UNITED PLANTATIONS BERHAD

SUSTAINABILITY REPORT 2021

A pair of Oriental Pied Hornbill in close collaboration preparing a nest in the trunk of a tree to secure the future offspring.









Sustainability Report 2021

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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 2021 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 2021, with comparable prior year statistics, where available and relevant.

The Sustainability Report for 2021 will remain as part of our Annual Report. There is no structural change in our Annual Report 2021. 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.

This report has been prepared in accordance with the GRI Standards: Core option.

For more information on the GRI Index, please refer to our website *www.unitedplantations.com/ sustainability/*.

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 KPMG has provided limited assurance over 10 selected Key Performance Indicators (KPI's) reported in our 2021 Sustainability Report thereby bringing additional value and credibility to our disclosure. Their assurance report is available on pages 102 to 103.



An avenue of Tunera Subulate, one of the beneficial plants being established in our fields to enhance our commitment to Integrated Pest Management.

Message From The CED



Dato' Carl Bek-Nielsen giving an address on Sustainable Palm Oil.

I am pleased to present UP's 2021 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 faces the threat of global warming, we are all becoming increasingly aware that our presence on this earth leaves a mark on the environment. This message was further reinforced at the recent COP26 climate conference, which took place in Glasgow, Scotland, from 31 October to 12 November, 2021, and was labelled as "the world's best last chance to get runaway climate change under control". After two weeks of lengthy discussions, world leaders reached a consensus to accelerate action on climate change 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. Indeed, in spite of the noble and good intentions of the previous COP meetings including COP26 in Glasgow the reality unfortunately is that the UN climate process has been running for almost 30 years and during that time CO_2 emissions have only gone one way – up.

The agreement reached at COP26 may therefore seem surprising, especially considering that 70% of global CO_2 (-eq) emissions continue to come from the burning of fossil fuels. Palm oil on the other hand, accounts for 0.6% of global CO_2 (-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 37% 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. Indeed 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



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 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



UP's light railway network stretching over 597km remains a vital importance in terms of facilitating an efficient and fragile transportation of its fresh fruit bunches from the fields to the mills.

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.

We are therefore committed to being a leader in environmental performance, not just by focusing on good agricultural practices, but also by committing to minimising our impact on natural resources. Striking the right balance between Economy and Ecology remains a cornerstone in our Group and much emphasis is placed on reducing variables that negatively impact our environmental footprint.

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 a 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 and 2020.

In this connection, I am pleased to report that the summary of the LCA clearly demonstrates that United Plantations Bhd has shown a 61% reduction in its GHG emissions per kg of palm oil produced from 2004 to 2021 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 the recent pledges made at COP26, namely to accelerate the action in mitigating GHG emissions, the Board of UP has recently set a new 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 60 for more information on our carbon reducing initiatives.

To that end, new investments were made during 2021 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 597km as of 31 December 2021, 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 more than 8,029Ha 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 2022.

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. Amidst the COVID-19 pandemic, 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 18 months, 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 have since 2020 been working closely with Verité, a human and social rights NGO 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. Indeed, we are far from perfect, but we have noble aspirations and are prepared to do what it takes to tighten up where necessary. As a founding principle of the UP Group we are committed to continuous improvement which includes setting 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 proposal to minimise the risk of deforestation and forest degradation associated with commodities and products entering the EU market, as well as enhanced Human Rights protection and due diligence, across global supply chains. We welcome such initiatives that aim to tackle the global challenge of deforestation and improved social standards, whilst also ensuring small-scale farmers are not excluded from global supply chains, and that all agriculture related commodities operate on a level playing field.

Safety

With the ongoing COVID-19 pandemic further accelerating in Malaysia throughout 2021, we were faced with new challenges, propelling us to adapt accordingly, in order to prevent a major outbreak within our premises. Unlike my address to you in 2020, where we had no positive COVID-19 cases in our Malaysianbased operations and only very few positive cases in UP Indonesia, this past year has been quite different. Like most other companies, we have had 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 where lockdowns, movement control orders, face masks, contact tracing, etc., have all become the "new norm" - we have taken our Standard Operating Procedures (SOPs) to new heights. Additionally, all our hospital assistants from our Group Hospitals and clinics throughout our estates have been 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 now appearing to move more towards an endemic phase, COVID-19 is becoming 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 now 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 starting to pay off with the total number of accidents having declined by almost 50% during 2021 vis-à-vis 2020. Sadly, however, our Indonesian operations regrettably experienced one fatal accident caused by a harvesting related injury. Such an accident is most unfortunate, and our sincere sympathies go out to the bereaved family for their loss.

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 incident 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 2021 been briefing the Company's Executive Committee Members on a quarterly 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 116 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 2021, our desire to engage with various stakeholders was greatly compromised by the COVID-19 pandemic, where large physical gatherings were forbidden in both Malaysia and Indonesia. We will nevertheless resume our various engagements with the smallholder societies as soon as normalcy returns, 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 2021. 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 been underway on our newly acquired Tanarata Estate with all of the earlier employee houses being demolished as it did not live up to the UP housing standards. The construction of new, modern and spacious houses with proper facilities will be completed by June 2022, and along with new sundry shops and other social amenities, Tanarata Estate will thereby also mirror 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 equity, 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 116 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, except for our newly acquired plantation, Tanarata Estate, which is anticipated to conduct the RSPO Scope Extension Assessment within the first six months of 2022, in line with RSPO's timeline for certification.

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 operationalising sustainability into our DNA, so that it remains "builtin" and not "bolted-on".

To achieve this, the materiality assessment has once again been carried out in 2021, 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 license 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 main portion of 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 longterm 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 91 to 98). 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)





The Unifuji refinery encompassing an example of the "circular economy" in full operation, which runs without the use of fossil fuels.



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 2021.

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 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/.*



H.E Kirsten Geelan, the Danish Ambassador to Malaysia visiting the Optimill turbine station before the closure of the Danish Embassy. The Director of Engineering Upstream, CED, EDFM, as seen from left to right.

Summary of Materiality Matters

	23 Key Sustainability Issues	Relevant UN SDGs*	UP supports the UNSGDs Goals
1.	Human rights protection, child labour		
	and fair & decent wages	1,8	
2.	Precautionary measures on COVID-19	3,9	POVERTY Z HUNGER 3 AND WELL-BEING
3.	Product Quality	12	<u></u>
4.	Occupational Safety & Health	3,9	
5.	Commodity Prices	12	
6.	Social commitments and Amenities	2,4,8	4 QUALITY 5 GENDER 6 CLEAN WATER
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		7 AFEURDABLE AND 7 CLEAN ENERGY 8 ECONOMIC GROWTH 9 INDUSINT, INNOVATION
	Informed Consent	16	
11.	Climate Change, GHG emissions,		
	Discharges & Waste Management	7,9,13,16,17	
12.	Fire and Haze	13	10 REDUCED 11 SUSTAINABLE CITIES 12 RESPONSIBLE
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	13 ACTION 14 BELOW WATER 15 ON LAND
17.	Talent retention, Development and		
	Training	4,5,8	
18.	Currency Fluctuation	-	
19.	Grievance Resolution	16	16 PEACE, JUSTICE 17 PARTNERSHIPS
20.	Peat Development	13	INSTITUTIONS
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.



UP

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)



Creating Value Through UP's Integrated Business Activities



Segmental Contribution 2021

UPSTREAM

92.7%

RM484 million

DOWNSTREAM



OTHERS (0.2)% (RM1) million

Environmental, Social and Sustainability Governance

The prominence of the Environmental, Social and Governance (ESG) methodology to indentify 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 year.

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



UP is committed to being a leader in sustainable agricultural practices and is aware of the footprint it leaves on the environment and our Group therefore constantly strives towards reducing variables that impact the environment negatively. We strictly adhere to No Deforestation and No New Development on Peat soils regardless of its depth since 2010 and focus 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 policy.

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, and our Group is therefore fully committed to protect 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 other 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.

Key points of our Environment and Biodiversity Policy are summarised below and for further details please see the sustainability section on our website, *www. unitedplantations.com/sustainability/*

In addition, we have strengthened High Conservation Value (HCV) assessment by combining them with High Carbon Stock (HCS) assessment and Land Use Change Analysis (LUCA) for new plantings in 2014 and strive to maintain an open and dynamic approach towards continuous improvements in respect of protecting 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 8,029Ha of conservation areas to promote biodiversity and protection of the natural environment within our group. 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)

Our employees, contractors, suppliers, trading partners and stakeholders are expected to adhere to this policy and thereby focus on sustainability within our supply chain based on transparency, traceability and trust.





*Sustainability through Transparency, Traceability & Trust

LIWIO		fields of the Glou	P	
	2021 RM	2020 RM	2019 RM	Grand Total
Environmentally Friendly Operational Activities	6,144,925	5,817,120	6,416,803	18,378,849
Environmentally Friendly Projects (Biogas, Biomass, others)	429,207	443,185	328,883	1,201,274
Biodiversity & Conservation (Forest reserve, Endangered Tree Species Projects, Collaboration with Copenhagen Zoo)	917,143	923,167	1,021,791	2,862,102
Total	7,491,275	7,183,472	7,767477	22,442,225

Environmental Commitments of the Group

Found in our plantation at PT SSS, this delightful medium-sized bird, the Brown BooBook (Ninox scutulata) with its large unsettling yellow eyes, gives a series of rising hoots "woo-wuh! woo-wuh! woo-wuh! and often hunts from an exposed perch.



An Oriental Pied Hornbill (Anthracoceros Albirostris).

Deforestation and EU Legislation

In November 2021, the European Commission proposed a new legislation to minimise deforestation and conversion of ecosystems by preventing import of commodities linked to deforestation through mandatory due diligence of global supply chains. We welcome this development, which if fully supported by the EU Council and EU Parliament, is expected to help curb deforestation and create a more level playing field based on facts for sustainably produced commodities such as beef, leather, palm oil, soy, wood, cocoa, and coffee.

UP strictly adheres to No Deforestation and No New Development on Peat soils regardless of its depth and No Exploitation of People and Local Communities (NDPE) which is embedded in our Environment and Biodiversity as well as Human Rights Policies. Through our more than 8,029 Ha of conservation areas we contribute to the protection of critical ecosystems and biodiversity in and around the landscapes where we operate.

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 a new oil palm development. The intention is that new oil palm plantings will not negatively impact primary forest, HCV, HCS, fragile and marginal soils or local people's lands. UP subscribes and supports this stance. It is not enough to set aside areas for conservation.



An adult Bornean Orang Utan (Pongo pygmaeus).

Patrolling of the conservation areas need to be conducted to protect these areas from intruders and fires so that the biodiversity is truly conserved. Our BioD Division utilises the SMART system which is the world's preferred, 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 managing and protecting conservation areas and species.

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

Peat Developments

The Group has strictly adhered to the NO new development on peatland regardless of depth policy since 2010. However, management plans are in place and being implemented on existing plantations on peat. The total land bank of United Plantations Berhad as of 31 December 2021 is 62,980 Ha. The total planted area under oil palm is 46,521 Ha of which Malaysia has 37,519 Ha and 9,002 Ha in Indonesia.

In Malaysia the total peat area is 4,129.93 Ha and in Indonesia it is 784 Ha, i.e total peat is approximately 4,913.93 Ha equal to approximately 10.56% of our total oil palm planted area. Our Research Team has reassessed the peat area at one of our Estates, Jendarata Estate as significant hectarage of peat has subsided over the years. This is in line with the latest peat inventory which has been submitted to RSPO Secretariat.





A spectacular view of one of our many jungle sanctuaries, which stands as a testimony of UP's commitment towards conservation. Conservation means development as much as it does protection of our environment.

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 8,029 Ha 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 41% 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 need the assistance of experts in these fields who have established a series of collaborations and partnerships. One such partnership is Copenhagen Zoo (CPH Zoo) which was initiated in 2007 and officially established on 1 October 2010, through a Memorandum of Understanding (MOU) between UP and CPH Zoo. It marked an important milestone for the Company's target of producing certified sustainable palm oil in Indonesia and being able to document the environmental integrity of its 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 the need arises. 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 which is our common goal was to develop 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 had undertaken an impressive amount of activities in support of the company's commitment of producing sustainable palm oil and conserving the natural environment. In the past, many exciting activities and accomplishments have been reported. 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 in Kalimantan 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.

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, radiotracking 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 2021 in PT SSS

In 2021, the emergence of and rapid spread of COVID-19 continued. New variants affected almost every country on earth. Domestic and international travels were put on hold, and countries went in lockdown again across the world causing delays in trade, services and manufacturing output. Despite the challenging times, the BioD Division continued work at near normal capacity throughout 2021.

The Division continued to focus wildlife conservation and management within the UP/PT SSS landbank to fulfil RSPO criteria as well as the company's goals of producing sustainable palm oil. 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 2021, the team recorded seven new species to PT SSS species list, consisting of 1 reptile, 1 mammal, 3 amphibians and 2 birds. To date, the BioD has recorded a total 492 different vertebrate species of which 72 are mammal species, 210 bird species, 59 reptile species, 28 amphibian species and 123 fish species.

In addition, to date 322 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. **Cumulative Animals Species** 492 485 500 392 399 400 365 372 352 345 300 244 195 200 100 0 2013 2014 2015 2016 2011 2012 2017 2018 2019 2020 2021





Cumulative number of vertebrates recorded in PT SSS conservation areas.

Vertebrate and plant species that have been recorded in PT SSS conservation areas.



The orangutan survey team from UP-PT SSS, BKSDA (Nature Resources and Ecosystem Conservation) and OFIUK (Orangutan Foundation International United Kingdom) at Kumai Estate.

Orangutan population survey In Kumai Estate

From 28 May – 6 June, 2021 the BioD Team collaborated with the Nature Resources and Ecosystem Conservation agency (BKSDA - Ministry of Environment and Forestry) and Orangutan Foundation International (OFI), United Kingdom to undertake an orangutan population survey in Kumai using nest counts.

This survey marked a milestone for the BioD (PT SSS), because it constituted the first time that the BioD Team officially worked together with BKSDA and OFI whose concern were on protecting orangutans.

The survey team consisted for three researchers from BKSDA, one officer from OFI and seven officers from BioD PT SSS. The results revealed a significant orangutan presence of 15-40 individuals in the entire area with a density of approximately 2 individuals/Km².

This is an exceptional high number that, if based on the BioD Team's camera trap monitoring efforts, seemed surprisingly high. The nest account approach is associated with a number of uncertainties and biases that may appear from surveys in "small patches of forest". For example, in a small forest fragment, orangutan may be forced to build many nests in the same area, since they



Distribution map of orangutan in Kumai Estate. It illustrates a high number of records in the red coloured areas. The results are based on nest counts along line transects.



Mangrove conservation area at Lada Estate with fishermen that earns part of the livelihood from these mangroves. This river is also feeding ground for the rare Irrawaddy Dolphin (Orcaella brevirostris), listed as "Endangered" on the IUCN Red List.

are confined to a very small roaming habitat. In addition to nest counting, the BioD Team will continue to monitor orangutan using camera traps and drones fitted with thermal camera that may increase the accuracy and documentation of orangutan in a specific area.

An expansion of the wildlife surveys and management into sites adjacent to PT SSS' estates will be executed under RaCP programme.

The successful collaboration and results from the joint population survey offers real positive opportunities for future collaboration concerning orangutan management outside public protected areas.



Observing orangutan nest in the PT SSS conservation area.

Protecting Mangrove Forest

Mangrove is a special habitat type that is common along coastal zones and river deltas where the water is either saline or brackish. The vegetation consists of species that are specialised to live in saline and/or brackish water.

Mangroves occur worldwide in the tropics and subtropics and even some temperate coastal areas, mainly between latitudes 30° N and 30° S, with the greatest mangrove area within 5° of the equator.

This unique ecosystem plays an important role in maintaining the natural ecosystem processes and therefore essential to keep. Since 2006, UP/PT SSS has maintained and managed approximately 1,200 Ha mangrove forest as part of its estate concession area, or approximately equal to 16% of total conservation areas in PT SSS.

This commitment to protect mangrove forest is in line with the 26th UN Climate Change Conference of the Parties (COP26), Glasgow 2021 target, to reach net zero emissions by 2050.

In his remark at the Glasgow meeting, President Jokowi of Indonesia committed to protecting forests (including mangrove) will form part of Indonesia's climate action.

Regarding the forest management, Indonesia has also changed its paradigm from forest product management to forest landscape management for a more comprehensive forest management. Indonesia, with support from World Bank and the Danish Foreign Aid has also initiated a mangrove ecosystems restoration programme.



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.

Indonesia is home to more than 20% of the world's mangrove forests. With more than 3.3 million hectares of mangrove forests, Indonesia has the most extensive mangroves in the world.

Mangroves acts as important spawning grounds for many commercial fish and prawn species and supports the livelihoods of fishermen and other local communities. UP/PT SSS is proud to be able to maintain and manage extensive mangrove areas as part of its landbank that benefit wildlife, local communities as well as act as a proactive contribution to the national and global climate change action.

Conservation not solely about Orangutan

While much of the public connect rainforest conservation in Southeast Asia to orangutan, there is much more important biodiversity to consider as well.

The risk of undervaluing small and less charismatic species often results in devaluing a forest habitat without orangutan to legitimize the eradication of such areas for industrial agricultural development. Therefore UP/ PT SSS' BioD team works to ensure the conservation management for all plant and wildlife species as part of a complete ecosystem.

This begins with protecting the standing forest itself. Ensuring the forest standing by deterring illegal logging and clearing activities, combined with managed water table in peat areas form important priorities. Intact remaining forest forms a strong foundation for many important species of, for example, lizards, birds, snakes, insects and primates.

"Every little space has biodiversity, irrespective of its protection status. Oil palm company should be encouraged to, and be responsible for, doing their part in biodiversity conservation, including collaborating with communities, Government and partner organisation to manage biodiversity in its landbank and mitigate human wildlifeconflict"

-Silmi and Carl, Biodiversity Division, UP – PT SSS

Water Quality Monitoring and the Diversity Of Plankton

Water is likely the most important natural resource on earth that all known living organisms are dependent on. Therefore, it is of highest priority that the BioD Team 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' property to ensure 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 the estate and



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

Plankton diversity index used to evaluate the quality of water bodies. 3.0 2.5 2.0 1.0 0.5 PK 1 PK 6 PK 7 PK 2 PK 3 PK 4 PK 5 PK 8 PK 10 PK 11 PK 12 Medium Polluted Polluted Not Polluted

Diversity Index in Kumai Estate

Cumulative Planted Trees Seedling in Rehabilitation Area



conservation areas in the Lada, Runtu, and Kumai estates. Sampling sites are fixed points and to date the BioD Team has recorded 98 Phytoplankton and 34 Zooplankton species. Data analysis of diversity plankton in Kumai, Lada and Runtu estate indicated that the water condition in the rivers surround the estate fall into the "medium condition" category. This means that the water slightly polluted albeit still above average.

Diversity Index 2021

What is more important is the knowing that the rehabilitation of riparian forest along the streams in PT SSS is showing positive effects by minimising organic and inorganic pollution washout in all three estates.

Bird Diversity in Rehabilitation Area

— Diversity Index 2018 — Diversity Index 2019 — Diversity Index 2020

Rehabilitation activities has been undertaken since 2011 in several areas in PT SSS. The first phase of habitat rehabilitation was to plant as many native trees in degraded areas as possible to recreate a thicker canopy cover. A good tree diversity with extensive canopy cover attracts 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 $\pm 174,000$ native tree seedlings from 125 tree species. Despite difficult conditions, an estimated 65% seedlings have survived and grow well today.

In connection with rehabilitation activities, the BioD Team conducts monitoring of bird diversity in the rehabilitation area Field 86 Lada Estate Div 2.

The understory bird diversity is a good indicator of habitat condition that also reflects the condition of the forest canopy. 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 four years into the rehabilitation process, when the first planting activities were initiated. Subsequent monitoring reveals an increasing number of bird species throughout the years. Eight years after rehabilitation began, 35 bird species have been observed in the area compared to 13 at the start of the monitoring process in 2015.

The BioD Team is proud of the results emerging from the efforts PTSSS has put into the rehabilitation process. It is expected that the bird diversity will continue to increase in tune with the increasing canopy height of Field 86.



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.

UP





















Various types of wildlife photographed by our BioD Department.



Three leopard cats playing in Lada Estate, UP/PT SSS.

Leopard Cat in the Plantation Landscape; Conservation And Biological Pest Control

In 2021, the research work on the leopard cat in oil palm landscape reached the publication stage. Although still ongoing, the paper "Activity and Ranging Behavior of Leopard Cats (Prionailurus bengalensis) in an Oil Palm Landscape", was published in the known international journal Frontiers in Environmental Science Journal in March 2021.

This is only one of several manuscripts that are being prepared by the BioD Team for publication in 2022 and



During the COVID-19 outbreak, all team members and collaborators followed standard COVID-19 safety procedures for dealing with wildlife. (Ministry of forestry, Nature Conservation Agency guidelines).

2023. This forms a very important milestone for the BioD Team, as these are the ultimate acknowledgement of the relevance of the work being undertaken on site.

The BioD Team chose to publish it in an open access journal in the hope that more people with interest in the subject gain access to the information and experience obtained in the study.

At the same time, we hope the paper will encourage more plantation companies to explore the advantages and effects of using wild cat and other vertebrates as biological pest control in oil palm plantations.



Paper about leopard cat research in UP/PT SSS that can be accessed for free at: www.frontiersin.org/ articles/10.3389/fenvs.2021.651939/full



Some practices in safe snake handling (king cobra) using a snake bag with a hollow pipe. This imitates an entry into a dark "hideaway" for a snake and is an effective method to safely bring a wild snake into a bag.

Socialisation and Awareness Programme

At the end of 2021, UP/PT SSS and BKSDA (Nature Resources and Ecosystem Conservation) Kalimantan Tengah province conducted a joint socialization programme with a focus on mitigating human wildlife conflict, particularly concerning possible accidents with venomous snakes in which safety handling technique were demonstrated.

This initiative was setup after recording an increase in human-venomous snake encounter rate (e.g. sumatran cobra and king cobra) in PT SSS. In it, the UP/PT SSS and BKSDA team has successfully increased awareness, knowledge and capacity on safety and safe handling of venomous snake, especially concerning Sumatran Cobra and King Cobra).

The BioD Team is proud to represent UP/PT SSS as part of this initiative to fund this initiative and build capacity amongst local communities. It is evident that



Interested participants at a safe snake handling and snake ecology event.

communities and government institutions are keen to know more about snake ecology, behavior and handling technique to minimise the risk of snake bites.

The BioD Team has also recorded increasing numbers of several snake species, mainly due to the abundance of food for these predators (e.g. rats) in the oil palm estates. While accidents have yet to be recorded, the growing snake populations will inevitably increase the probability of accidents happening too.

Along with monitoring population sizes, the BioD Team conducts ecological research on the Sumatran cobra and king cobra, with all results shared with both the local authorities and communities in Pangkalan Bun.

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



UP/PT SSS has donated snake tongs and snake hooks to BKSDA, Kalimantan Tengah in support of their work in handling snakes in the region.



An aerial view of UIE's Kingham-Cooper tree reserve, an oasis of flowering trees and fruits, shelter and food supply for birds and mammals.

Tree Reserves

The Lagoon Tree ('Kingham-Cooper') Reserve.

UIE estates have since 2008 become an indigenous tree seed-garden pioneer which holds one of Malaysia's finest and diverse collections of Native Jungle tree species.

The Kingham-Cooper Lagoon Tree Reserve established in 2008 is the flagship reserve holding over 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.

UIE Main-Office Tree Parks.

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 M'crophylla*, a *Dipterocarp* species of Meranti known locally as Enkabang by the native Ibans of Sarawak for deriving shea butter.

The Sungei Anak Macang Riverbank Reserve.

This 5.85-kilometre strip of land along the narrow boundary river covering 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.

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

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 2021, 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.



Native jungle trees seedlings successfully raised at our jungle tree nursery in UIE.

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 CO_2 (-eq) emissions continue to come from the burning of fossil fuels.

Palm oil on the other hand, accounts for 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 2021. The updated 2021 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.

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 1.53 kg CO_2 -eq emissions per kg. NBD oil in 2020 to 1.47 kg CO_2 -eq emissions per kg. NBD oil in 2021 including indirect land use change (iLUC) and nature conservation. This is equivalent to a reduction of 4%, which can mainly be attributed to a reduction in the emissions from our field activities, and peat emission in particular. Moreover, this represents a substantial reduction in our GHG emissions of 61% 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.

Target 2025 completed

With this, we have 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 have 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 9 years.



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



The 2021 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. These projects combined have since helped to significantly reduce our emissions of CO_2 by 70% and CH_4 by 80% at the respective operating units thereby paving the way for additional green investments. All of our mills are now equipped with Biogas Plants since 2018. 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 2021 a total of 6,678 MWh of electricity was generated from the biogas plant and sold to the grid which is a 7% increase from 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 battery of cells are expected to generate 525 kW/ day with the option of selling electricity unutilised by the laboratory to the grid. A total of 200 MWh of renewable electricity was generated in 2021.

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.

Biomass boilers in our mills are also equipped with VORSEP dust particle minimising system, and an automatic fuel feeding system with greater energy efficiency, reduced dust emissions and a lower labour requirement.

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 2021. The average dust concentration in the flue gasses of four palm oil mills in UP's Malaysian Operation and the Indonesian mill without the VORSEP system were tabulated.

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 (Dil Mill	Average Dust Concentration (g/Nm ³)
Jendarata	- BRB 1 & 2	0.115
Ulu Bernam	- Boiler 1 & 2	0.068
Ulu Basir	- Boiler 4	0.124
UIE	- Stack 3 & 4	0.054
Lada	- Boiler 1 & 2	0.021

UP

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: -

- i) The dust concentration emitted from the stack should not be more than 0.150g/Nm^3
- ii) 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 in 2021 is monitored monthly and reported to the respective Government authorities. The summary of effluent's quality for all processing facilities of UP in 2021 is shown below. With the implementation of Biogas plant and other initiatives to reduce the BOD and COD of effluent, we aim to reduce the BOD and COD by 10% from the average of 550 and 2200 mg/L respectively by 2025. During 2022, we will also embark on initiatives to install a full scaled commercial plant to treat POME from the Optimill with the objective of reaching a BOD of <30ppm.

Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)
594	2615
478	2025
	Biochemical Oxygen Demand (BOD) 594 478

*The analysis results showed BOD and COD are far below the permissible level set by the Department of Environment of Malaysia and Indonesia.

Biomass utilisation and economic value

In 2021, a total of 767,361MT of biomass residues were generated through the various field and mill operations of the Company's Malaysian operations. Almost all of the total biomass generated (99.7%) or 764,804 MT were effectively utilised as organic matter back to the fields.

These were applied as organic mulch in the nursery or as fuel source, thereby enriching our soils and displacing the use of fossil fuels whilst enhancing the value the biomass generated.

Our Indonesian operations generated a total of 154,286MT of biomass dry matter in 2021. Even though the quantum is lesser than what is generated in Malaysia, a very high proportion of these biomass (152,797 MT or 99.0%) was utilised through recycling in the field or as a green energy source with all the added benefits to the environment. The slightly lower rate of biomass utilisation in Indonesia was due to requests of biomass from the surrounding community.

We encourage the biomass utilization as part of our nutrient recycling programme. This is in line with our Environment and Biodiversity Policy which demonstrate our commitments to minimize the chemical use, pesticides as well as fertilizers in our operations.

The similar commitments apply to our FFB suppliers where we educate our suppliers on the Best Management Practices in managing oil palm plantations during our annual Smallholders' Field Day.

Malaysian Operations (Dry Matter Basis)	Quantity Produced (MT)	Quantity Utilised (MT)	% Utilisation	Method of Utilisation
Trunks and fronds at replanting	126,396	126,396	100	Mulch
Pruned fronds	352,346	352,346	100	Mulch
Spent male flowers	33,879	33,879	100	Organic matter recycled on land
Fibre	78,043	78,043	100	Fuel & mulch in nursery
Shell	46,603	46,603	100	Fuel & mulch for polybag seedlings
POME	34,095	31,538	93	Biogas generation, nutrient source, field irrigation and base for organic fertiliser production
EFB	95,999	95,999	100	Mulch and Fuel
Total	767,361	764,804	-	-
		Level of u	tilisation = 99.7%	

Indonesian Operations (Dry Matter Basis)	Quantity Produced (MT)	Quantity Utilised (MT)	% Utilisation	Method of Utilisation
Trunks and fronds at replanting	-	-	-	-
Pruned fronds	88,348	88,348	100	Mulch
Spent male flowers	8,495	8,495	100	Organic matter recycled on land
Fibre	18,177	18,115	100	Fuel & mulch in nursery
Shell	11,186	10,603	95	Fuel & mulch for polybag seedlings
POME	6,058	5,604	93	Biogas generation, nutrient source, field irrigation
EFB	22,022	21,632	99	Mulch and Fuel
Total	154,286	152,797	-	-
		Level of u	tilisation = 99.0%	

Fertilizer Equivalent and Monetary Value of Oil Palm Biomass Residues Recycled on Land in UP in 2021

		Walaysian	operations			
	Quantity Fertiliser Equivalent (MT)					
Biomass Residues	Method of Utilisation	Utilised on Dry Basis (MT)	Urea	Rock Phosphate	Muriate of Potash	Kieserite
Trunks & fronds						
at replanting	mulch	126,396	1,580	531	2,033	969
Pruned fronds	mulch	352,346	7,943	2,584	6,718	4,398
Spent male flowers	organic matter	33,879	1,090	722	2,005	1,040
EFB	mulch	42,185	734	309	2,039	469
Digested POME	biogas generation & irrigation	31,538	1,097	694	1,724	1,262
Total (M	T)	586,344	12,444	4,840	14,519	8,138
Monetary	value (RM)		15,720,901	1,500,262	16,115,493	5,167,183
Total monetary value RM37,503,839						

Malaysian Operations

Indonesian Operations - Lada and Runtu estates

		Quantity		Fertiliser Equ	ivalent (MT)	
Biomass Residues	Method of Utilisation	Utilised on Dry Basis (MT)	Urea	Rock Phosphate	Muriate of Potash	Kieserite
Trunks & fronds at replanting	mulch	-	-	-	-	-
Pruned fronds	mulch	88,348	1,992	648	1,685	1,103
Spent male flowers	organic matter	8,495	273	181	503	261
EFB	mulch	21,632	376	159	1,046	240
Digested POME	biogas generation & irrigation	5,604	195	123	306	224
Total (M	T)	124,079	2,836	1,111	3,540	1,828
Monetary	value (RM)		4,212,651	592,728	4,950,376	1,476,276
	Total mone	etary value RM	[11,232,031			

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 2021, the total organic matter recycled on land in UP amounted to 586,344MT of dry matter which is equivalent to 340,080MT of carbon. The annual rate of recycling organic matter is close to 16MT or close to 9MT of carbon to each hectare of land, 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 39,941MT of NPKMg fertiliser which in itself has a monetary worth of RM37.50 million at the prevailing 2021 fertiliser prices.

For our Indonesian operations, a total of 124,079MT of biomass was recycled back onto our plantation land. This is equivalent to adding 71,966MT of organic carbon to enrich the land which on a hectare basis is akin to returning 15MT of organic matter or over 8MT organic carbon to the land.

On the more sandy soils in Indonesia such inputs will have a significant benefit on improving long term soil health as the soil carbon status improve over the years. The nutrient content in these recycled biomass is equivalent to 9,315MT of inorganic NPKMg fertilisers, with a value equivalent to RM11.2 million at 2021 prices.

Triple rinsed plastic pesticide containers (MT)							
	2021	2020	2019				
Malaysian operations	12.9	14	17				
Indonesian operations	1.0	1.4	1.4				
Spent lubricants	s (lit)						
	2021 2020 2019						
Malaysian operations	38,712	51,167	41,661				
Indonesian operations	5,060	4,677	3,760				

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

The waste managers will either safely recycle these items or dispose of them in accordance with government

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.

Waste Management

pieces)		
2021	2020	2019
68	107	159
0	11	18
s (pieces)		
2021	2020	2019
3,934	4,936	4,888
	pieces) 2021 68 0 s (pieces) 2021 3,934	pieces) 2021 2020 68 107 0 11 s (pieces) 2021 2021 2020 3,934 4,936

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. We continue doing our part to mitigate climate change, while identifying risks and opportunities to build resilience for our business.

In this respect, the climate-related transition and physical risks analysed are in alignment with the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations. Some of the climate-related risks identified as per the table below may have substantial financial or strategic impacts on our business.

Transition Risk

managers.

regulations.

Types of transition risks	Risks	Opportunities	Challenges	
 Current and emerging regulations Adhering to existing and new rules and regulations on emissions or climate change mitigations. 	Higher compliance costs (additional costs associated to carbon pricing, taxes imposed on fossil fuels, etc) Failure to comply with new regulations which restrict emissions or promote climate-change adaptation.	Low carbon footprint operations will significantly reduce the operational costs arising from increasing carbon prices and the dependence on non- renewable fuels.	Significant investments needed to meet new requirements.	
 Technology Innovative technology to optimise efficiency of production. 	New processing methods and technology lead to different waste output and environmental impact. Increasing costs associated with conventional systems that are energy inefficient.	New innovative technology and circular economy solutions could bring about efficiency in energy usage and resilience in the use of natural resources.	High costs associated with the advancement of new technology to reduce carbon footprint. Availability of new proven technology to continuously reduce carbon footprints.	
Market Increasing consumer awareness on climate change and expectations to manage climate-related impacts. 	Failure to comply with increasing customer expectations and requirements insofar as low carbon products is concerned.	Benign low footprint products could give access to markets and customers with strict carbon emissions regulation and requirements.	Reduced pool of compliant suppliers. Reduced demand for commodities that fail to meet market expectations.	
Reputational Increased scrutiny from non- governmental organisations (NGOs) and consumers.	Reputational risks as stakeholders are increasingly focusing on the companies' carbon footprint and plan to manage climate risks.	Improved environmental score and reputation could lead to new opportunities with conscious customers.	The industry as a whole must raise the bar or all companies risk being painted with the same brush regardless of individual efforts.	

Physical Risks

Types of physical risks	Risks	Opportunities	Challenges		
Acute • Temperature change and increase frequency of extreme weather events such as floods and droughts.	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.	Safeguard operations by ensuring that emergency response teams are prepared to deal with fire and flood during drought and flood seasons.	Peat areas possess high risk of fire outbreaks during drought seasons and maintaining adequate water levels is therefore crucial.		
ChronicRising sea levels.	None of our properties are located close to the coast and therefore the risk of rising sea levels is deemed relatively low.	Develop mitigation plans to address the risk of rising sea level, and identify alternative water sources and water retention facilities to increase operational resilience.	Significant cost associated with establishing additional water retention facilities.		



A water storage pond on Jendarata Estate, where we amongst others, harvest every rain water for storage and use.

Water Management

Water management is particularly important on the acid sulphate and peat soils. These soils are fragile and if over drained, they will rapidly deteriorate. On the acid sulphate soils, the water level should be maintained up to the jarosite layer, submerging the pyrite (FeS2) and preventing it from oxidising to sulphuric acid, which can cause a steep drop in the 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 the average, one weir is provided for every 40 to 60 hectares or every 600-1000 m 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 minimize the risk of fire, as well as to be on high alert with firefighting equipment, in case of fire outbreak.

Water Impacts

Relates to UP's measure to preserve and protect water ways and manage the use of water throughout our organisation. UP fully appreciates that much more can be done in terms of water productivity. 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.

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 use of water (evapotranspiration) of these crops ranges from 120-150 mm per month. To meet requirements, 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 the 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 manager, 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 residence to be frugal on its usage. Old water pipes, water tanks, 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 increase in the water consumption in 2021 is mainly due to more dependents staying at home during the enforcement of Movement Control Order (MCO) by the Governments of Malaysia and Indonesia to mitigate the Covid-19 outbreak.

Domestic Water Consumption (gallons per capita per day)	2021	2020	2019
Malaysian operations	77	73	69
Indonesian operations	84	77	71

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 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. We aim to reduce our mill water consumption by 10% from the average of 1.6 MT water/MT FFB processed by 2025.

Mill water consumption (MT water/MT FFB processed)	2021	2020	2019
Malaysia operations	1.5	1.7	1.7
Indonesia operations	1.2	1.1	1.4

Pesticides and Chemical Usage

Conducting our operations under the best principles of agriculture and to reduce chemical and pesticides usage thereby minimising the impact to the natural environment.

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. 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.

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. In the tropics crop losses can reach as high as 75%.

Careful use of pesticides can deliver substantial benefits for our society through 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 minimize 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.

Our commitment towards continuous improvements has resulted in minimizing 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 4-6 times lower per tonne of oil produced compared to Rapeseed and Soybean farmers and about 30-40 times lower compared to Sunflower growers.

Establishing Beneficial Flowering Plants

A total of 288,868 broadleaf flowering plants have been planted in our Malaysian and Indonesian plantations encouraging parasite and predator activities which is a vital part of our IPM programme.

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.

	Malaysia	Indonesia	
Cassia cobanensis	- 42,302 planted	- 16,352 planted	
Tunera subulata/ulmifolia	- 115,037 planted	- 82,216 planted	
Antigonon leptosus	- 14,894 planted	- 113 planted	
Carambola sp	- 3,554 planted	- 10 planted	
Others	- 5,756 planted	- 8,634 planted	
Total	181,543 planted	107,325 planted	

Surveillance and Monitoring of Pest Outbreaks

The key to minimising both the economic impact of pest and environmental impacts from excessive use of pesticides is by regular surveillance and monitoring. 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 is 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

United Plantations Palm Oil (Malaysian Operations*)			Soybean**	Sunflower**	Rapeseed**	
	2021	2020	2019			
Pesticides / Herbicides (kg per MT oil)	0.76	0.76	0.70	3.95	28	3.73

*Includes palm oil+palm kernel oil (UP, 2019-2021 - Malaysian operations) **Data from FAO, 1996- Pesticide data for soybean and rapeseed updated in 2007/9 and 2010 respectively yield. 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, 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 ratcontrollers 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 cobra (*Naja sumatrana*) and water monitor lizards (*Varanus v. salvator*).

Monocrotophos phased out completely

In 2020, we have successfully phased out monocrotophos, which is a key milestone. Concerted efforts to source and evaluate alternatives for the Class 1A insecticide, monocrotophos, 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 Agrosciences (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. 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 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 key milestone 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 product. Nonetheless, bagworm is an endemic pest in Lower Perak and the Federal Government has gazetted this as a "Dangerous Pest" on 15the November 2013. It is an offence under the Plant Quarantine Act 1976 if this

United Plantations Palm Oil (Indonesian Operations*)			Soybean**	Sunflower**	Rapeseed**	
	2021	2020	2019			
Pesticides / Herbicides (kg per MT oil)	0.26	0.15	0.10	3.95	28	3.73

*Includes palm oil+palm kernel oil (UP, 2019-2021 - Indonesian operations) **Data from FAO, 1996- Pesticide data for soybean and rapeseed updated in 2007/9 and 2010 respectively
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 288,868 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.

dangerous pest is left without any control and can be fined 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 in an attempt 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 extended its service to the neighbouring plantations the use of its airstrips for aerial bagworm control and also 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 below, 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 on the resource utilisation efficiency of the oil palm crop. Pesticide usage in 2021 was similar to 2020 level in the absence of extreme weather patterns. Direct fossil fuel energy consumption was similar in 2021 in comparison to 2020 where the dilution effect of the higher crop was countered by enhanced replanting in the newly acquired property.

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 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.

Our use of biological insecticides is as recorded below although the quantity used is also dependent on the palm age where pest outbreaks occur. In 2021 more older palms were infested which is less amendable to spraying with biological insecticides.

Quantity (kg) of Bacillus thuringiensis	2021	2020	2019
Malaysia operations	0	0	90
Indonesia operations	0	0	0

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

	Per tonne oil basis							
Input	Oil Palm*			C l **	C**	Decession d**		
	2021	2020	2019	Soybean	Sunnower	Kapeseed		
Fertiliser nutrients								
Nitrogen (N-kg)	15	19	21	315	96	99		
Phosphate (P ₂ O ₅ -kg)	9	8	10	77	72	42		
Potash (K ₂ O-kg)	43	43	47	NA	NA	NA		
Magnesium (MgO-kg)	6	7	8	NA	NA	NA		
Pesticides/Herbicides (kg)	0.76	0.76	0.70	3.95	28	3.73		
Energy (GJ)	0.56	0.55	0.59	2.90	0.20	0.70		

includes palm oil + palm kernel oil (UP, 2019-2021 - Malaysian Operations)

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



Safe handling is a priority when using pesticides.

Mowing of Harvesters' Paths

Blanket weeding is discouraged, soft weeds with shallow root system which do not grow to excessive heights are encouraged outside the weeded palm circle. Harvesters' paths are mowed. This practice maintains a flora which is favourable to natural enemies of crop pests and reduce soil loss.

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

In the wet tropics, weed species rapidly cover the ground and if left unchecked, will encroach into palm circles to 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 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.

Whilst the introduction of Indaziflam has enabled us to reduce the number of herbicide rounds by 50%, our overall usage per hectare has gone up over the last three years due to an increase in the percentage of mature oil palm fields requiring more herbicide spraying vis-à-vis immature fields.

Herbicide usage (kg a.i/ha)	2021	2020	2019
Malaysia operations	4.13	3.84	3.30
Indonesia operations	1.33	0.81	0.54

Calibration for Pesticide Application Equipment

The Company engages the services of equipment suppliers to regularly monitor the calibration of the equipment to avoid application error (under and over applications) and safety to operators. 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 refinery. It 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 the usage of rodenticides.

Biological pest control of rats

Rats thrive in the oil palm ecosystem with an abundance of food source (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*), padi field rat (*Rattus argentiventer*) and the house rats (*Rattus rattus diardii*).

With its prolific reproductive rate, whereby a sexually mature female could 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 predates 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. 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 disc. 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, skulls are regurgitated out. Barn owl population in tandem with preys' availability can be expanded in the plantation by construction of 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 optimize its' occupancy.

At United Plantations, the barn owl is the first line of defence against this serious pest. Where owls could not 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/PTSSS 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; 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 at.,2007). Field observations demonstrate there is a negative relationship between cat numbers and rat population, with high abundance of cats associated with low rat numbers and vice versa (Silmi et al.,2013)

Barn Owl Data	2021	2020	2019
Total Boxes	2,707	2,717	2,489
Total Area Under Owl (Ha)	32,624	32,603	31,500
Box to land ratio in Scheme	12.05	12.00	12.66
% Occupancy in Scheme	45.33	48.58	52.35
Total Planted Area (Ha)	33,033	34,158	34,226
Box to land ratio over Total Planted Area	12.20	12.57	13.75
Rodenticide ai/planted Ha (kg/Ha)	0.006	0.0006	0.0011

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. Leopard cat population in the study area declined in 2019 and 2020 and studies are continuing to determine the cause of decline in these two years.

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 a 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 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 will be conducting a series of community workshops to educate our local communities about the environmental and social consequences of slash-andburn farming, as well as to promote alternative methods of land clearance.

Our goal is the total eradication of fire as a means to clear land by the local communities. This year thankfully there was no severe drought in Indonesia.

To further enhance the fire patrol, four additional fire watch towers were constructed at strategic points and purchased additional six units of GPS devices.

There were some isolated fire incidents which burnt approximately 1.06 Ha within our Plasma area(inner ring) and 13.2Ha at the outer ring adjacent to our concession. However, the fire was immediately extinguished by our ERT in PTSSS.

Hectares Burnt in Fires

	2021	2020	2019
Non Planted	0	0	13.28
Planted	0.05	1.06	3.22
Total	0.05	1.06	16.50

Outer Ring Range of ≤500 m

	2021	2020	2019
Outer ring ≤500 m (Ha)	0.004 *Community oil palm area neighbouring Lada	13.2 *Grassland in outer ring of Kumai	96.75 *95Ha in the outer ring of Arut



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

Harvesting of tall oil palms remains a manual task requiring much skill and dexterity.

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

Sdn. Bhd.

Sdn. Bhd.

Total

PT SSS1, Indonesia

Butterworth Bulking Installation

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 2018 to 2021 2021 2020 2019 UP Bhd 4,217 4,550 5,169 Unitata Bhd. and UniFuji 291 291 304

1,227

5,735

14

1,243 6,098 16

1,355

6.844

Summary of our Group's employees gender mix

	UP Indonesia (PT SSS)	UP Malaysia	UP Group
Percentage Female Employees	22.71%	11.04%	13.53%
Percentage Male Employees	77.29%	88.96%	86.47%

Category of Employees (Malaysian) as at 31 December 2021

		0,	/		× ,	- /				
Employee Classification	Ge Class	ender ification	Age	Classificat	ion		Ethnic Classification		Total	
	Male	Female	18-30	31-50	>50	Malay	Chinese	Indian	Others	
Directors	1	-	-	-	1	-	1	-	-	1
Management	110	21	14	82	35	26	24	79	2	131
Staff	184	138	68	148	106	82	6	229	5	322
Workers	505	319	188	369	267	205	-	614	5	824
Total	800	478	270	599	409	313	31	922	12	1,278

Category of Employees (Other Nationalities) as at 31 December 2021

		0,		<u>``</u>			/				
Employee Classification	Clas	Gender sification	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	13	4	2*	18	-	-	-	20
Staff	41	12	12	40	1	-	52	-	-	1	53
Workers - PTSSS	888	263	315	745	91	-	1,151	-	-	-	1,151
Guest Workers - Malaysia	3,211	20	977	2,174	80	4	473	10	680	2,064	3,231
Total	4,159	298	1,307	2,974	176	8	1,694	10	680	2,065	4,457
* Danish & British										Grand Total	= 5,735



Demonstration on sustainable practices and integrated pest management to the Ambassador and Head of the EU Delegation to Malaysia, His Excellency, Michalis Rokas.

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 in line with its anti-corruption drive has announced that 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 minimize 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 familiarize 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 anticorruption 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

As the world develops, 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 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. To that end, 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. During the year, a key part of this journey has been to understand the ILO's 11 forced labour indicators highlighted in the flywheel below, which 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 and that 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".



One of our dedicated guest worker from India who have served UP for 7 years. In UP, we currently employ 3,231 guest workers from Bangladesh, India and Indonesia.



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.

At a country level, it is pleasing to note that further steps have been taken by Malaysia to eradicate forced labour by agreeing to ratify the ILO's Forced Labour Protocol (P29) in November 2021. P29 tackles issues that are relevant to Malaysia and emphasizes prevention and suppression of trafficking and forced labour, protection of victims, and improving their access to legal remedies. 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 2022. This includes the three forced labour indicators that are directly related to the process of recruiting migrant workers, i.e. deception and abuse of vulnerability leading to debt bondage, which will be covered in more details 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 – a human and social 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 detailed and information on our human rights policy.

Guest Workers Policy

According to a recent study by the ILO, international migrant workers constitute an estimated 169 million people and are an integral part of the world economy. 66% of these are employed in service sectors, 27% in industry and 7% in agriculture, including many Western agricultural sectors, e.g. in Germany, France and the USA who are heavily dependent on migrant workers and cannot function without these hard-working individuals. For origin countries, remittances received, however, also increase national savings, promoting investment and general economic well-being, and "on an individual level, migration allows workers to achieve a higher standard of living and increase the well-being of their families left behind through income transfers", in the words of the ILO.

The Malaysian Plantation sector too remains reliant on foreign labour taking up about 70-75% of the industry's labour requirements 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.



Source: ILO Global Estimates on International Migrant Workers – Results and Methodology – 2021.



One of our Bangladeshi guest workers harvesting an Elite oil palm produced at UPRD demonstrating a good number of bunches even in the low cropping month.

In UP we have 3,231 guest workers – mainly from Bangladesh, India and Indonesia - who 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 has become a hot topic that has escalated exponentially in 2021 through numerous reports and media articles on particularly the corrupt practices of undisclosed middlemen as part of the migrant workers' recruitment process.

Ethical Recruitment Practices

In light of this, it has become evident that the fees migrant workers pay to unscrupulous middlemen to secure a job abroad can be way in excess of the statutoryand 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 migrant workers from potentially becoming victims of debt bondage.

In this connection, we have conducted an internal assessment and interviews of our guest workers, and extensively deliberated on various guidelines and studies on migrant 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 new findings and risks, through close collaboration with Verité and key customers, we have therefore decided to proactively incorporate ethical recruitment and employer pay principles in our updated Guest Worker Policy, effective 31st December 2021.

With this, we commit to minimize risks of exploitation and debt bondage thereby ensuring that our guest workers are recruited fairly and ethically, and that all reasonable and legitimate costs incurred by the worker during our recruitment processes are covered by UP.

We are also in the midst of finalising a remediation and compensation plan in acknowledgement of the findings from our recently finalised investigation, suggesting that past practices were not sufficient given what we know today. This will help provide remediation to our guest workers for the unscrupulous procedures many of them have been exposed to in their respective home countries during the recruitment process.

With this in mind, we have tried to identify a repayment plan that is reasonable, fair and practical, and with this we acknowledge that appropriate repayment of past recruitment practices plays an important role towards establishing sound policies going forward.

On top of this, 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.

Finally, whilst waiting for the Malaysian Government to re-open the recruitment avenues for guest workers and release their updated recruitment procedures and MOUs with respective source countries, we have established an in-house toll-free call centre to act as a bridge between the workers from villages to the main accredited recruiting agents. 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 migrant workers in exchange for a job.

The call centre, which is manned by people who speak the local languages, will clarify the overall recruitment process, do's and don'ts for the interested workers, as well as the job scope at the plantation.

Although it is still early days, we are already hearing positive feedback from prospective guest workers who are made aware of their rights, entitlements and watch-outs upfront, through clear communication and expectation setting.

Something which also fosters the development of inhouse learning and potentially could improve the public knowledge base on international labour migration and thereby help promote effective and efficient recruitment policies.

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

In the spirit of shared responsibility, we have proactively approached and updated our key customers on all the above and held several meetings to discuss our views and commitments, and to highlight the importance of participating in minimizing risks of forced labour.

The forced labour issue is a challenge that demands action by actors across the supply chain, and it is our firm belief that ethical recruitment and investments in risk mitigating tools is the only right way forward, which most importantly will benefit our guest workers, but also UP and our customers all over the world.

For more information on our Guest Workers Policy, please refer to our website as follows: https://unitedplantations. com/policies/

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 RM2,204 which includes productivity incentives and overtime. The minimum wage set by the Malaysian Government in 2021 was RM1,200. 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 IDR3,459,936 which includes productivity incentives and overtime.

The minimum wage set by the Indonesian Government in 2021 was IDR3,047,533. The average earnings per workers per month are reflected in the table below.

Earnings	2021	2020	2019
Total Average Earnings per worker per month – UP Group Plantations (Malaysia)	RM2,204	RM1,894	RM 1,625
Total Average Earnings per worker per month - UP Group (Indonesia) - Permanent Workers	IDR3,459,936	IDR3,423,246	IDR 3,561,489
Total Average Earnings per worker per month - UP Group (Indonesia) - Temporary Workers	IDR3,205,956	IDR3,279,475	IDR 2,968,447

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.

Meanwhile we are adhering to the national Minimum Wage Order however we are also conducting the prevailing wage assessment as per the RSPO Prevailing Wage Calculation Guidance.

Furthermore 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.

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	2021	Total number of guest workers (%)
Total number of guest workers	3835	100.00
Repatriation	638	16.64
Gone on leave	266	6.94
Gone on leave and returned	166	4.33
Gone on leave and didn't/ couldn't return	100	2.61

During 2021, 638 guest workers were repatriated upon completion of their employment tenure. Another 266 guest workers went back on leave to their respective home countries but only 166 managed to return.

Freedom to form a Union

Our staff and workers have the right to form and become members of labour unions on a voluntary basis and they are through these unions 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)	2021	2020	2019
% of staff as mombars of All Malayan	-		
Estates Staff Union (AMESU)	74	74	74
% of workers as members of National Union of Plantations Workers (NUPW)	17	15	15
% of workers as members of Food Industry Employees'Union	52	56	39
UP Group (Indonesia)	2021	2020	2019
% of workers as members of Union*	5	6	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, especially our employees. All requests, complaints, grievances, consultations for internal stakeholders are lodged in a standard template called Stakeholders Logbook.

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

We have also established an in-house toll-free helpline to deal with 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.

Request and Grievances	Malaysian Operations	Indonesian Operations
Housing repair	426	113
Request for leave/repatriation	904	Not applicable for local Indonesian workers in PTSSS
Human rights related matter	0	0
Land dispute	0	0
Others	3*	0

* Pricing of groceries at our Estates' sundry shops.

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 2021 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 personalised 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.

Social Commitments of the Group	2021 RM	2020 RM	2019 RM	Grand Total RM
Hospital & Medicine for Employees, Dependents & Nearby Communities	2,828,114	2,464,774	2,443,905	7,736,793
Retirement Benevolent Fund *	486,202	692,500	460,656	1,639,358
Education, Welfare, Scholarships & Other	314,887	247,273	323,408	885,568
Bus Subsidy for School Children	88,312	132,354	169,244	389,910
External Donations	307,835	539,806	119,735	967,376
New Infrastructure-Road, TNB and Water–Supply for domestic use	197,401	1,138,072	1,510,388	2,845,861
Employee Housing	10,149,666	6,828,433	4,510,135	21,488,234
Infrastructure Projects, Buildings, Community Halls, Places of Worship	1,963,058	584,829	1,678,719	4,226,606
Provision of Social Amenities	6,109,270	5,416,182	5,975,262	17,500,714
Total	22,444,745	18,044,223	17,191,452	57,680,420

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



One of our Medical Assistants, Mr. Soor Narayanan, on his daily rounds at the Group Hospital in Jendarata. We ensure good hygiene and sanitation in accordance with public health regulations under the supervision of the company's Visiting Medical Officer and his staff.

Places of worship, Group Hospitals & Clinics and an Old Folks' Home to care for the aged and the homeless as well as a fully operational Danish Bakery as part of our care and commitment towards the wellbeing of our employees.

In addition, 17 scholarships were granted to children of our employees during 2021 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.

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

We are committed to securing the safety and health of all our employees and strive to maintain a safe and healthy working environment for our employees, contractors, visitors and local communities throughout our operations.

This is of paramount importance for all our employees and our respective Managers/Heads of Departments are responsible for implementing and complying with this policy.

For further details on our Occupational Safety and Health Policy, please refer to our website, www. unitedplantations.com/sustainability/.



A tanker of processed and refined oils is safely and carefully inspected before leaving Unitata.

During 2021, we are pleased to inform that there were no occupational related fatal accident within our Malaysian operations. However, our Indonesian operations regrettably experienced one fatal accident due to a harvesting related injury. Such an accident is most unfortunate and our hearts go out to their bereaved family for their loss.

The Group is determined to continue to mitigate all safety risks through robust safety programmes and preventive intervention.

In this connection we will further improve and continue our regular in-house training programmes combined with impromptu safety audits in our mills, estates and refineries through our"Reach and Teach" and "Reach and Remind" initiatives.

In line with our approach of preventive measures as a way of providing safe workplaces, we also continuously

Fatal Accident Rate (FAR per 1000 employees)

	1	1) /	
	2021	2020	2019
Malaysian operations	0	0.39	0.56
Indonesian operations	0.75	1.41	0

conduct HIRARC on all our operations to raise the level of awareness on safety.

Since 2020, the Company has established a dedicated Safety Division with 6 Safety Officers under the Human Resources, Sustainability and Safety (HRSS) Department to strengthen our commitment.

Our common goal on safety must be "one accident is one too many", whilst we are still far from that goal, it is indeed pleasing to see that our investment in heightened safety standards is starting to pay off as illustrated by the significant drop in LTIFR during 2021 as seen below.

In 2021, more than 50% of accidents involved harvesting operations (thorn pricks, debris falling into eyes, cutting stalk, fronds falling on body) while the balance were commuting accidents, workshop, fall from height, factory operations, tractor and lorry related, slipped and fall and general works related.

Lost Time Injury Frequency Rate	(LTIFR per million hours worked)
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	2021	2020	2019
Malaysian operations	5.02	8.31	8.27
Indonesian operations*	87.41	117.20	148.63

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

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 has engages -both formal and informal 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 states 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 the standard 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 Manager or Head 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:



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/sustanability/.

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

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.

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 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 and there is no pending land dispute case as of to-date.

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 that provide an optimal balance between community, commercial and conservation interests.

At United Plantations, we recognize 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 of the business units within our operations to discuss and collate their feedback on the Social and Environment Impact Assessment (SEIA). Our SEIA which is reviewed annually with the participation of stakeholders.

On a broader note of partnership, we are collaborating with Copenhagen Zoo on biodiversity conservation, Verité on human rights strengthening programme as well as engaging Professor Jannick from Denmark on the Life Cycle Analysis (GHG).

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

Plasma Schemes and Smallholders

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

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.

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 selfmanagement. 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 2021, 1,364 Ha of Plasma have been developed for 845 Plasma Scheme smallholders and another approximately 150-200 Ha is expected to be provided and developed for the communities surrounding the Company's properties in 2022.



The Jendarata Junior Football players in the making, joyfully enjoying a game of soccer.

Smallholders' Field Day

Oil palm smallholders have a critical role in helping us achieve our sustainability goals, they are part of the supply chain providing an estimated 40% of world 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 2021 was deferred until the situation of COVID-19 is normalised.

At the last Smallholder's Field Day which was held on 16th November 2019, we invited 150 smallholders from local districts to visit our plantations to get a better understanding of good agricultural practices, sustainability initiatives and environmental protection.

134 smallholders attended the Smallholders Field Day and they were 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 were also carried out to further enhance the awareness of neighbouring smallholders in case of fire incidence and were informed to contact UP for emergency assistance in the case of such incidences We also invited Malaysian Palm Oil Board (MPOB) to provide briefing on the Good Agricultural Practices (GAP) as per their GAP Manual and MSPO certification for smallholders.

Food Security

According to 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 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 some 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.





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
- High Conservation Value, High Carbon Stock Assessments and its Management & Monitoring Plans
- ISO9001:2008, 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 61% between 2004 and 2021, thereby reaching our original target of 60% reduction four years early. Our new target for 2030 is to reduce carbon footprint per metric tonnes of NBDPO produced by 66%.

Another example is, individual passport lockers have been constructed in all Estates for the voluntary safekeeping of our guest worker's passports and personal documents with 24 hours access.

We have also established an in-house toll-free call centre to facilitate communication with potential guest workers via the "workers recommend workers programme". Our dedicated call center officer contacts potential guest workers to minimise risks of excessive recruitment fees being charged to workers by to sub-agents or other third party intermediaries in the beginning of their recruitment journey. The proactive step of establishing contact with the potential guest workers prior to their recruitment journey is important to minimise the exploitation taking place from the villages in the source countries.

Awards and Recognitions

In 2021, we were ranked 1st out of 186 companies under the Plantations Sectoral award based on two financial performance indicators by the Edge Billion Ringgit Club:

- Highest Return on Equity over three years
- Highest Growth in profit after tax over three years

We are pleased to inform that UP also received the following awards:

- Significant Achievement in Land Use and Biodiversity from the Sustainable Business Award 2020/2021
- Best Mills in Perak in terms of Overall Environment Standards - Ulu Bernam Optimill from the Department of Environment (DOE), Perak.
- Best Practice on Management of Clean Air in Perak UIE Palm Oil Mill from the Department of Environment (DOE), Perak.

Sustainability Certifications

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. Our entire oil palm plantations in Malaysia were successfully certified in accordance with the RSPO Principles and Criteria on 26 August 2008 thus becoming the world's first producer of certified sustainable palm oil. UP's role regarding the RSPO remain one of being active and in this connection, we are pleased to state that our Company was one of the initial palm plantations signatories to the RSPO in 2004.



Awards received from the Edge Billion Ringgit Club for the Highest Return on Equity over three years and the Highest Growth in profit after tax in three years.

UP

Shortly after the establishment of the RSPO, UP was a part of the initial stakeholders group involved in developing the principles and criteria to define sustainable palm oil.

In addition, our CED, Dato' Carl Bek-Nielsen is the Co-Chairman of the RSPO Board of Governors today 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.

Our 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 227,000MT of palm oil and 45,500MT of palm kernels in 2021 for our Malaysian and Indonesian operations.

For our Indonesian operations, UP/PTSSS have successfully obtained the certificate for the entire *HGU area of 6,717.62 Ha in December 2019. 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.

(*HGU refers to the certificate on land cultivation rights title issued by the Government of Indonesia)

For our Plasma scheme smallholders, the full certification is expected by 2023 subject to the issuance of individual land certificates by the local government.

In 2021, all of our estates and mills except our newly acquired plantation, Tanarata Estate have been successfully certified against the new RSPO Principles and Criteria 2018 which demonstrate a stringent compliance on No Deforestation, No New Planting on Peat regardless its Depth and No Exploitation of Workers and Local Communities (NDPE). Tanarata Estate is anticipated to conduct the RSPO Scope Extension Assessment before the end of 2022 (within three years from the date of acquisition i.e August 2019).

Supply outpacing RSPO certified demand

Whilst it is commendable that approximately 19% 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 8,713,872MT or 64.6% of the supply volume of 13,489,144MT in 2021, thereby outpacing demand.

The RSPO certified oil not purchased will still end up in the supply chain without being sold as certified sustainable palm oil. The oil will be downgraded to conventional palm oil which send 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 2021.

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.

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.

We are pleased to announce that all of our mills and estates in Malaysia have successfully obtained the MSPO Certificates in September 2018. We also anticipate to conduct and complete MSPO Scope Extension Assessment for our newly acquired plantation, Tanarata Estate by 2021.

The documentations in compliance with MSPO requirements have been completed and good progress has been made in the upgrades of the infrastructures including stores and employee accommodation which are scheduled to be completed in first six months of 2022.

Indonesian Sustainable Palm Oil (ISPO) Certification

The Indonesian Government established a mandatory certification scheme in 2011, namely the Indonesian Sustainable Palm Oil Principles & Criteria (ISPO) to ensure that all producers within a few years will have to live up to certain standards when operating in Indonesia. We are pleased that we have 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 ongoing.

Sustainable Palm Oil Transparency Toolkit (SPOTT)

UP participates in the Sustainable Palm Oil Transparency Toolkit (SPOTT) assessment conducted by Zoological Society of London (ZSL). SPOTT is designed to measure 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 key objectives of the SPOTT assessment are to promote industry transparency and accountability to drive the uptake and implementation of environmental and social best practices in high biodiversity impact sectors. United Plantations Berhad maintains an active engagement and commits to collaborate with the Zoological Society of London (ZSL) in the progress towards improving sustainability reporting and enhancing a greater transparency. Our current status on SPOTT assessment as of November 2021 is 86.2% resulting in UP being ranked as number 6 amongst the over 100 assessed Global Oil Palm Producers and Traders.

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



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.



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:

- U pholding the name and reputation of UP as a top producer of premium quality palm products.
- N urturing a diligent work force who takes pride in contributing to the development of the Company.
- I nitiating and innovating positive, progressive work ethics, methods and incorporating a winning culture.
- T raining of personnel is the key to upgrading our skills and keeping in trend with the marketplace.
- E nsuring that only high quality palm products are produced, to the satisfaction of our customers' needs
- D elivering decisive efforts in Research and Development to continuously improve our working methods, efficiency and product quality.

LOW 3-MCPD, Glycidyl Esters and MOSH & MOAH

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 (μ g/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.

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.



Certified sustainable and traceable specialty fats products are packed under stringent hygienic conditions in our state-of-the-art filling plant at Unitata.



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.



Bottling of Final Touch - high-quality cooking oil - at Unitata Berhad.

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.



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 (PTSSS)	81.25	18.75	100

The location of UP owned mills is tabulated below:

Name of	GPS C	Coordinates
Mills	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 (PTSSS)	S 2°35′24″	E 111°46′16″

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

Name of FFB	GPS Coo	ordinates
Suppliers	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 2021.

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 2021 is summarized in the below chart:



	0	(%)	
Own POM (Certified)	Third party POM (Certified)	Indirect Mill (KCP) (Conventional)	Refinery / Trader (Conventional)
59.15%	6.88%	28.61%	5.36%

Origin of raw material sourced at Unitata Bhd.

From this, it can be seen that the RSPO-certified percentage of all palm oil products handled/traded/ processed (tonnes) is 66.03% (59.15% + 6.88%).

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
	own mills (4)	100%	own mills (4)	100%
CPO	third party mills (3)	100%	third party mills (3)	100%
	own mills (4)	100%	own mills (4)	100%
PK	third party mills (4)	100%	third party mills (4)	100%

As at 31 December 2021, total CPO and PK supplying mills is 9, consisting of 4 owns mills and 5 third party mills. The breakdown of these 5 third-party mills is as per below:

- 1 mill supplying CPO only
- 2 mills supplying PK only
- 2 mills supplying both CPO and PK

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	Number of	Number of supplying mills	Traceable to mills
material	KCPs		(%)
PK	6	100	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 2021 is as tabulated per below:

Summary of the Traceability - Unitate	3
Traceable to Plantations	66.03%
Traceable to Mill	100.00%

The percentage of derivatives sourced from intermediary traders/refiners as at 31 December 2021 is as follows:

	Refinery / Trader
Percentage	5.65%

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 2021 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
СРО	own mills (2)	100%	own mills (2)	100%

Indirect Mill Supplier:

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

This can be further summarized and illustrated as follows:



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, selfassessment questionnaires (SAQ), supplier audits, onsite 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 2022 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 highrisk based on the mentioned SAQ, we will conduct onsite 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:

Suppliers' Assessment	Upstream	Downstream (Unitata)	Downstream (UniFuji)
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 2021.



An aerial picture of the Jendarata palm oil, housing facilities and the Unitata refinery, showing our integrated sustainable value chain. In the background one can see the Bernam River sneaking its way into the Straits of Malacca.

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 supress weeds, conserve moisture and reduce erosion

UP

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

10. Tall palm harvesting



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

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

8. Insect pollination



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

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

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

14. Sterilisation



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

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

11. Fruit bunch loading



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

13. Receiving fresh fruit bunches



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

15. Digestion & screw pressing



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

UP

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

18. Renewable energy from effluent



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

20. Refining



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

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

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

REFINING

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

21. Bleaching & deodorisation



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

23. Product filling



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

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

19. Consistent incoming supply



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

22. Quality control



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

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



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Independent Limited Assurance Report to United Plantations Berhad and its subsidiaries ("the Group") on the Selected Sustainability Information for the year ended 31 December 2021 as published in the Annual Report 2021

We, KPMG PLT ("KPMG"), were engaged by the Group to provide limited assurance on the Selected Sustainability Information, the ("Subject Matter"), listed below, for the year ended 31 December 2021 as published in the Annual Report 2021 ("the Report"), in the form of an independent limited assurance conclusion as to whether the Subject Matter is in all material respects in accordance with Management's calculation methodologies and the information and assertions contained within it and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived, the ("Applicable Criteria").

Subject Matter

Selected Sustainability Information includes the following data for the year ended 31 December 2021:

1	Total average earnings per worker per month	6	Local and international certifications, and Roundtable on Sustainable Palm Oil ("RSPO") certifications
2	Lost time injury frequency rate	7	Usage of pesticides/ herbicides
3	Fatal accident rate	8	Area planted on peat (hectarage as per the peat soil map from United Plantations Research Department ("UPRD")
4	Mill water consumption in processing Fresh Fruit Bunches ("FFB")	9	Percentage of suppliers (FFB, Crude Palm Oil ("CPO"), Crude Palm Kernel Oil ("CPKO") and processed palm oil) that have been self-assessed to the key elements of UP's Responsible Sourcing Policy
5	Domestic water consumption	10	UP's Suppliers' engagement and assessment/programme to support suppliers (FFB, CPO, CPKO and processed palm oil)

The boundary of the limited assurance engagement by KPMG represents the Group's operations in Malaysia and Indonesia.

Board of Directors and Management's Responsibilities

The Board of Directors and Management of the Group are responsible for the preparation and presentation of the Subject Matter in accordance with the Applicable Criteria, and the information and assertions contained within it; for determining the objectives in respect of sustainable development performance and reporting, including the identification of stakeholders and material issues; and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived. The Board of Directors and Management of the Group are responsible for the prevention and detection of fraud and error mainly through the implementation and continued operation of an adequate system of internal control. The Board of Directors and Management of the Group are also responsible for ensuring that staff involved with the preparation and presentation of the description of the Subject Matter and the Report are properly trained, information systems are properly updated and that any changes in reporting encompass all significant business units. The Board of Directors and Management of the Group are responsible for disclosing to us their knowledge of: (i) known, actual or possible non-compliance with laws or regulations that have or may have a material effect on the Subject Matter and the Report; and (ii) allegations of or suspected fraud or dishonesty committed against the Group. The Board of Directors and Management of the Group are responsible to make available to us draft the Subject Matter and the Report and any other information timely to facilitate the completion of the engagement within the required time frame. The Board of Directors and Management of the Group are responsible for disclosing to us facts that may affect the Subject Matter and the Report, of which they may become aware during the period from the date of the assurance report to the date the Subject Matter and the Report are issued.

Our Responsibilities

Our responsibility is to carry out a limited assurance engagement and to express a limited assurance opinion based on the work performed and evidence obtained. We conducted our engagement in accordance with International Standard on Assurance Engagements ("ISAE") 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information as adopted by the Malaysian Institute of Accountants ("MIA"). ISAE 3000 (Revised) requires that we comply with the requirements of the By-Laws (On Professional Ethics, Conduct and Practice) of the MIA including independence, and implement quality control procedures that are applicable to the individual engagement in accordance with the requirements of International Standard on Quality Control ("ISQC") 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements as adopted by the MIA and plan and perform our engagement to obtain limited assurance that nothing has come to our attention that causes us to believe that the Subject Matter, in all material respects, is not prepared in accordance with the Applicable Criteria. We have complied with the independence and other relevant ethical requirements of the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) ("IESBA Code"), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. Those standards require that we comply with ethical requirements. We exercise professional judgement and maintain professional scepticism throughout the audit.

KPMG PLT, a limited liability partnership under Malaysian law and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.



United Plantations Berhad and its subsidiaries Independent Limited Assurance on the Selected Sustainability Information for the year ended 31 December 2021 as published in the Annual Report 2021

Procedures Performed

Our limited assurance engagement on the Subject Matter consists of making enquiries, primarily of persons responsible for the preparation of the Subject Matter presented in the Report, and applying analytical and other evidence gathering procedures, as appropriate. These procedures included:

- Enquiries of management to gain an understanding of the processes for determining material issues for key stakeholder groups;
- Interviews with senior management and relevant staff at group level and selected business unit level concerning sustainability strategy and policies for material issues, and the implementation of these across the business;
- Interviews with relevant staff at the corporate and business unit level responsible for providing the Subject Matter in the Report;
- Interviews with sites, selected on the basis of a risk analysis including the consideration of both quantitative and qualitative criteria;
- Identify the risks of material misstatement of the Subject Matter and the Report, whether due to fraud or error, design and perform limited assurance procedures to address those risks, and obtain limited assurance evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- Obtain an understanding of internal control relevant to the engagement in order to design procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control;
- Compare the Subject Matter presented in the Report to corresponding information in the relevant underlying sources on a sample basis to determine whether all the relevant information has been appropriately included in the Report;
- Evaluate the Subject Matter presented in the Report to determine whether they are in line with our overall knowledge of, and experience with, the sustainability performance of the Group;
- Evaluate the remainder of the Report to determine whether there are any material misstatements of fact or material inconsistencies based on our understanding obtained as part of our assurance engagement.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Inherent Limitations

Due to the inherent limitations of any internal control structure it is possible that errors or irregularities in the information presented in the Report may occur and not be detected. Our engagement is not designed to detect all weaknesses in the internal controls over the preparation and presentation of the Report, as the engagement has not been performed continuously throughout the period and the procedures performed were undertaken on a test basis.

Conclusion

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion. Based on the limited assurance procedures performed and evidence obtained, as described above, nothing has come to our attention that would lead us to believe that the Subject Matter included in the Report of the Group for the year ended 31 December 2021, in all material respects, is not prepared in accordance with the Applicable Criteria.

Purpose of our report

In accordance with the terms of our engagement, this report on the Subject Matter has been prepared for the Group and for no other purpose or in any other context.

Restriction of use of our report

Our report should also not be regarded as suitable to be used or relied on by any party wishing to acquire rights against us other than United Plantations Berhad, for any purpose or in any other context. Any party other than United Plantations Berhad who obtains access to our report or a copy thereof and chooses to rely on our report (or any part thereof) will do so at its own risk. To the fullest extent permitted by law, we do not accept nor assume responsibility and deny any liability to any party other than United Plantations Berhad for our work, for this report, or for the conclusion we have reached.

Our report is released to United Plantations Berhad on the basis that it shall not be copied, referred to or disclosed, in whole (save for United Plantations Berhad own internal purposes) or in part, without our prior written consent.



KPMG PLT (LLP0010081-LCA & AF 0758) Chartered Accountants Petaling Jaya 25 February 2022
UP

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_2eq) 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.
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