests in these areas are aligned with that of our Group. Partnership with the local communities is crucial to achieve success in Indonesia and it is therefore of utmost importance that the local communities also benefit from UP's development.

A Stakeholder meeting is held annually for all the business units within our operations to discuss and collate their feedback on the Social and Environment Impact Assessment (SEIA). This is reviewed annually with the participation of stakeholders.

For further details on our landscapes initiatives, please refer to our website, www.unitedplantations.com/sustainability/.

Plasma Schemes and Smallholders

At our Indonesian Plantations, we are actively involved with a government project known as the Plasma Scheme, designed to assist smallholders to become independent plantation growers.

With this, the Indonesian Government's objective is to ensure the establishment of Plasma Projects equivalent to 20% of a Company's planted area.

Under the Plasma Scheme, UP helps smallholders develop their land, including land preparation, for cultivation of oil palms. Once developed, the plantation is managed by the Company for one cycle after which it will be handed over to the smallholder for self-management. During the first cycle, proceed from the Plasma-areas minus development cost, is paid to the farmers by the Company.

We expect the scheme to provide more opportunities for the smallholders and help alleviate poverty. With this programme, we also hope to steer them away from illegal logging, as well as slash-and-burn activities that can have a huge negative impact on the environment. In the early years of plantations development, before the oil palm trees reach maturity, the livelihood of smallholders is supported through employment by the Company.

Here, they typically work as employees on our plantations, while at the same time getting an understanding of oil palm cultivation and best management practices. The Company provides the smallholders with sufficient resources and is committed to buying their FFB at government determined rates. To assist them further, we also provide vital training on plantations management practices and financial arrangements.

As of December 2022, 1,392Ha of Plasma have been developed for 850 Plasma Scheme smallholders and another approximately 150 Ha is expected to be provided and developed for the communities surrounding the Company's properties in 2023.



The Jendarata Junior Football Academy has been established in 2019 for employee's children between 5 to 12 years of age. The above picture is taken from one of the training sessions which is held twice a week.

Smallholders' Field Day

Oil palm smallholders have a critical role in helping us achieve our sustainability goals, as they are part of the supply chain providing an estimated 40% to 50% of the world's palm oil production. As part of our Company's involvement, UP continuously engages with smallholders on an annual basis. In view of the COVID-19 pandemic, the Smallholder's Field Day for 2022 was deferred.

During Smallholders' Field Days, we invite smallholders from local districts to visit our plantations to get a better understanding of good agricultural practices, sustainability initiatives and environmental protection. They are given training sessions in safe handling of pesticides with appropriate Personal Protective Equipment (PPE), effective use of pre-emergent herbicides for less chemical usage, integrated pest management (IPM) and mechanised harvesting in order to assist them with their agricultural interests.

Demonstration on fire combat procedures are also carried out to further enhance the awareness of neighbouring smallholders in case of fire incidences and they are informed to contact UP for emergency assistance in the case of such incidences.

Furthermore, we invite the Malaysian Palm Oil Board (MPOB) to provide a briefing on Good Agricultural Practices (GAP) as per their GAP Manual and MSPO certification for smallholders.

Food Security

According to the Food and Agriculture Organization of the United Nations, food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

In UP, we ensure that all of our Estates' sundry shops provide adequate supply of healthy food to our workers at a reasonable price.

Night markets are held in the Estate on a monthly basis where the workers have access to more varieties of sundry goods. In addition, rice and cooking oil are offered to our workers at a subsidized rate.

All workers are also provided with land at the back of their houses to plant vegetables and a dedicated area within the housing complex to be planted with fruit trees.

As far as local businesses are concerned, it is crucial for us to understand the impact of our operations on their livelihood.

In this connection, we conduct social and environment impact assessments with the participation of local communities and regular consultations regarding matters that affect both workers and local business owners.



A range of social amenities to cater for the needs of our employees, stakeholders and surrounding communities.

Sustainability Governance

Robust governance and risk management are key to our core principles of being a good corporate citizen, doing business responsibly and committing to a long-term perspective. Having received the world's first RSPO certificate in 2008, we continue to raise the bar for RSPO certified palm oil, which is recognised for the highest agricultural standards internationally.

Governance Structure

Strong risk management policies and procedures operationalised through effective sustainability governance in line with our core values are key for achieving long term success. The Board of Directors of UP is responsible for approving the direction and overall strategy for UP Group and monitoring and management's progress in connection with the financial objectives and strategic priorities. The Board receives a formal Sustainability Report at least once a year before it is reviewed and approved for release to the shareholders and public.

In relation to UP's overall sustainability objectives, targets and priorities, the Board of Directors has delegated responsibility to the Executive Committee (EXCOM) headed by the Chief Executive Director (CED), Dato' Carl Bek-Nielsen. The Executive Committee reviews and approves UP's sustainability objectives and monitors progress and sustainability developments within the Group. The CED and EXCOM are assisted by the Group Sustainability Committee (GSC) which is chaired by the CED. There is also the Group Sustainability

Reporting Team (GSRT) headed by Mr. Martin Bek-Nielsen, Executive Director, Finance & Marketing and includes key personal from Finance, Research, Human Resources, Sustainability and Safety, Share Registrar and Marketing Departments.

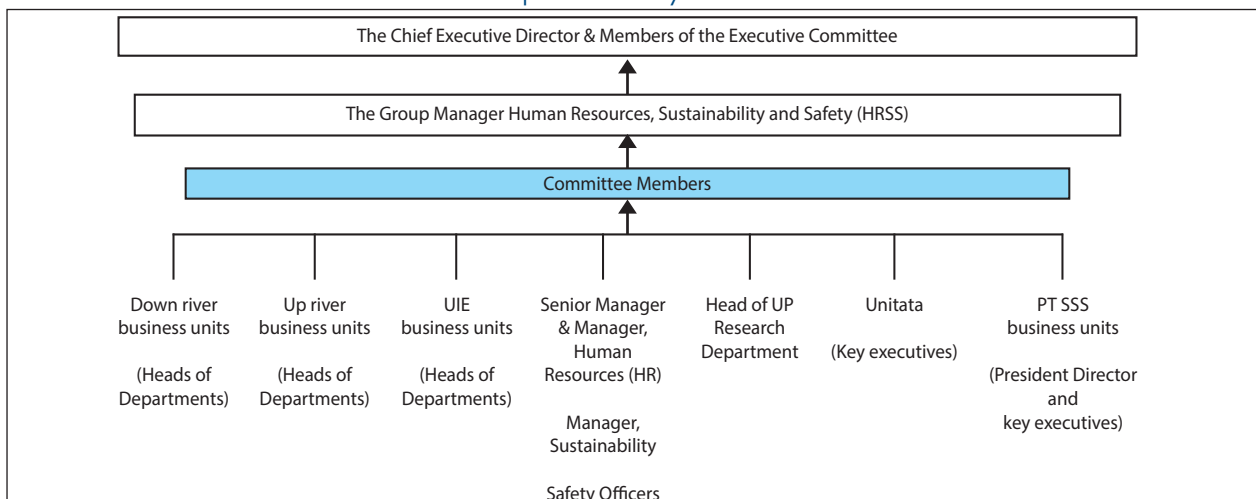
The GSRT collates all the information from the GSC, stakeholders' responses and prepares the Sustainability Report. Sustainability matters have been a subject close to the heart of UP. Officially established in 2003, the GSC provides policy direction on strategic leadership on UP's Sustainability agenda, identifies our Group's most material issues in relation to risks and opportunities and monitors progress against targets set by the CED and EXCOM on a bi-annual basis.

Since the Sustainability Report became mandatory in 2016, Mr. Martin Bek-Nielsen has been briefing the Board, CED and EXCOM on the work of the GSRT and sustainability issues at every official meeting held. Sustainability is also a key aspect in the Group's Risk Management Structure which assesses various sustainability issues and developments in its annual Risk Assessment and Management process.

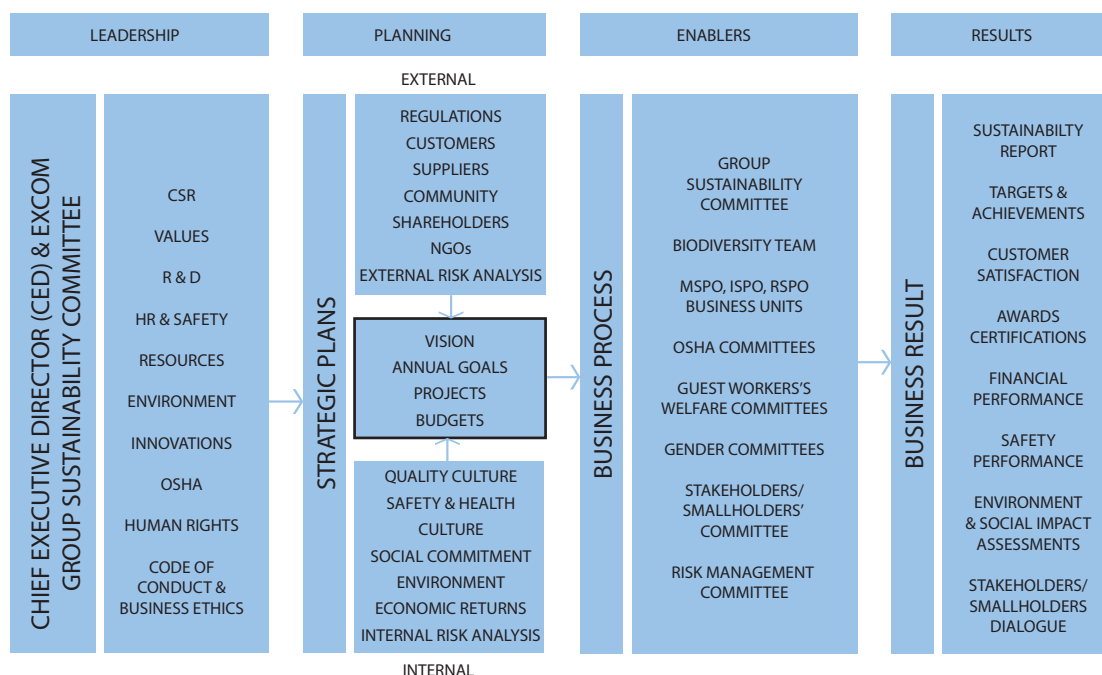
Sustainability Governance Management Structure



Group Sustainability Committee



Group Sustainability Systems Framework (GSSF)



UP's Group Sustainability Systems Framework (GSSF) is the system through which its commitment to environment and sustainable development including social and occupational safety & health matters are formalised. It is based on four key focus areas as follows:

Leadership of the Group Sustainability Committee is at the highest level of the company and is spearheaded by the Chief Executive Director Dato' Carl Bek-Nielsen. This committee provides policy directions on environment and sustainable development, occupational safety and health, allocation of resources and communications.

Planning encompassing external and internal needs that are formulated through the company's vision, policies, goals, projects budgets and risk analysis.

Enablers are various sub-committees and teams that ensure the adoption of environment and operational practices that are in line with current best practices and policies.

The MSPO, ISPO and RSPO business units and the various sub-committees are enablers of the GSSF and ensure that the environmental and operational policies are implemented. They are guided amongst others by the MSPO, ISPO and RSPO's Principles and Criteria and following Manuals and SOP's:

- 1) MSPO, ISPO and RSPO Principles and Criteria

- 2) Field Management Manual
- 3) Standard Operating Procedures – Oil palm field practices
- 4) Standard Operating Procedures – Palm Oil Mill operations
- 5) Occupational Safety and Health and HIRARC Manual
- 6) Environment & Social Impact Assessments and its Management & Monitoring Plans
- 7) High Conservation Value, High Carbon Stock Assessments and its Management & Monitoring Plans
- 8) ISO9001:2015, HACCP and Quality Manual for our Refineries

Results are measured through customer satisfaction, safety performance, financial performance, environment protection and management and certifications.

The Group's Internal Audit Department, together with the Group's HRSS Department carries out audits on various sustainability issues and areas throughout the year to ensure compliance to the Group's sustainability policies and procedures.

Targets and Achievements

Our targets and commitments are what drives us to continuously improve. We subscribe to the mantra “what we measure, we can manage” and provide information on our progress of targets and achievements over a period of three years in the areas of Certifications, Biodiversity, Climate Change, Community, Employees, Legal Compliance and Economics amongst others. As an example of our targets and achievement, we had earlier aimed to reduce the carbon footprint per metric tonnes of NBDPO produced by 60% between 2004 and 2025.

Tremendous progress has been made through investments in renewable energy such as biomass boilers and biogas plants which today have been introduced in all our palm oil milling operations. These steps amongst others have resulted in a commendable achievement whereby we, as of today, have achieved a carbon footprint reduction of 62% between 2004 and 2022. Our new target for 2030 is to reduce carbon footprint per metric tonnes of NBDPO produced by 66%.

Another example is, our strong commitments in minimising the risk of forced labour by strengthening our policies, procedures, and practices in collaboration with Verité. This is to ensure, amongst others, that our Guest Workers are not paying any recruitment fees to come and work in UP. In this connection, we have established an in-house call centre to facilitate communication with potential Guest Workers via the “workers recommend workers programme” and new workers provided by our Accredited Recruiting Agents. Our dedicated call centre officers contact potential Guest Workers to minimise the risk of recruitment fees being charged to workers by sub-agents or other third-party intermediaries during their recruitment journey. This proactive step is important to minimise the exploitation taking place in the villages in the source countries.

Awards and Recognitions

For the second straight year, under the Plantations Sectoral category, UP was awarded:

- Highest return on equity (ROE) over three years,

which it also won in 2010 based on the financial performance indicator by the Edge Billion Ringgit Club.

A certificate of recognition was also awarded to UP for being the Best Employer in the district of Teluk Intan from the Employee Provident Fund Board.

Furthermore, we are pleased to inform that UP also received the following awards and recognitions:

- Our newly acquired plantation, Tanarata Estate has successfully received RSPO and MSPO certifications in April 2022.
- No. 2 ranking in the SPOTT ESG transparency assessment 2022 against 100 palm oil producers, processors and traders globally.

Sustainability Certifications

Roundtable on Sustainable Palm Oil (RSPO) Certification

Whilst UP has focused on responsible agricultural production for generations, our formal journey towards being recognised as a certified producer of sustainable palm oil commenced in September 2003 when we were audited by ProForest and became the world's first audited producer and processor of sustainability produced palm oil in accordance with the Swiss supermarket chain, Migros' principles and criteria on sustainable palm oil.

Following that, UP was one of the initial palm plantations signatories to the RSPO in 2004 and part of the stakeholders group involved in developing the principles and criteria to define sustainable palm oil.



For the second straight year, under the Plantations Sectoral category, UP was awarded -Highest return on equity (ROE) over three years by the Edge Billion Ringgit Club. Mr. Ng Eng Ho, Company Secretary, receiving the award on behalf of UP.

Our entire oil palm plantations in Malaysia were then successfully certified in accordance with the RSPO Principles and Criteria on 26 August 2008 whereby we became the world's first producer of certified sustainable palm oil.

Today, UP remains fully committed to the RSPO, exemplified by our CED, Dato' Carl Bek-Nielsen, being the Co-Chairman of the RSPO Board of Governors representing the Malaysian Palm Oil Association's seat. He was elected to this position in November 2014 and has thereby actively participated in and helped to oversee important developments and decisions within the RSPO, which now has over 5,000 members worldwide.

This capability of supplying sustainably certified, traceable, and high-quality palm oil and palm kernel oil is an important part of our commitment to customers. Our total RSPO certified and traceable quantity available based on own production was approximately 235,000MT of palm oil and 48,000MT of palm kernels in 2022 for our Malaysian and Indonesian operations.

For our Indonesian operations, UP/PT SSS have successfully obtained the RSPO certificate for the entire HGU area of 6,717.62 Ha in December 2019. HGU refers to the certificate on land cultivation rights title issued by the Government of Indonesia. The Time Bound Plan for the balance uncertified areas will be in tandem with the issuance of HGU certificates by the Government of Indonesia. This is expected to be obtained by 2023. For our Plasma scheme smallholders, the full certification is expected by 2023 subject to the issuance of individual land certificates by the local government. Today, all of our estates and mills in Malaysia are fully certified against the new RSPO Principles and Criteria 2018 (Malaysian National Interpretation 2019) which demonstrates a stringent compliance with No Deforestation, No New Planting on Peat regardless its Depth and No Exploitation of Workers and Local Communities (NDPE).

Supply outpacing RSPO certified demand

Whilst it is commendable that approximately 20% of the world production of palm oil is now certified by the RSPO, it is unfortunately still a fact that the global uptake of RSPO certified palm oil was only 64 % in 2022, thereby outpacing demand. This discourages the uncertified growers to participate in the RSPO certification. The RSPO certified oil not purchased will still end up in the supply chain being sold as conventional palm oil. This sends a negative message to responsible growers worldwide regarding the effort they put into producing the sustainable palm oil. It is, however, most pleasing that the concept of commensurate effort/shared responsibility has now been incorporated within the new RSPO P&C 2018, whereby the participation of the consumer goods manufacturers (CGMs) and retailers has led to a slight increase in the demand for RSPO certified products in 2022.

More attention needs to be given to further raising the uptake of certified sustainable RSPO Palm oil by the CGMs and retailers by demonstrating greater level of ownership which so far is still not up to mark. It is important for all RSPO members to step up implementing and operationalizing the concept of "shared responsibility" as sustainability is a collective mission which requires critical individual changes. UP is actively participating in the RSPO

P&C 2023 Standards Review Task Force with the spirit to improve auditability, applicability, and commitments on shared responsibility in the revised standards. This should not add extra layers on top of the current complex and stringent set of criteria, as this would risk derailling the overarching goal of raising both the floor and the ceiling insofar as sustainability is concerned.

Malaysian Sustainable Palm Oil (MSPO) Certification

The Malaysian Sustainable Palm Oil (MSPO) standard is a national certification standard created by the Malaysian Government and developed with input from stakeholders in the palm oil industry. Today, all of our mills and estates in Malaysia have successfully obtained the MSPO Certificates, most recently our newly acquired plantation, Tanarata Estate, in April 2022. We are now in the midst of aligning our compliance towards the revised MSPO P&C 2022 in preparation for external audits in the third quarter of 2023. All refineries in Malaysia shall be certified against the revised MSPO P&C 2022 before 1 January 2024, and in this connection, our Sustainability Team has initiated the preparation of sites and documentation in line with the new MSPO P&C for refineries.

Indonesian Sustainable Palm Oil (ISPO) Certification

In Indonesia, the Government established a mandatory certification scheme in 2011 called the Indonesian Sustainable Palm Oil Principles & Criteria (ISPO) to ensure that all producers live up to certain standards. We successfully obtained the ISPO initial certificate for the entire HGU area of 6,717.62 Ha in August 2019 and subsequent Annual Surveillance Assessments (ASA) are now ongoing every year.

Sustainable Palm Oil Transparency Toolkit (SPOTT)

UP participates in the Sustainable Palm Oil Transparency Toolkit (SPOTT) assessment conducted by Zoological Society of London (ZSL), which scores tropical forestry, palm oil and natural rubber companies annually against over 100 sector-specific indicators to benchmark their progress over time. By measuring the transparency of companies in public disclosures of best practices and sustainability commitments via the RSPO Annual Communication of Progress (ACOP), RSPO New Planting Procedures (NPP) Public Notification, Company Annual/ Sustainability Report and Company Websites, the assessment aims at promoting industry transparency and accountability to drive the uptake and implementation of environmental, social and governance (ESG) best practices in high biodiversity impact sectors.

In 2022, UP took a great leap forward and was ranked as number one in Malaysia and number two of all hundred companies globally with an improved score of 92.6% for our efforts related to environmental, social and governance matters and transparency and public disclosure of our policies. Whilst this is a pleasing achievement, we remain committed to engage and collaborate actively with the Zoological Society of London to further improve wherever possible.

For further details on SPOTT assessment for palm oil companies, please refer to SPOTT's website, www.spott.org/palm-oil/.



Our Assistant Manager, Logistics, Ms. S. Thanggamalar, seen here at the tanker loading bay at UniFuji Refinery Complex.

Marketplace

United Plantations is committed to the world's highest standards of sustainability, quality, and product traceability, right from the agricultural source in our upstream plantation operations to the final products from our downstream refining activities. We aim for continuous improvements and work towards building long-term relationships through proactive discussions about sustainability, global trends, health and nutrition with customers, suppliers, business partners and other stakeholders in the global marketplace, in the spirit of shared responsibility

The strive for the highest possible global food safety, sustainability, and quality standards starts from the very beginning of the UP Group's integrated business activities. By controlling all areas of the production, we are able to comply with the strictest international requirements, offering high-quality sustainable products with the lowest carbon footprints and contaminant levels in the world.

Today, we operate two state-of-the-art palm oil refineries, Unitata Berhad and UniFuji Berhad, that are responsible for value-adding UP's certified sustainable crude palm oil and crude palm kernel oil into high-quality processed products, which are shipped to our customers worldwide.

Unitata became the first integrated inland refinery in Malaysia in 1974 and over the last 50 years has become a well-recognised international supplier of specialty fats and vegetable oil fractions, not least due to our close collaboration with AAK, a world leader in specialty oils and fats.

UniFuji, our joint venture with Fuji Oil, was inaugurated in late 2018 and is the first refinery in the world to run completely fossil fuel-free by using renewable energy produced from biomass waste, and provide full traceability from seed to finished fractions, based on supply from UP. A perfect example of the circular economy.

Edible Oil Refining and Specialty Fats Production

Attention to quality, investment in production facilities and ongoing product development are priorities in order for Unitata and UniFuji to meet challenging and changing customer demands. In order to cater for the growing demand of high-quality products our refineries are equipped with automated manufacturing processes such as Neutralization, Bleaching, Deodorization, Fractionation, Interesterification, and Packaging of specialty fats and oils. Thorough process controls and a disciplined manufacturing culture help ensure that quality assurance is in place to comply with customer requirements.

Consumers today are placing an increased focus on safety and health in relation to food production, and demand transparent and traceable supply chains based on processes that reduce processing aids, water, energy and the overall GHG footprint. Furthermore, social care and strong emphasis on human rights for employees are increasingly seen as non-negotiable principles, as well as protection of fragile ecosystems including peat land and forests.

In UP and all our subsidiaries, we are committed to being a part of this positive change by providing the highest quality of certified sustainable and traceable palm oil products and services to customers worldwide.

Commitment to Quality



Our commitment to quality is an integral part of UP's corporate culture, and it is our strong objective to deliver premium quality products that are safe and based on the highest standards and level of responsibility.

As part of this commitment, and to uphold Unitata and UniFuji as premium oil quality producers, much emphasis is therefore placed on quality assurance throughout the various stages in both refineries, to meet the statutory and legal requirements for the total satisfaction of our valued customers worldwide.

This is evidenced through our continuous investments in the latest process technology and sophisticated analytical equipment that provide accurate and timely controls to ensure customer satisfaction as well as high product quality and food safety.

Our quality focus starts from our Research Department and continues through every stage of our agricultural, milling and downstream activities until the final product is delivered to our customers.

This is in line with our philosophy of:

Upholding the name and reputation of UP as a top producer of premium quality palm products.

Nurturing a diligent work force who takes pride in contributing to the development of the Company.

Initiating and innovating positive, progressive work ethics, methods and incorporating a winning culture.

Training of personnel is the key to upgrading our skills and keeping in trend with the marketplace.

Ensuring that only high quality palm products are produced, to the satisfaction of our customers' needs

Delivering decisive efforts in Research and Development to continuously improve our working methods, efficiency and product quality.

Low 3-MCPD and Glycidyl Esters

3-MCPD and Glycidyl Esters are contaminants formed during the processing (refining) of edible oils and fats. This have become a topic of concern for vegetable oil refiners and consumers based on a report published by the European Food Safety Authority (EFSA) in May 2016, in which the EFSA Panel on Contaminants in the Food Chain (CONTAM Panel) published the results of its assessment of the safety of 3-MCPD and Glycidyl esters with respect to human health.

Available evidence from animal studies indicates that kidney toxicity is the most critical health effect of 3-MCPD in rats. Using this data, EFSA established a tolerable daily intake (TDI) for 3-MCPD for humans which represents the maximum amount that can be consumed daily over a lifetime without being harmful to health.

It includes a very large margin of safety. The TDI for 3-MCPD has been calculated as 0.8 micrograms per kilogram of body weight per day ($\mu\text{g}/\text{kg}$ bw per day.)

In line with our focus on sustaining and improving the production of high quality products within our Group much attention is directed towards reducing contaminants in our supply chain. This dedicated focus enables us to produce refined palm oil with levels of 3-MCPD and Glycidyl Esters that are amongst the lowest in the industry.

This is a testimony to more than 4 decades of research activities undertaken at our Unitata refinery combined with our Group's dedicated quality commitment within all parts of our supply chain.

Low MOSH and MOAH

Of nearly equal repute in being a contaminant to final oils and fats is the new and emerging contaminant called Mineral Oil Hydrocarbons (MOH). It encompasses two main sub groups namely saturated hydrocarbons, generally present at a ratio of 80/20 with MOAH trailing behind MOSH.

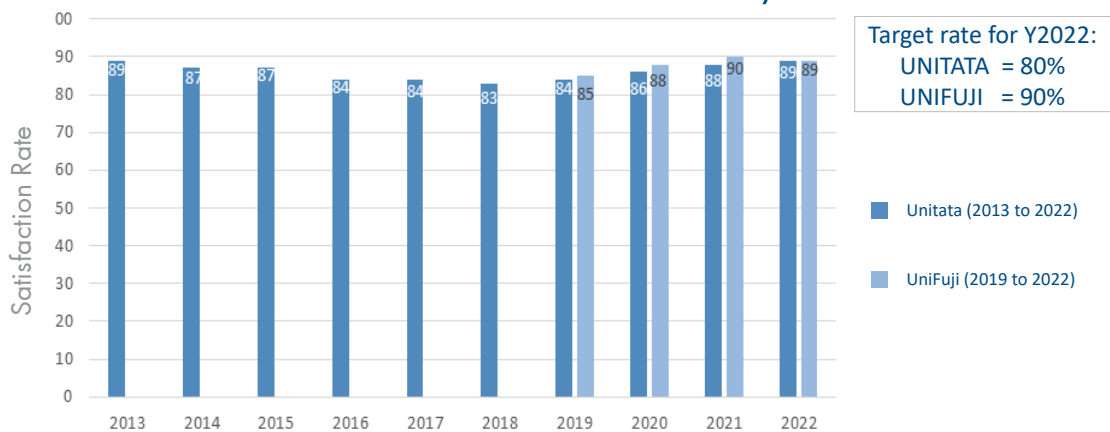
MOSH is believed to accumulate in human tissue and cause adverse effects to the liver while MOAH, the greater menace of the two, is reported to be genotoxic carcinogens and may cause damage to the DNA leading to cancer. Hitherto, there has been no binding threshold limits set by the EU legislature save for Germany. Currently, customers favour suppliers whose thresholds, through consensus, are guided by the rule as low as reasonably achievable, ALARA.

In this respect, a task force on MOSH/MOAH chaired by our Chief Executive Director was set up in 2018 to initiate a clear goal to meet the ALARA levels. Since then, baseline occurrence of the contaminant has been drawn and ensuing mitigation efforts have been carried out successfully throughout the plantations, mills and the refineries. As a result of the goal-directed quality controls and assessments, UP, Unitata and UniFuji are today able to meet the very stringent customer demand for oils used in a variety of food products, especially in the production of infant formula. Overall, we aspire to be a wellspring of adaptive-competence when faced with new challenges, and hence, we are committed to further reducing the levels of novel contaminants that are detrimental to the human health.



A worker storing packed products securely in our designated warehouse at Unitata.

Customer Satisfaction Survey



Customer Satisfaction

At Unitata and UniFuji, the annual customer satisfaction survey is used to measure how our finished products meet our customers' expectations. This is an important measure in relation to our continuous improvement attitude and provides us with an important understanding of our service and collaboration with our customers based on their valuable feedback.

By interactions with customers and other stakeholders, a deep understanding of this responsibility has been developed and provides a healthy avenue for continuous improvements in quality and food safety by minimizing risks throughout the supply chain. Furthermore, UP has gained much knowledge on market trends and have become more capable of responding to them.

The survey focuses on three key areas which are:

- (i) Product quality
- (ii) Service quality
- (iii) Delivery timeliness

The results are analysed and tabulated in an appropriate graphical form for presentation at the management review meetings as well as during the various certification audits throughout the year. Besides that, Unitata and UniFuji also adopt an on-going communication method with customers to keep them engaged with their products.

Regular communication with customers enables Unitata and UniFuji to develop products and provide the necessary service to ensure continuous customer satisfaction, which cannot be taken for granted in the competitive business of refining.



Commitment to quality – Product bottling under stringent hygienic conditions at our filling plant at Unitata.

Food Safety and Certifications

Our commitment to food safety for sustainable and consistent high- quality products is endorsed by relevant international certification bodies, and to keep up with the increasing demand for supply chain traceability and quality, both refineries have obtained numerous local and international certifications as follows:

UNITATA:

ISO 9001, HACCP, Halal, Kosher, BRC, FDA, SEDEX, RSPO SCCS, MSPO SCCS, GMP, GMP+B2 Feed Safety, MeSTI and MPCA.

UNIFUJI:

ISO 9001, HACCP, Halal, Kosher, FSSC 22000, FDA, SEDEX, RSPO SCCS, MSPO SCCS and MeSTI.

As a requirement for the above-mentioned certifications, Unitata and UniFuji are audited annually by the various certification bodies and by customers.

To improve and further strengthen our supply chain transparency, Unitata had been audited under SMETA (Sedex Members Ethical Trade Audit), a platform that encompass four pillars of responsible practices, ie. Labour, Health and Safety, Environment and Business Ethics.

In March 2020, UniFuji was also audited by Verite and Arche Advisors, two independent and non-profit organizations, with the purpose of transparently improving safety and human rights gaps within our supply chain.

In addition, Unitata is continuously auditing and assessing our key suppliers of raw materials, packaging, and ingredients based on our established risk assessment procedures.

All packed products are traceable to their raw materials including additives and packaging materials via batch and code numbers printed on the labels, which meet the requirements of the Malaysian Food Act and the requirements of the respective export markets. Furthermore, Unitata and UniFuji have established and validated our process controls to consistently minimize the risk of contaminants and meet the highest food safety standards.

Both refineries also emphasize on the element of food defence as part of product security. This assures the protection of our products from malicious contamination, adulteration or theft, and in this connection, relevant food safety training is of high priority for all employees in order to keep abreast with the increasingly demanding food safety requirements.

MSPO and RSPO Supply Chain Certifications

In 2008, before the RSPO Supply Chain Certification was introduced, Unitata was the first company to ship refined RSPO certified segregated palm oil to customers worldwide. This was verified by independent surveyors.

In December 2010, Unitata furthermore received its Supply Chain Certification and have since been able to handle and deliver first class certified sustainable and segregated palm and palm kernel oil solutions to customers worldwide based on the RSPO supply chain traceability system.

UniFuji received its RSPO Supply Chain Certification in September 2018 and is therefore also able to deliver high quality certified and sustainable palm based products under the segregated RSPO supply chain solution to all its customers.

The RSPO cooperates with the traceability service provider, UTZ who through the RSPO Trace system ensures that the necessary traceability is in place in order for proper certification of the palm and palm kernel oil that is used in the refining process.

The supply chain certification is the buyers' and consumers' guarantee that the palm oil or palm kernel oil used in the production of finished goods actually comes from the claimed RSPO source. This requires records to be kept to demonstrate that the volume of CPO or CPKO sold as sustainable oil does not exceed the amount produced by the upstream RSPO certified mills.

In November 2017, Unitata had its first verification audit by one of our key customers for supply of RSPO certified palm kernel oil materials. The audit, which was a full traceability audit on the origin of materials supplied by Unitata Bhd, was conducted independently by a third party auditor appointed by the customer, who concluded that the material sourced by the customer is 100% traceable throughout the supply chain.

In addition to the RSPO certifications, Unitata and UniFuji successfully achieved the MSPO supply chain certification in 2019.

Traceability

In the following section, we will be providing an overview on both our upstream (Plantations) and downstream (Refining) business activities in relation to our focus on improving traceability in our supply chain for the benefit of our global customers and stakeholders.

This entails our commitment to ensure that the certified sustainable palm oil and palm kernel oil used in the production of finished goods actually come from sustainable sources.

As an important part of UP's traceability focus, we strive to ensure that our supply chain (direct and indirect suppliers) live up to our Group's commitment towards the No Deforestation, No New Development on Peat and No Exploitation of People and Local Communities (NDPE) Policy.

This is in line with the increasing interest for certified sustainable and segregated palm oil as many global brand manufacturers have now committed to only use RSPO certified and segregated palm oil solutions.

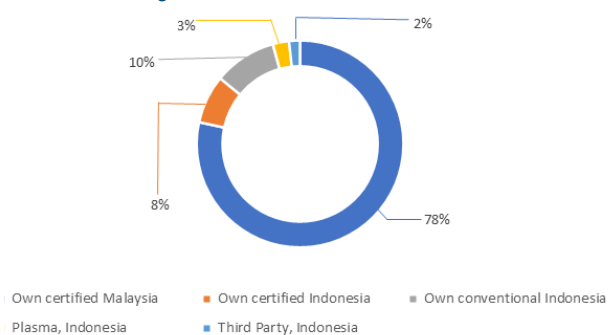
Upstream Traceability

All CPO sourced in Malaysia is RSPO certified under the Supply Chain model of Identity Preserved (IP). In Indonesia, we have undergone RSPO certification for part of our plantations (with HGU certificates) and have successfully achieved RSPO certification for these areas in 2018. Currently the mill in Indonesia is RSPO certified under the Mass Balance Supply Chain model (MB).

Full certification and production of RSPO certified and segregated palm oil traceable to the mill and plantations is expected to be reached in 2023 for our Indonesian operations in tandem with the issuance of land use certificates by the local Government authority for our properties (Inti) and Plasma land.

In this connection, we are increasing awareness by retraining and carrying out audits within all operational areas of our group. The results of these measures will be monitored and incorporated in our future reports or Company Website as part of our continuous improvement commitment.

Origin of FFB Processed at UP Mills



UP's Mills	Percentage from own plantations (%)	Percentage from third party suppliers (%)	Traceable to plantations (%)
UIE	100	0	100
Jendarata	100	0	100
Ulu Bernam Optimill	100	0	100
Ulu Basir	100	0	100
Lada (PT SSS)	80.35	19.65	100

The location of UP owned mills is tabulated below:

Name of Mills	GPS Coordinates	
	Latitude	Longitude
UIE	N 4°26'53"	E 100°43'11"
Jendarata	N 3°51'14"	E 100°58'06"
Ulu Bernam Optimill	N 3°46'19"	E 101°13'14"
Ulu Basir	N 3°43'28"	E 101°15'21"
Lada (PT SSS)	S 2°35'24"	E 111°46'16"

The location of third-party FFB suppliers for PT SSS is tabulated below:

Name of FFB Suppliers	GPS Coordinates	
	Latitude	Longitude
Koperasi Tani Bahagia	600918	9678406
Koperasi Karya Tunggal Jaya	589868	9728251
CV Inti Sawit Perkasa/Bapak Iswanto	591276	9708506

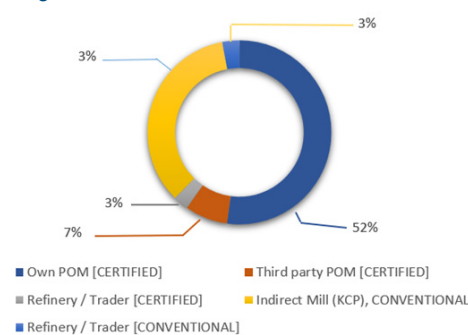
As at 31 December 2022.

Downstream Traceability - Unitata

One of Unitata's key commitments to its customers is to ensure that our finished products can be traced back to its origins, namely palm oil mills and further to the plantation level where possible. Unitata is currently in a favourable position to meet this growing demand due to the direct link with UP's supply of RSPO certified sustainable and segregated palm oil traceable to the plantations.

The traceability of all our raw materials – CPO, CPKO, PPO, and PPKO sourced during 2022 is summarized in the below chart:

Origin of raw material sourced at Unitata Bhd.



Origin of raw material sourced at Unitata Bhd. (%)				
Own POM (Certified)	Third party POM (Certified)	Refinery/Trader (Certified)	Indirect Mill (KCP) (Conventional)	Refinery / Trader (Conventional)
52.17%	7.51%	2.66%	34.65%	3.00%

From this, it can be seen that the RSPO-certified percentage of all palm oil products handled/traded/ processed (tonnes) is 62.34% (52.17% + 7.51% + 2.66%).

In Malaysia, 100% of the Crude Palm Oil (CPO) used at our Unitata refinery can be traced back to the mills and plantations. 100% of the CPO produced in Indonesia is traceable to plantations and is sold to neighbouring refineries as we don't have any downstream operations in the country.

All Crude Palm Kernel Oil (CPKO) derived from UP's own production of Palm Kernels (PK) can be traced back to the plantations, however, as our use of CPKO exceeds the volume of CPKO derived from our own PK production, we source significant volumes of CPKO from external Kernel Crushing Plants (KCP) of which the main portion can only be traced back to the Palm Oil Mills (POMs).

Going forward, we will be working with third party suppliers to increase the percentage of CPKO that can be traced back to the plantations in line with increased customer demand for traceability.

Our assurance for the level of traceability is based on our ability to identify the parent company, the mill name, mill coordinates, mill certification status from suppliers and plantations from where the crop (FFB) is produced.

The summary of the number of direct supplier mills supplying CPO and PK is tabulated below:

Raw material	Number of supplying mills	Traceable to plantations	Numbers of supplying mills sourced from own plantations	Percentage sourced from own plantations
CPO	own mills (4)	100%	own mills (4)	100%
	third party mills (1)	100%	third party mills (1)	100%
PK	own mills (4)	100%	own mills (4)	100%
	third party mills (3)	100%	third party mills (3)	100%

As at 31 December 2022, total CPO and PK supplying mills is 8, consisting of 4 owns mills and 4 third party mills. The breakdown of these 4 third-party mills is as per below:

- 1 mill supplying CPO only
- 3 mills supplying PK only

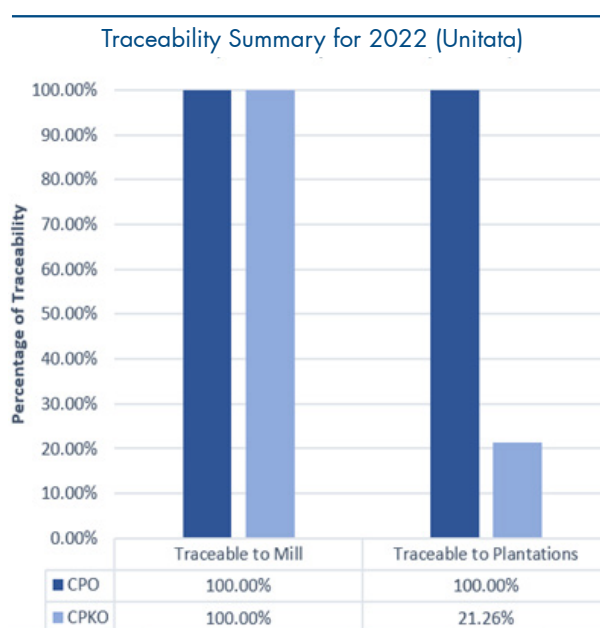
All of the above own and third-party supplying mills 100% source from their own plantations.

The summary on the number of indirect supplier mills supplying PK to Kernel Crushing Plants (KCPs) from which we derive CPKO used at Unitata is tabulated below:

Raw material	Number of KCPs	Number of supplying mills	Traceable to mills (%)
PK	6	94	100

For further details of our direct and indirect supplier mills please refer to www.unitedplantations.com/wp-content/uploads/2022/02/Thirdpartyindirectsuppliermills2021.pdf

The percentage of traceability for Unitata is summarized in the following chart:



The traceability for the overall combined volume sourced at Unitata for CPO, CPKO and refined products (from external refineries) as at 31 December 2022 is as tabulated per below:

Summary of the Traceability - Unitata	
Traceable to Plantations	62.34%
Traceable to Mill	100.00%

The percentage of derivatives sourced from intermediary traders/refiners as at 31 December 2022 is as follows:

Refinery / Trader	
Percentage	5.66%

Downstream Traceability – UniFuji

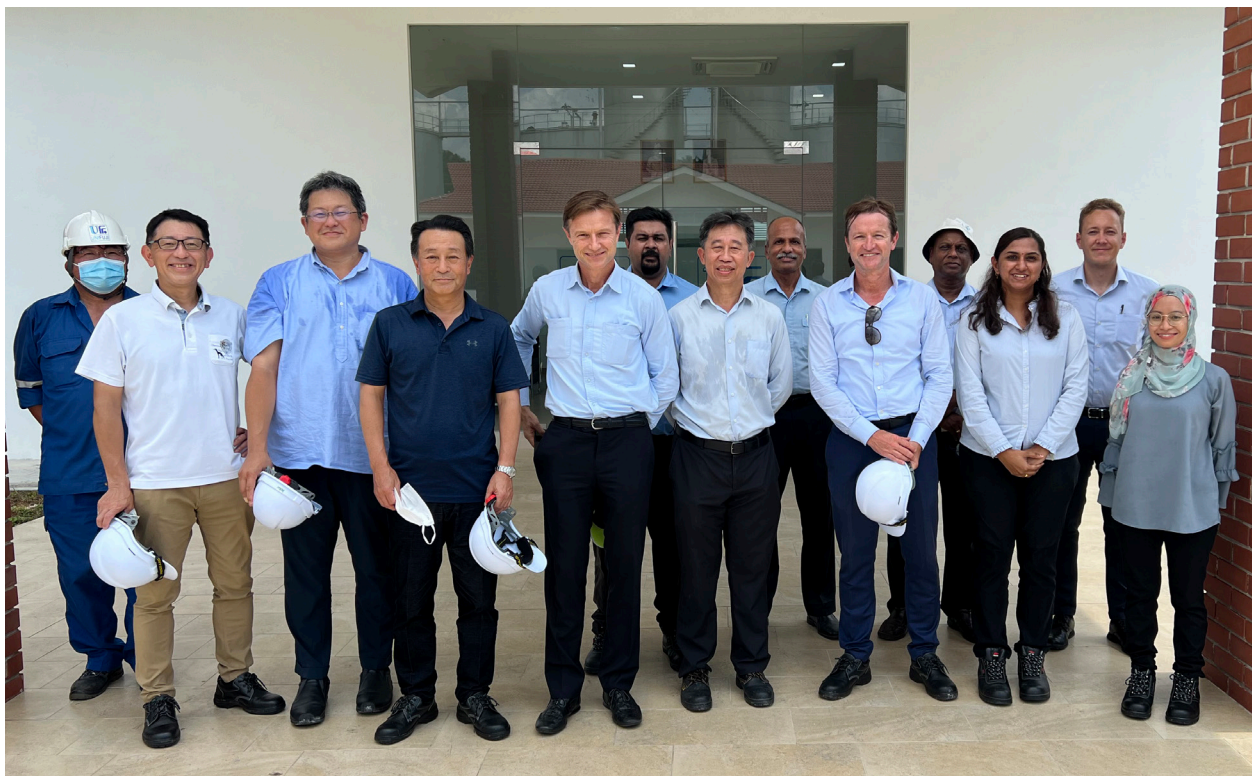
UniFuji sources crude palm oil internally from UP, which ensures availability of RSPO certified sustainable and traceable palm oil to produce value added palm fractions to our customers. The origin of the raw material sourced in the year 2022 can be summarized as per the table below.

Direct Mill Supplier:

Raw material	Number of supplying mills	Traceable to plantations	Numbers of supplying mills sourced from own plantations	Percentage sourced from own plantations
CPO	own mills (2)	100%	own mills (2)	100%

Indirect Mill Supplier:

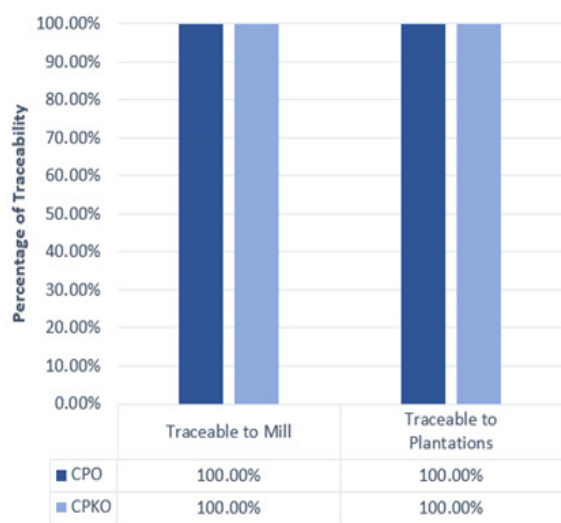
Raw material	Number of supplying mills	Traceable to plantations	Numbers of supplying mills sourced from own plantations	Percentage sourced from own plantations
PPO	7	100%	own mills (4)	68%



Visit by the President and CEO of Fuji Oil Holdings, Mr. Mikio Sakai and his team to UniFuji.

This can be further summarized and illustrated as follows:

Traceability Summary for 2022 (UniFuji)



Suppliers

Evaluation of Suppliers' Sustainable Commitment

As a part of our sourcing policy and continuous improvement focus, we engage with suppliers to improve practices on the ground and strengthen our supply chain, thereby ensuring positive developments insofar as sustainable palm oil production is concerned. As an important step towards improving our sustainability credentials within the economic, environmental and social areas of our business, we have invited our suppliers to join us on this journey.

With this we aim to improve sustainability in our supply chain and ensure that our suppliers join us on this journey through close collaboration. Our approach to engagement includes

conducting meetings, self-assessment questionnaires (SAQ), supplier audits, on-site verifications and follow-ups related to food safety as well as MSPO and RSPO certifications. At the same time, we also assist our suppliers in improving the scores of their SAQ to meet the commitment in our Responsible Palm Oil Sourcing Policy and Code of Conduct.

Upstream Suppliers Evaluation

In UP we have developed a Self-Assessment Questionnaire (SAQ) to evaluate our third party FFB suppliers within the upstream business area. Based on this, we discuss findings and explain and promote on an annual basis, our policies on health and safety, workers' rights as well as our expectations on their adherence to our Suppliers' Code of Conduct and Responsible Sourcing Policy. Furthermore, we conduct site visits and trainings to improve good agricultural practices and promote sustainable palm oil policies and its implementation on the ground. The training sessions include emergency response to accidents (first aid), safe handling of pesticides with appropriate Personal Protective Equipment (PPE), effective use of pre-emergent herbicides to reduce chemical usage, and integrated pest management (IPM) and mechanized harvesting in order to assist them with their agricultural interests.

In addition, demonstration of fire combat procedures was carried out to further enhance the awareness of neighbouring smallholders in case of a fire incidence and were they informed to contact UP for emergency assistance within close vicinity. We also explain UP's company policies, specifically on our No Deforestation, No Peat and No Exploitation (NDPE) commitment as well as our suppliers code of conduct. However, since the COVID-19 outbreak in 2020, we have been unable to conduct any site visits nor trainings for our third party FFB suppliers as per our annual training programme. This is nevertheless expected to resume during 2023 barring any new wave of Covid-19 outbreak.

Downstream Suppliers Evaluation Operations

At Unitata and UniFuji, we have also developed a Self-Assessment Questionnaire (SAQ), which is used annually to engage with our suppliers. This enables us to understand the current status of suppliers and their commitments to our Responsible Palm Oil Sourcing Policy. Through this engagement, we categorize them as high risk, medium risk or low risk suppliers for further engagement.

The SAQ is sent directly to the below raw material suppliers:

Unitata	UniFuji
Crude Palm Oil	Crude Palm Oil
Crude Palm Kernel Oil	Processed Palm Oil
Processed Palm Oil	
Processed Palm Kernel Oil	

In the spirit of collaboration and transparency, our Responsible Palm Oil Sourcing Policy is discussed with the above suppliers to ensure that they live up to our policies and code of conduct across their entire operations in order to minimize and mitigate sustainability risks. If a supplier in our supply chain is categorized as high-risk based on the mentioned SAQ, we will conduct on-site assessments and engage with the supplier to agree to a reasonable time-bound action plan including further engagement to improve their SAQ score and thereby meet our Responsible Palm Oil Sourcing Policy requirements and commitments.

In addition to the above, Unitata and UniFuji also carry out supplier audits on food safety and quality to evaluate risk materials, supplier's management systems, and to obtain their certificates to ascertain food safety and quality standards, as well as evaluate their hygiene and sanitation compliance. In the event that any suppliers are found to be in violation or breach of the above policies or our Supplier Code of Conduct and thereby perceived as a high-risk supplier (self-assessment scores below 50%), UP/Unitata/UniFuji shall immediately request for corrective measures

to be implemented with a 60 days time-bound action plan and further engagement to ensure the suppliers live up to our Responsible Palm Oil Sourcing Policy. We will moreover, through dialogue and cooperation, encourage, and coach the supplier to implement the action plan by providing necessary support to see how challenges can be overcome and implemented. If a supplier is unable or unwilling to take the necessary actions to conform to the expectations outlined in our policy, UP/Unitata /UniFuji will as a last resort terminate the commercial relationship with the supplier.

The overview of suppliers (FFB, CPO, CPKO and processed palm oil) that have been self-assessed on the key elements of Responsible Sourcing are as follows:

Key elements/criteria of assessment:

- Management system & Certifications
- Management Commitments
- Human Rights & Social Commitments
- Business Integrity Commitments
- Environmental Commitments
- Transparency & Traceability

Suppliers' Assessment	Upstream	Downstream (Unitata)	Downstream (UniFuji)
Total number of suppliers assessed	3	11	3
Percentage of suppliers assessed	100%	100%	100%
Low risk supplier	100%	100%	100%
Medium risk supplier	0%	0%	0%
High risk supplier	0%	0%	0%

**As at 31st December 2022.*

Based on the above assessments, there are no suppliers with significant negative environmental and social impact in their supply chain. All our suppliers have lived up to our Responsible Palm Oil Sourcing Policy and Supplier Code of Conduct.



Tankers loaded with high quality certified sustainable palm oil leaving the UniFuji refinery.

Our Integrated Sustainable Value Chain

The UP Group's commitment to the world's highest standards of sustainability, quality, and product traceability is built into our DNA and forms the basis of our integrated value chain, from early R&D activities and seed production, to the final product. It is this commitment towards excellence across every aspect of the value chain that sets UP apart and enables us to produce the world's finest palm oil with the world's lowest footprint for our customers.

R&D

Through our Research Department established in the early 1950s, much focus is directed towards improving yields of future generation oil palms and coconut palms to increase our land productivity

1. Breeding



In our seed gardens, pollen from premium Pisifera palms are used to pollinate Deli Dura mother palms with high yield traits

2. High yielding seeds



High yielding Tenera seeds are produced from carefully selected mother palms under stringent quality requirements

3. Tissue culture



To increase our land productivity, we also complement traditional breeding with tissue culture & molecular technologies

GROWTH

After 12 months in the nursery, the young seedlings are planted in the fields. The oil palm is then considered immature until fruit bunches are produced after about 30 months

4. Seeds planted in pre-nursery



Germinated seeds hand-planted in poly-bags & gently nurtured in the pre-nursery for 3 months. Seedlings emerge after 1-2 weeks

5. Main nursery growth spurt



Seedlings are transplanted into larger 20 kg. polybags at the main nursery, where they receive 9 months of meticulous care

6. Immaculate field planting



Transfer of nursery seedlings to field, and manual planting in orderly and well-lined rows of about 150 oil palms per hectare

7. Establishing cover crop



Leguminous cover crop is established in newly replanted fields to fixate nitrogen suppress weeds, conserve moisture and reduce erosion

POLLINATION

Oil palms have both male and female flowers and are pollinated through wind and insects. Each palm can produce about 12-14 fresh fruit bunches per year, each containing over thousand fruitlets

8. Insect pollination



Oil palms are both wind & insect pollinated, the latter being efficiently handled by the pollinating weevil *Elaeidobius kamerunicus*

9. Harvesting of fruit bunches



Efficiency is key to maintain low harvesting rounds, high yields, and to keep the fields healthy and productive for generations

10. Tall palm harvesting



Harvesting (and pruning) of tall oil palms sometimes exceeding 15 metres is a manual task requiring skilled workers

HARVEST

The oil palm is a perennial crop, which must be attended to approximately every two weeks all year round. Timely harvesting intervals and fruit evacuation is crucial in order to achieve high yields and quality

11. Fruit bunch loading



Quick evacuation of fresh fruit bunches after harvesting ensures the highest quality for further processing at the palm oil mills

12. Gentle transport, low GHG footprints



UP's unique light Railway System facilitates an efficient, timely and gentle transport of fresh fruit bunches to the palm oil mill

13. Receiving fresh fruit bunches



Fresh fruit bunches are quality checked & railway wagons are weighted at the mill's weighbridge before further processing

MILLING

The milling process and operations are targeted at extracting as much crude palm oil and palm kernels as possible from the incoming fruit bunches, which ideally are no more than a day old upon processing

14. Sterilisation



Quick processing ensures high oil quality. Cages enter directly into the sterilisers, where fruits are cooked under pressure

15. Digestion & screw pressing



At the screw press station, crude palm oil from cooked fruitlets is extracted and separated from shells, nuts and fibre

PRODUCE

Whilst the extraction of crude palm oil and palm kernels often receives the most attention, it is also of great economical and environmental value to utilise all by-products

16. Palm fruit fractions



Crude palm oil (CPO) and palm kernels are extracted from the mill, and fibres, shells & empty bunches sent for further processing

17. Renewable energy



Fibres and shells sent to the biomass boiler for production of green steam & electricity, which is used at the oil mills & refineries

18. Renewable energy from effluent



Under anaerobic conditions in the biogas plant, microorganisms convert mill effluent into renewable energy thus reducing GHGs

REFINING

Crude palm oil and other oils and fats are processed into value-added products by removing contaminants and other undesired traits, and undergoes processes like blending, fractionation and interesterification

19. Consistent incoming supply



High quality crude oils are checked on arrival and pumped into designated and secured storage tanks for further processing

20. Refining



As a first step towards meeting customer requirements, most of the free fatty acids are removed by refining the crude oil

21. Bleaching & deodorisation



Automated bleaching and deodorisation remove remaining free fatty acids, colour, odour and other undesired impurities

22. Quality control



Quality control is carried out throughout all stages to ensure the highest product quality and food safety for our customers

PRODUCTS

Whether shipped in bulk or blended into packed specialty fat formulations, all products must strictly comply with the highest food safety and quality requirements before being shipped to customers worldwide

23. Product filling



Processed and refined oils are blended into specialty fats, and filled in automated filling lines under strict hygienic conditions

24. Delivery to customers



Bulk products are delivered in road tankers, ISO tanks or flexi-tanks, whereas packed goods are delivered in trucks or containers

Statement No.: **SRA-MY 784621**

**United Plantations Berhad
Sustainability Report 2022**

The British Standards Institution is independent of United Plantations Berhad (hereafter referred to as "UP" in this statement) and has no financial interest in the operation of UP other than for the assessment and assurance of UP Sustainability Report 2022 (the "**Report**").

This independent assurance opinion statement has been prepared for UP solely for the purposes of assuring its statements relating to the Report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or towards any person by whom the independent assurance opinion statement may be read. This statement is intended to be used by stakeholders of UP.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by UP. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to UP only.

Scope

The scope of engagement agreed upon with UP includes the following:

1. The assurance covers part of the Report and focuses on systems and activities of UP and its subsidiaries in the form of Refineries (Unitata and UniFuji) in Malaysia and Indonesia, which include plantations and mills and refineries for palm oil and palm kernel oil, during the period from 1st January 2022 to 31st December 2022 (the "**Reporting Year**"), for following sustainability subject matter.
 - Total average earnings per worker per month
 - Lost time injury frequency rate
 - Fatal accident rate
 - Mill water consumption in processing Fresh Fruit Bunches ("FFB")
 - Domestic water consumption
 - Local and international certifications, and Roundtable on Sustainable Palm Oil ("RSPO") certifications
 - Usage of pesticides / herbicides
 - Area planted on peat (hectareage as per the peat soil map from United Plantations Research Department ("UPRD"))
 - Percentage of suppliers (FFB, Crude Palm Oil ("CPO"), Crude Palm Kernel Oil ("CPKO") and processed palm oil) that has been self-assessed to the key elements of UP's Responsible Sourcing Policy
 - UP's Suppliers' engagement and assessment/programme to support suppliers (FFB, CPO, CPKO and processed palm oil)
2. Type 1 Moderate Level of Assurance evaluates the nature and extent of UP adherence to four reporting principles: Inclusivity, Materiality, Responsiveness and Impact. The specified sustainability performance information/data disclosed in the sustainability subject matter of the Report has been evaluated.

Opinion Statement

We conclude that the sustainability subject matter of the Report provides a fair view of UP's sustainability programmes and performance in the Reporting Year. We believe that the social and environmental performance indicators for the sustainability subject matter of the Report are fairly represented in the Report, in which UP's efforts to pursue sustainable development are widely recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurers. We planned and performed this part of our work to obtain the necessary information and explanations. We considered UP has provided sufficient evidence during the assurance processes.

Methodology

Our work was designed to gather evidence on which our conclusion is based. We undertook the following activities:

- A top level review of issues raised by external parties that could be relevant to UP's policies to check on the appropriateness of statements made in the Report;
- Discussion with senior executives on UP's approach to stakeholder engagement. We had no direct contact with external stakeholders;
- Interview with staff involved in sustainability management, report preparation and provision of report information;
- Review of key organizational developments;

- Review of supporting evidence for claims made in the sustainability subject matter of the Report including raw data and supporting evidence of the sustainability information; and
- An assessment of UP's reporting and management processes concerning reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact.

Conclusions

A detailed review against the Principles of Inclusivity, Materiality, Responsiveness and Impact is set out below.

Inclusivity

The Report has reflected the fact that UP has engaged with its significant stakeholders through various channels such as procedures for handling complaints, grievance, and consultations; negotiations and interactions with stakeholders prior to any development or acquisition of land; stakeholder meeting; community engagement process; self-assessment questionnaires (SAQ), supplier audits, onsite verifications and follow-ups with suppliers; and more.

UP's operation involves various methods of engaging its stakeholders on an on-going basis. The Report covers economic, social and environmental aspects of concern to its stakeholders with a fair level of disclosure. In our professional opinion, UP adheres to the principle of Inclusivity. Areas for enhancement of the Report were adopted by UP before the issuance of this opinion statement.

Materiality

UP publishes sustainability information that enables its stakeholders to make informed judgments about UP's management and performance. In our professional opinion, the Report adheres to the principle of Materiality and identifies UP's material aspects by using appropriate methods of materiality analysis and demonstrating material issues in a matrix form. Areas for enhancement of the Report were adopted by UP before the issuance of this statement.

Responsiveness

UP has implemented practices that respond to the expectations and perceptions of its stakeholders. These include sustainability reporting for both internal and external stakeholders. In our professional opinion, UP adheres to the principle of Responsiveness. Areas for enhancement of the Report were adopted by UP before the issuance of this statement.

Impact

UP has established processes to understand, measure and evaluate its impacts in qualitative and quantitative way. These processes enable UP to assess its impact and disclose them in the sustainability subject matter of the Report. In our professional opinion, UP adheres to the principle of Impact. Areas for enhancement of the Report were adopted by UP before the issuance of this statement.

Assurance Level

The Type 1 Moderate Level of Assurance provided in our review is defined by the scope and methodology described in this opinion statement.

Responsibility & Limitations

It is the responsibility of the UP's senior management to ensure that the information being presented in the Report is accurate. The assurance is limited by information presented by UP. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of lead assurors, who are experienced in the industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3, GRI G3.1, GRI G4, GRI Standards, AA1000, HKEX's ESG Reporting Guide, UNGC's Ten Principles, ISO 20121, ISO 14064, ISO 14001, OHSAS 18001, ISO 45001, ISO 9001, and ISO 10002, etc. British Standards Institution is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Verifier of the Report



Evelyn Chye

Mr. Aaron Chim

Managing Director Assurance – Malaysia

Lead Assuror

GRI content index

Statement of use	United Plantations Berhad has reported the information cited in this GRI content index for the period of 1st January 2022 - 31st December 2022 with reference to the GRI Standards.
GRI 1 used	GRI 1: Foundation 2021

GRI STANDARD	DISCLOSURE	LOCATION
GRI 2: General Disclosures 2021	2-1 Organizational details	United Plantations in Brief, Page 2
	2-2 Entities included in the organization's sustainability reporting	About This Report, Page 34
	2-3 Reporting period, frequency and contact point	About This Report, Page 34
	2-4 Restatements of information	About This Report, Page 34 (There is no structural change in the Annual Report 2022)
	2-5 External assurance	About This Report, Page 34
	2-6 Activities, value chain and other business relationships	Creating Value Through UP's Integrated Business Activities, Page 45
	2-7 Employees	Our Employees, Page 75
	2-8 Workers who are not employees	Information unavailable, Nil
	2-9 Governance structure and composition	Sustainability Governance, Page 88
	2-10 Nomination and selection of the highest governance body	Corporate Governance Overview Statement, Page 112
	2-11 Chair of the highest governance body	Corporate Governance Overview Statement, Page 112
	2-12 Role of the highest governance body in overseeing the management of impacts	Corporate Governance Overview Statement, Page 112
	2-13 Delegation of responsibility for managing impacts	Sustainability Governance, Page 88
	2-14 Role of the highest governance body in sustainability reporting	Corporate Governance Overview Statement, Page 112
	2-15 Conflicts of interest	Corporate Governance Overview Statement, Page 112
	2-16 Communication of critical concerns	Sustainability Governance, Page 88
	2-17 Collective knowledge of the highest governance body	Corporate Governance Overview Statement, Page 112
	2-18 Evaluation of the performance of the highest governance body	Corporate Governance Overview Statement, Page 112
	2-19 Remuneration policies	Remuneration Committee - Statement on Corporate Governance Overview Statement, Page 112
	2-20 Process to determine remuneration	Remuneration Committee - Statement on Corporate Governance Overview Statement, Page 112
	2-21 Annual total compensation ratio	Confidentially constraints, Nil
	2-22 Statement on sustainable development strategy	Environment, Social and Sustainability Governance, Page 46
	2-23 Policy commitments	Environment, Social and Sustainability Governance, Page 46
	2-24 Embedding policy commitments	Environment, Social and Sustainability Governance, Page 46
	2-25 Processes to remediate negative impacts	Remuneration Committee - Statement on Corporate Governance, 106-110
	2-26 Mechanisms for seeking advice and raising concerns	"ESG Governance Environment Social (Employees, Community) Sustainability Governance Marketplace, 46, 47, 73, 86, 91"
	2-27 Compliance with laws and regulations	Remuneration Committee - Statement on Corporate Governance Overview Statement, Page 112
	2-28 Membership associations	Procedure for Handling External Stakeholders' Issues, Page 84
	2-29 Approach to stakeholder engagement	Code of Ethics and Business Conduct, 76
	2-30 Collective bargaining agreements	Profile of Directors, Page 10
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Materiality, Page 42
	3-2 List of material topics	Materiality, Page 43
	3-3 Management of material topics	Materiality, Page 42
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Notes to the Financial Statement, Page 142
	201-2 Financial implications and other risks and opportunities due to climate change	Confidentially constraints, Nil
	201-3 Defined benefit plan obligations and other retirement plans	Notes to the Financial Statement, Page 189
	201-4 Financial assistance received from government	Confidentially constraints, Nil
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	"Paying Fair Wages and Employees' Benefits, Page 80"
	202-2 Proportion of senior management hired from the local community	Information unavailable, Nil
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Social Commitments and Social Amenities, Page 81
	203-2 Significant indirect economic impacts	Information unavailable, Nil
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	We endeavour to support local suppliers in the countries we operate in, which is Malaysia and Indonesia, Nil

GRI STANDARD	DISCLOSURE	LOCATION
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	Internal Audit Function, Page 122
	205-2 Communication and training about anti-corruption policies and procedures	Internal Audit Function, Page 122
	205-3 Confirmed incidents of corruption and actions taken	Information unavailable,Nil
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Information unavailable,Nil
GRI 207: Tax 2019	207-1 Approach to tax	Audit and Risk Committee Report, Page 121
	207-2 Tax governance, control, and risk management	Audit and Risk Committee Report, Page 121
	207-3 Stakeholder engagement and management of concerns related to tax	Information unavailable,Nil
	207-4 Country-by-country reporting	Information unavailable,Nil
GRI 301: Materials 2016	301-1 Materials used by weight or volume	Production and Level of Utilization of Oil Palm Biomass Residues in UP in 2022, Page 64
	301-2 Recycled input materials used	Fertilizer Equivalent of Oil Palm Biomass Residues Recycled on Land in UP in 2022, Page 65
	301-3 Reclaimed products and their packaging materials	Information unavailable,Nil
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Biogas to Grid Project, Page 63
	302-2 Energy consumption outside of the organization	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	302-3 Energy intensity	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	302-4 Reduction of energy consumption	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	302-5 Reductions in energy requirements of products and services	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Water Impacts, Page 67-68
	303-2 Management of water discharge-related impacts	Water Impacts, Page 67-68
	303-3 Water withdrawal	Water Impacts, Page 67-68
	303-4 Water discharge	Water Impacts, Page 67-68
	303-5 Water consumption	Water Impacts, Page 67-68
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	"Partnership, Biodiversity and Conservation, Page 50-58"
	304-2 Significant impacts of activities, products and services on biodiversity	"Partnership, Biodiversity and Conservation, Page 50-58"
	304-3 Habitats protected or restored	"Partnership, Biodiversity and Conservation,50-58"
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	"Partnership, Biodiversity and Conservation, Page 50-58"
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	305-2 Energy indirect (Scope 2) GHG emissions	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	305-3 Other indirect (Scope 3) GHG emissions	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	305-4 GHG emissions intensity	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	305-5 Reduction of GHG emissions	"Carbon Footprint Initiatives and Climate Action, Page 62-63"
	305-6 Emissions of ozone-depleting substances (ODS)	Not applicable,Nil
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	VORSEP Dust Collector System, Page 63
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Recycling of Pesticides Containers and Scheduled Wastes - Environment, Page 64
	306-2 Management of significant waste-related impacts	Information unavailable,Nil
	306-3 Waste generated	Waste Management, Page 66
	306-4 Waste diverted from disposal	Production and Level of Utilization of Oil Palm Biomass Residues in UP in 2022, Page 64
	306-5 Waste directed to disposal	Information unavailable,Nil
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Evaluation of Suppliers Sustainability Commitment, Page 99
	308-2 Negative environmental impacts in the supply chain and actions taken	Evaluation of Suppliers Sustainability Commitment, Page 99
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Our Employees, Page 75
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	"Paying Fair Wages and Employees' Benefits,Page 80"
	401-3 Parental leave	Information unavailable,Nil

GRI STANDARD	DISCLOSURE	LOCATION
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Website: www.unitedplantations.com/employees/#Demographic-of-Employees
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Occupational Safety and Health, Page 82-83
	403-2 Hazard identification, risk assessment, and incident investigation	Occupational Safety and Health, Page 82-83
	403-3 Occupational health services	Occupational Safety and Health, Page 82-83
	403-4 Worker participation, consultation, and communication on occupational health and safety	Occupational Safety and Health, Page 82-83
	403-5 Worker training on occupational health and safety	Occupational Safety and Health, Page 82-83
	403-6 Promotion of worker health	Occupational Safety and Health, Page 82-83
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational Safety and Health, Page 82-83
	403-8 Workers covered by an occupational health and safety management system	Occupational Safety and Health, Page 82-83
	403-9 Work-related injuries	Occupational Safety and Health, Page 82-83
	403-10 Work-related ill health	Occupational Safety and Health, Page 82-83
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Information unavailable, Nil
	404-2 Programs for upgrading employee skills and transition assistance programs	Training and Development, Page 81
	404-3 Percentage of employees receiving regular performance and career development reviews	Information unavailable, Nil
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	"Paying Fair Wages and Employees' Benefits, Page 80"
	405-2 Ratio of basic salary and remuneration of women to men	"Paying Fair Wages and Employees' Benefits, Page 80"
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	"Paying Fair Wages and Employees' Benefits, Page 80"
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	Evaluation of Suppliers Sustainability Commitment, Page 99
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Evaluation of Suppliers Sustainability Commitment, Page 99
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Evaluation of Suppliers Sustainability Commitment, Page 99
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	Training and Development, Page 81
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	Not applicable, Nil
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Land Disputes and FPIC, Page 85
	413-2 Operations with significant actual and potential negative impacts on local communities	Land Disputes and FPIC, Page 85
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Evaluation of Suppliers Sustainability Commitment, Page 99
	414-2 Negative social impacts in the supply chain and actions taken	Evaluation of Suppliers Sustainability Commitment, Page 99
GRI 415: Public Policy 2016	415-1 Political contributions	Confidentially constraints, Nil
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Food Safety and Certifications, Page 96
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	Food Safety and Certifications, Page 96
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	Food Safety and Certifications, Page 96
	417-2 Incidents of non-compliance concerning product and service information and labeling	Food Safety and Certifications, Page 96
	417-3 Incidents of non-compliance concerning marketing communications	Food Safety and Certifications, Page 96
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Website: www.unitedplantations.com/wp-content/uploads/2020/03/Personal_Data_Protection_Policy.pdf



In-field inspection of crop quality and ripeness standard at PT SSS by our CED together with the President Director, Dr. V. Ramesh.

Glossary

Biodiversity (BioD)	The diversity (number and variety of species) of plant and animal life within a region.
Biological Oxygen Demand (BOD)	The amount of oxygen used when organic matter undergoes decomposition by micro- organisms. Testing for BOD is done to assess the amount of organic matter in water.
Carbon Footprint	A measure of the total amount of greenhouse gases, including carbon dioxide, methane and nitrous oxides, emitted directly or indirectly by an organisation, event, product or person.
Child Labour	According to the International Labour Organization (ILO) core labour standards, minimum age should not be less than 16 years old.
CO ₂ Equivalents	Carbon dioxide equivalents (CO ₂ eq) provide a universal standard of measurement against which the impacts of releasing (or avoiding the release of) different greenhouse gases can be evaluated.
Crude Palm Oil (CPO)	Oil produced from oil palm fruits in milling process.
Creating Shared Value (CSV)	A responsibility to manage our resources resourcefully and engage in activities that optimize return for shareholders and the society we operate in.
Deforestation	Defined by UP as direct human-induced conversion of forest to non-forests, with an exception for small scale low intensity subsistence conversion by indigenous peoples and forest dependent traditional communities (consistent with RSPO P & C as well as Indonesian laws, Environmental Impact Assessments (EIA) and High Conservation Value Assessment (HCV).
Effluents	Water discharged from one source into separate body of water, such as mill process water.
ERT	Emergency Response Team
Forced Labour	A person who is coerced to work under the threat of violence, intimidation, or undue stress of penalty.
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 Bunches (FFB)	Bunch harvested from the oil palm tree. The weight of the fruit bunch ranges between 10 kg to 40 kg depends on the size and age.
FDA	Food and Drug Administration
Global Reporting initiative (GRI)	A multi-stakeholder standard for sustainability reporting, providing guidance on determining report content and indicators.
Greenhouse Gas (GHG) emissions	Greenhouse gas or carbon emissions are gasses in an atmosphere that absorb and emit radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases in the Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.
HRSS	Human Resources Sustainability and Safety
High Conservations Value (HCV)	The concept of High Conservation Value Forests (HCVF) was first developed by the Forest Stewardship Council (FSC) in 1999 as their ninth principle. The FSC defined HCVF as forests of outstanding and critical importance due to their environmental, socio-economic and cultural biodiversity and landscape value.
High Carbon Stock (HCS)	The HCS Approach is a methodology to avoid deforestation in land development. The approach stratifies the vegetation on an area of land into different classes using analyses of satellite images and field plot measurements. Each vegetation class is validated through calibrating it with carbon stock estimates in the above-ground tree biomass.
Hak Guna Usaha(HGU)	The right to enjoy immovable property of another person with the obligation to pay the annual income to the landowner.
ILO (International Labour Organisation)	Is a tripartite world body representative of labour, management and government, and is an agency of the United Nations. It disseminates labour information and sets minimum international labour standards called “conventions”, offered to member nations for adoption.
Integrated Pest management (IPM)	A pest management system that in context of the associated environment and the population dynamics of the pest species utilizes all suitable techniques and methods in as compatible a manner as possible and maintains the pest population at levels below those causing economically unacceptable damage and loss.
IUCN Red List	Based in Switzerland, the International Union for Conservation of Nature and Natural Resources (also known as The World Conservation Union) is an organisation involved in the preservation of natural resources. IUCN publishes the Red Data Book, which lists the endangered species of every nation.
Identity Preserved/ IP	Certified sustainable palm oil is physically separated from other certified and non-certified palm oil throughout the supply chain, i.e from the RSPO mill through to the end-user.
Oil Extraction Rate	The amount of oil extracted from oil palm fruit at a mill. Crude palm oil (CPO) is extracted from the flesh; palm kernel oil (PKO) from the nut.
Mass Balance	Certified sustainable palm oil and non-certified palm oil is mixed to avoid the cost of keeping the two quantities controlled. The mass balance system is constructed in such a way that volumes of RSPO certified products shipped will never exceed volumes received by the end-user.
Mature Oil Palm	After planting, the oil palm tree is classified as immature until fresh fruit bunches are produced, which is approximately 30 months later, whereupon the oil palm tree is classified as mature.
MOSH	Mineral Oil Saturated Hydrocarbons
MOAH	Mineral Oil Aromatic Hydrocarbons
Non-Governmental Organisation (NGO)	Is used in this report to refer to grassroots and campaigning organisations focused on environmental or social issues.
Palm oil Mill effluent (POME)	By-product of processed fresh fruit bunch (FFB).
Peat	Peat is an accumulation of partially decayed vegetation matter. Peat forms in wetlands or peat lands, variously called bogs, moors, muskegs, pocosins, mires, and peat swamp forests.
Plasma schemes	A programme initiated by the Indonesian government to encourage the development of smallholders' plantations with the assistance and cooperation of plantation companies (the nucleus) which assist and support the surrounding community plantations (the plasma).
Palm Kernel (PK)	Seed of the oil palm fruit, which is processed to extract palm kernel oil and other by-products.
Roundtable on sustainable palm oil (RSPO)	A non-governmental multi-stakeholder organisation based in Kuala Lumpur, Malaysia. The organisation has developed a certification scheme for sustainable palm oil.
Social Impact Assessment	A process of analysing, monitoring and managing the intended and unintended, both positive and negative social consequences of planned interventions (policies, programs, plans, projects) and any social change processes invoked by the interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.
Segregated/ SG	Certified sustainable palm oil is physically separated from non-certified palm oil throughout the entire supply chain.
Stakeholders	Any group or individual who are affected by or can affect a company's operations.
Sustainability	A term expressing a 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”
Traceability	Traceability is the capability to track sustainable palm oil along the entire supply chain.
Toxicity	Toxicity measures the degree to which a substance is harmful to living organisms.