Sustainable Strategies for Disclosing Environmental Impact of the Palm Oil Industry: A Critical Genre Analysis

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ABSTRACT

The negative effects of global warming and stakeholders' demand on the effects of business activities on the environment have resulted in the publication of sustainability reports. With sustainability reports from the palm oil industry and based on the Stakeholder Theory, this article examined the extent of disclosure on the environmental impact of this industry and the discourse to present the strategies taken to address the environmental impact of the business activities. The critical genre analysis conducted on the texts reveals the generic structure of the reports and the sustainable strategies. Starting with a promotional strategy by adding slogans to the titles and subheadings, the companies reinforce their strategies to address the negative environmental impact with facts and figures enhanced with effective visuals. These strategies are believed to convince the stakeholders that the companies have taken initiatives to mitigate the negative impacts of their businesses on the environment.

Keywords: Sustainability Reports; Strategies; Environmental Impact; Palm Oil Industry

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INTRODUCTION

There is a growing concern regarding the negative effect of global warming on the environment and society particularly climate instability. The earth temperature has been recorded to rise from 0.60C to 0.90C earth temperature has between 1906 and 2006 (Arora, 2020) and has risen tremendously faster over the last decade (World Meteorological Organization, 2022) threatening the world's sustainability. The United Nations (UN) addressed the global sustainability issues by creating the 2030 Agenda for Sustainable Development with 17 Sustainable Development Goals (SDGs) which represent the world's comprehensive plan of action for creating sustainable development and transforming the world through global goals in economic, social, and environmental aspects throughout 2015 to 2030 (UNDP, n.d.).

Global warming has been contributed substantially by human activities (Arora, 2020; Kabir et al., 2023). Generally, all industries contribute to adverse environmental effects but one of the top industries with the highest impact on the environment is the plantation industry, part of the agriculture sector (GRI, n.d.) with the use of fossil fuel, deforestation, intensive farming, waste disposal and land use (Safraz, 2024). SDG 2 strives to achieve zero hunger among the world population by 2030 by promoting sustainable agriculture (OECD & FAO, 2021). As of 2017, there are still 821 million people estimated to be chronically undernourished, often as a direct consequence of environmental degradation, drought and diversity loss (UNDP, n.d.). Although the agriculture industry has contributed significantly to improve world economy, it is on the other hand increasingly recognized as having significant impacts on sustainable development particularly leaving a substantial environmental footprint adversely affecting water, land and air.

Society has become more aware of the negative effects of global warming and as stakeholders, they have demanded information on how businesses are affecting the environment (de Villiers & van Staden, 2010). Although organizations publish annual reports, not much has been disclosed on environmental issues. The Coalition for Environmentally Responsible Economies (CERES, founded in 1997) had long recognized this issue and introduced the Global Sustainability Reporting Standards (GRI Standards) (GRI, 2011) with the aim to create a globally applicable sustainability reporting framework and at the same time help organizations increase

their transparency and communicate their sustainability contributions and impacts. The Standards comprise of GRI Universal Standards, GRI Sector Standards, and GRI Topic Standards catering to all industries. The Standards are now most widely used for sustainability reporting where 73% of the largest 250 companies in the world and 67% of the largest 100 companies in 52 countries use GRI Standards for reporting (GRI Brochure 2022).

Concerns on the environmental effects of large corporations on the air, water and land as well as on the conservation of natural resources have been reported as early as the 1960s (Parmar et al, 2010). de Villiers and van Staden (2010) reported that stakeholders are interested in the effects of businesses on the environment. A review of the Stakeholder Theory provides evidence that environmental-sensitive industries need to be responsible for the environment and for the stakeholders.

LITERATURE REVIEW

Stakeholder Theory

Business used to be a simple process but in the 21st century, business involves more parties and more factors both internally and externally with customers' demographic evolving and businesses expanding into large corporations. There are more stakeholders to be accounted for resulting in the concept of Stakeholder Approach (Parmar et al, 2010) later known as the Stakeholder Theory. The theory stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. A business organization should create value for all stakeholders, not just shareholders where the long-term survival of a company depends on the support of the stakeholders, and a principal function of company's management is to handle the stakeholders' needs and expectations (Herold, 2018).

In the earlier stage of the Theory, social and environmental considerations in organizations were desirable but optional (Bouguerra et al., 2023). This has changed where the Business Roundtable 2019 set the "Statement of Corporate Purpose" as stakeholder-oriented and the CEOs of 181 major corporations committed "to lead their companies for the benefit

of all stakeholders – customers, employees, suppliers, communities and shareholders" (Freeman et al., 2021).

Qian et al. (2024) further reiterated the increasing pressure felt by corporate managers to be responsive and responsible to a broader range of stakeholders beyond conventional shareholders and investors who have direct financial interests in the company. The Stakeholder Theory requires corporations to demonstrate corporate conformity to social norms and stakeholder expectations by disclosing and being accountable to internal and external stakeholders regarding sustainability performance. Bouguerra et al. (2023,) also argue that ubiquitous, unrelenting and unremitting environmental pressure compels business corporations to organize in ways that respond to environmental and social challenges (and their stakeholders). One of the ways in which corporations have responded to these pressures is by increasing the amount of information they provide about their greenhouse gas emissions and their strategies to reduce them (Fuoli & Beelitz, 2024). Companies preparing sustainability reports in accordance with the GRI Standards are required to engage with relevant stakeholders and experts as part of their initial preparation and to choose their material topics (GRI 3 Material Topics, 2021). In examining the disclosure in the sustainability reports of such companies, this article considers the Stakeholder Theory as the underpinning concept in the analytical framework.

Discourse in Sustainability Disclosure

Although publishing sustainability reports is generally voluntary for companies (Fuoli & Beelitz, 2024), some countries have made it mandatory. This is evident when Lai and Stacchezzini (2021) thoroughly traced the evolution of corporate reporting from 1960s to 2020 (onwards). This may be the contributing factor to a marked increase in corporate disclosures reported by Qian et al. (2024) with over 96% of the world leading companies producing sustainability reports in 2020, compared to just over 60% in 2005 while 84% of top companies in the Asia-Pacific area published sustainability reports in the same year, compared to only 49% in 2011.

Literature on the disclosure in sustainability reports as well as corporate social responsibility (CSR) reports include those published by different industries in different parts of the world with various objectives

and methods of analysis. These include the impact of institutional investors on the overall readability of environmental disclosure in CSR reports of A-share companies in China (Lin et al., 2024) and the driving forces for having carbon reporting and carbon reduction management strategies in emerging and developing countries (Cardova et al., 2021). A review of articles published between 2001 and 2020 revealed major themes and trends related to environment and sustainability in developing countries (Qian et al., 2021). A content analysis was conducted on reports with representation from all parts of the world to assess quality (Boiral et al., 2019). Finally, a comprehensive review linking the Stakeholder and the Institutional Theories in the context of sustainability reporting concludes that it is critical to understand the link between the two theories (and a number of related ones) in order to produce a sustainability report that is acceptable to all parties involved (Herold, 2018).

Linguistic-based studies on sustainability reports include Bini and Fissi's (2025) analysis on the narratives from reports of a fatal accident in 2012 involving an Italian tour operator causing severe reputational, social and environmental impacts. Based on narratives from two sustainability reports, one each before and after the accident, they used multidimensional linguistic software Coh-Metrix to examine the readability of post-crisis narratives. Based on discourse and corpus analyses, Fuoli and Beelitz (2024) examined the discourse in sustainability reports published by 100 international companies dubbed as the largest greenhouse gas emitters based on the "carbon majors" ranking produced by the Climate Accountability Institute (CAI) 2020. They focused specifically on the disclosure of climate change but their data did not include the agriculture sector. Megura and Gunderson (2022) employed a qualitative frame analysis and critical discourse analysis also focusing on the disclosure of climate change by fossil fuel companies.

Two other studies conducted critical discourse analysis on sustainability reports. Kwarto et al.'s (2024) systematic literature review examined the potential bias in reporting by global upstream oil and gas companies. These companies practiced sustainability reporting but did not disclose negative information which is contrary to GRI Standards. Higgins and Coffey's (2016) analysis on three companies selected from a database of 126 Australian companies revealed the structure of the reports and what they

'do' or 'contribute' to a company's sustainability and strategic activities. The 'companies were integrating sustainability into their strategic considerations and by doing so realized considerable benefits from sustainability reporting' (p. 27).

The discourse of sustainability reports has also been investigated based on genre analysis generally establishing the move-steps in the rhetorical structure, language use, cultural contexts and other internal features while the 'criticality' of the genres (Bhatia, 2017) has not been highlighted. These include Yu's (2023) analysis on leadership statements in sustainability reports published by Italian and American universities to identify any cross-cultural similarities or differences in terms of rhetorical moves and communicative purposes in these reports and Corazza et al.'s (2022) account of using interactive storytelling to overcome excessive succinctness and engage stakeholders as both readers and actors in sustainability reporting.

Thus far, only Yu and Bondi (2019) attempted applying critical genre analysis to examine 90 CSR reports in Chinese, English and Italian published by top ranking companies in the energy and banking sectors. They added the external factors of discursive procedures (contributing genres), disciplinary culture (professional goals and objectives, generic norms and conventions) and discursive practices (communicative modes). These were discussed based on the forward-looking statements in the texts revealing 'private intentions of professionals in building a positive corporate image' (p. 32). This article aims to add to the literature on critical genre analysis by examining sustainability reports from the agriculture sector which encompasses many sub-sectors focusing however only on the palm oil industry.

A sustainability report aims to disclose the economic, environmental and social impacts caused by everyday activities of organizations (GRI, n.d.) In the context of a business organization, there are many stakeholders who depend on this report including analysts and policy makers as well as employees within the organization while externally there are shareholders, clients and suppliers. It is therefore crucial that the report provides relevant and accurate information as well as current and up-to-date information as required by Securities and Exchange Commission in most countries. The report can be published either as a standalone report or as a section of the

company's annual report. A standalone sustainability report also known as CSR (Corporate Social Responsibility) report or ESG (Environmental, Social and Governance) report is a comprehensive document specifically designed to provide stakeholders with in-depth insights into a company's ESG practices, initiatives and progress toward sustainability goals. Being standalone, the report has plenty of space to provide as much information on sustainability, placing emphasis on environmental, social and governance factors crucial for stakeholders' reference. On the other hand, a sustainability report published as a section of an annual report has limited space allocated therefore providing limited information.

Literature reveals a lack of linguistic research on SRs from the agriculture sector particularly based on critical genre analysis. This article examined the discourse in sustainability reports (SR) from leading companies in the palm oil industry across the globe with the main aim of investigating how the companies report their sustainability initiatives. Underpinned by the Stakeholder Theory, this article focuses only on the environmental impact with the following objectives: 1) to examine the extent of disclosure on the environmental impact of the palm oil industry with reference to the GRI requirements and 2) to examine the discourse to present the strategies taken to address the environmental impact of the business activities to the stakeholders.

METHODOLOGY

Data collection was carried out in 2023 and Mohammed Saqib's (2023) list of 12 biggest palm oil companies in the world in 2023 was selected to create the data. The list was generated based on stock screeners to identify the biggest publicly traded palm oil companies by market cap (Appendix A). Although limited in number, these reports represent the most successful palm oil companies and their reports can be presumed to be well presented. The sustainability reports (SRs) of these companies were obtained from the company websites where nine SRs for the year 2022 (published in 2023) and two for the year 2021 were available at the time of data collection. The SR of one listed company (*PIC*) was not available so the company was excluded from the analysis. Nine companies published their SRs as standalone reports. Standalone reports are ideal for analysis as they are more

comprehensive to provide the data. Unfortunately, two companies did not publish standalone report in that particular year so the sustainability sections of their annual reports were used instead. This is indicated in Appendix A as this may affect the amount of disclosure.

The SRs were downloaded and the texts were extracted and analyzed using Bhatia's (2017) critical genre analysis (CGA). SRs are classified as a reporting genre (Bhatia, 2004) which is generally structured. Thus, there were two parts of the analysis: establishing the generic structure of the reports and determining the strategies used to communicate how the companies addressed the environmental effects of their business activities.

Before establishing the generic structure of the SRs, the amount of disclosure on environment was determined. The generic structure was determined based on *GRI 13 Agriculture, Aquaculture and Fishing Sectors* (2022) considering specifically the GRI Topic Standards as they provide information on required topics to be disclosed and how an organization manages its associated impacts. An organization selects topics that correspond to the material topics it has determined and incorporates them in its sustainability reporting. There are 26 likely material topics in the agriculture sector which potentially merit reporting while the reporting process consists of 1) Identifying and assessing impacts, 2) determining material topics, 3) reporting disclosures and 4) reporting in accordance with the GRI Standards (GRI, n.d.). Steps 3) and 4) form part of the analytical framework to achieve the objectives of this article.

Of the total 26 material topics, only the first eight which are directly related to the environment are included for the purpose of analysis. They are: 1) Emissions; 2) Climate adaptation and resilience; 3) Biodiversity; 4) Natural ecosystem conversion; 5) Soil health; 6) Pesticides use; 7) Water and effluents; and 8) Waste. The eight topics were assigned as the demarcation in the texts to identify the generic structure of the reports in the form of moves. The texts of the 11 sustainability reports were coded accordingly where they were scrutinized to examine the inclusion of the eight topics to disclose the environmental impact of the plantation industry with reference to the GRI requirements.

To achieve the second objective, CGA was employed to describe and explain language use and to account for professional practices in the texts of the SRs in order to demonstrate the criticality of this genre. This is an attempt to investigate why and how professionals create, disseminate and consume specialized knowledge and exploit available semiotic resources and modes of communication to achieve their professional goals. CGA draws on the notion of critical theory to the extent that it encourages the capacity to demystify, understand, explain and account for the kinds of professional practices in which specialist users are engaged in their everyday professional life (Bhatia, 2017, p. 27). Understanding, explaining and accounting for the kinds of professional practices refer to the writing style while demystifying can be interpreted as how the writers convince the readers with facts and figures. The analysis was conducted using the framework below (Figure 1).

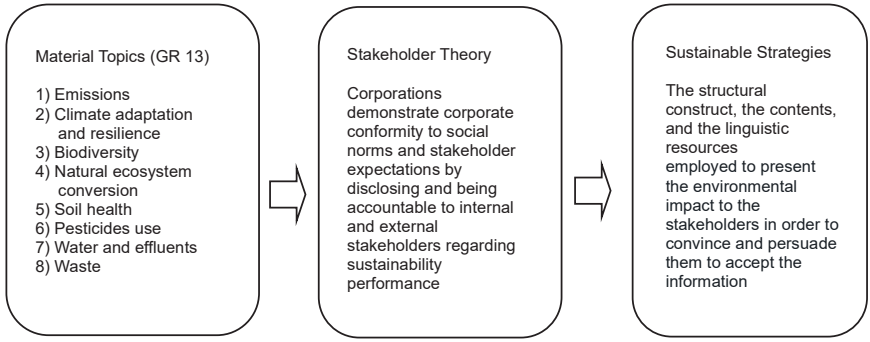

Figure 1: Analytical Framework

The texts in each of the material topics which have been identified as moves were manually scrutinized to identify interdiscursivity which are innovative attempts to create various forms of hybrid and relatively novel constructs of texts by appropriating or exploiting established conventions or resources associated with other genres and practices. These include 'mixing', 'embedding' and 'bending' generic norms in professional contexts (Bhatia, 2010). The sustainable strategies in the form of textual and linguistic features employed to present the environmental impact to the stakeholders were identified with the requirements of GRI 13 Agriculture, Aquaculture and Fishing Sectors (2022) as the basis. While doing so, the analysis was able to uncover the interdiscursive features in the texts particularly appropriating report writing conventions and language with the requirements of GRI. This

in turn reveals how the management through the corporate writers attempts to portray the positive image of their companies.

FINDINGS AND DISCUSSION

Disclosure in SRs from the Plantation Industry

The SRs are represented by nine standalone reports and two sections of annual reports. A standalone report includes a number of sections including a message from the chairman and/or the CEO, other relevant information such as on the GRI and the mandatory sections on environment, economics and people. The amount of disclosure is indicated by the number of pages (total number in parentheses) and the percentage of the section on environment as shown in Appendix A.

Except for environment reports from *KLK* and *PFL* which are part of annual reports, the percentage of environment sections in the SRs varies, the highest being 37.82% (*WIL*) and the lowest being 12.22% (*AAK*). The report on environment is not necessarily presented in one specific section as seen in *AAK*'s SR where one section is on 'Reducing climate impact' and another titled 'Climate'. A similar presentation style is observed in *BGL*. Interestingly *PTI* published the report in dual language, English and Indonesian, resulting in a long publication (242 pages) but only the pages for the English texts were included in the analysis. Although *PFL*'s sustainability report is part of its annual report, the percentage is rather high, 14.38%. The amount of disclosure recorded confirms what Fuoli and Beelitz (2024) noted as responding to pressure of disclosing what the companies are doing to address the environmental impacts.

Stakeholders also expect current and up-to-date information particularly regarding the impact of business activities on the environment as required by Securities and Exchange Commission in most countries. Thus, apart from the amount of disclosure, the information is supported with facts and figures from the financial year reported.

Generic Structure of SRs from the Plantation Industry

Based on the eight likely material topics related to the environment as the demarcation, the generic structure of the 11 SRs specifically regarding the environmental impacts consists of eight moves with varied percentage of occurrence. The moves are presented below but not necessarily in the same sequence in all SRs. The disclosure matrix is provided in Appendix B.

Move 1 Reporting on emissions – 100%
Move 2 Reporting on climate adaptation and resilience – 81%
Move 3 Reporting on biodiversity – 90%
Move 4 Reporting on natural ecosystem conversion – 36%
Move 5 Reporting on soil health – 54%
Move 6 Reporting on pesticides use – 63%
Move 7 Reporting on water and effluents – 100%
Move 8 Reporting on waste – 90%

The companies stated that reports were prepared based on the GRI Standards although one company only mentions 'aligned with international sustainability framework'. As recorded above, 100% of the companies disclose their strategies to sustain emissions (Move 1) and water and effluents (Move 7) impacts from their plantation activities. These strategies are to protect the air and water quality, two crucial elements for healthy living.

The 100% reporting on emissions (Move 1) is very likely due to a statement in GRI 13 (13.1, p. 14) that '[A]griculture is responsible for a large portion of greenhouse gas (GHG) emissions, accounting for approximately 13% of carbon dioxide (CO2), 44% of methane (CH4), and 82% of nitrous oxide (N2O) emissions from human activities globally from 2007 to 2016, which was 23% of the total net anthropogenic emissions of GHGs over this period'. This compels the companies to report on their strategies to prove to the stakeholders that they are responsible players.

The 100% reporting on water and effluents (Move 7) is based on GRI 13:13.7 (p. 28) where agriculture accounts for an estimated 70% of total water withdrawn globally, either from groundwater or surface water. Although water is critically important to agricultural productivity, intensive

water withdrawal can decrease aquifer levels, which reduces the long-term sustainability of water resources and increases access costs for all users. The companies ensure that they disclose their strategies to address excess water usage because '[R]ecognized as a human right, access to fresh water is essential for human life and well-being'.

A very high percentage (90%) reported on the strategies for sustainable biodiversity (Move 3). Biodiversity is essential for food production and a wide range of ecosystem services but agriculture operations pose threats to biodiversity through air, soil, and water contamination, deforestation, soil erosion, sedimentation of waterways, and species extraction. Biodiversity generally declines as agriculture, aquaculture, or fishing activities intensify (GRI 13:13.3, p. 18). Most of the companies disclosed their strategies to address this issue. Another move with 90% is waste (Move 8). Inadequate management of waste can have negative impacts on the environment and human health, which can extend beyond the locations where waste is generated and discarded (GRI 13:13.8, p. 30). The companies reported on their strategies especially those that can turn waste to potential use.

81% reported on strategies for climate adaptation and resilience revealing how an organization adjusts to current and anticipated climate change-related risks, as well as how it contributes to the ability of societies and economies to withstand impacts from climate change (GRI 13:13.2, p. 16). 63% reported on pesticides use. Pesticides can decrease the spread of diseases and pests, increase production yields, and potentially limit the need to convert more land but if not handled properly, can induce adverse health effects in humans by interfering with reproduction, immune and nervous systems. Pesticides can also have negative impacts on biodiversity because of their toxicological effects (GRI 13:13.6, p. 26).

54% reported on soil health i.e. the capacity of soil to function as a living ecosystem and to sustain plant and animal productivity, promote plant and animal health, and maintain or enhance water and air quality. Recent estimates suggest that 80% of agricultural land is affected by moderate to severe erosion, a natural phenomenon which can be significantly accelerated by agricultural activities (GRI 13:13.5, p. 24).

Only 36% (four companies) reported on natural ecosystem conversion (Move 4). Natural ecosystem conversion refers to changing a natural ecosystem to another use or a profound change in a natural ecosystem's species composition, structure, or function including discrete incidents of land clearance, severe degradation, or the introduction of practices that lead to substantial and sustained change in natural ecosystems. The low percentage of disclosure is because most of the strategies are covered under biodiversity (Move 3).

The Discourse of Sustainability Strategies

Sustainability reports are published to present strategies to address economic, societal and environmental impacts of business activities. The common titles of the SRs are '(Annual) Sustainability Report' while three reports are entitled 'ESG (Environment, Social and Governance) Report/ Strategies'. One linguistic feature observed is the use of slogans with the titles of the SRs.

CGI	-	Helping the world thrive	*IOI*	-	Progressing Towards net Zero
BGI	-	Connecting for a Better Tomorrow	*AAK*	-	Sustainability from plant to brand
MMG	-	FUTURE READY	*PTI*	-	Persevering Sustainably in the Midst of Global
SDP	-	LEADING SUSTAINABLY LIVING SUSTAINABLY			Challenges

A slogan is a distinctive catchphrase that serves as a motto for a promotion campaign and slogans form part of corporate advertising to enhance the image of an organization or a particular brand to influence social values. The use of slogans is a linguistic choice which is a promotional strategy employed by the companies as the first step to introduce their positive image - that the companies benefit mankind. The promotional element is further enhanced with the use of more catchy headings by a few companies for the sections on environment in the SRs. *CGI* outwardly stamps its strategies as its '[Our] Sustainability Legacy', *AAK* believes that their strategies are 'Reducing climate impact, Protecting Biodiversity', while *PTI* proudly states they uphold 'Environment Stewardship'. *BGL* and *SDP* chose 'Action' in their headings to imply that they are action-oriented in their sustainability effort.

The first textual feature is 'highlighting stakeholders' by stating the importance of their role in the companies' business endeavors. This is generally entitled 'Stakeholder Engagement' with other variations. For example, *BGI* states this in the message from the CEO 'To Our Stakeholders,' *IOI* in the message from the Group MD/CEO 'Dear Shareholders' and *AAK* in the message from the President/CEO 'Making Better Happen for all our stakeholders'. All the companies pledge their commitment to involve the stakeholders ensuring that they get the correct and latest information about what the companies are doing to address the environmental impacts. This confirms Herold's (2018) argument where the principal function of a company is to handle the stakeholders' needs and expectations.

> Engaging our stakeholders enables us to achieve transformation across the industry value chain beyond our immediate activities. These meaningful engagements have also helped us improve our sustainability policies and strategies to meet the needs of our stakeholders. - WIL

> Being at the forefront of sustainability conversations is essential for MMG. We are part of multi-stakeholder partnerships that are industry-, landscape- and issue-focused. We actively bring stakeholders to the table to discuss and anticipate future challenges and opportunities. - MMG

> The issues facing palm oil production are complex and multi-faceted. That is why a key element to our approach to responsible palm oil relies on engagement and close collaboration with stakeholders. - GAR

Other textual features uncovered are how the 11 companies presented the sustainable strategies within the eight moves to demonstrate corporate conformity to social norms and stakeholder expectations by disclosing and being accountable to internal and external stakeholders regarding sustainability performance. The more frequently occurring moves (Moves 1, 3, 7 and 8) are discussed further to 'demystify, understand, explain and account for the kinds of professional practices in which specialist users are engaged in their everyday professional life' and reveal how the companies communicate corporate information to the stakeholders.

Reporting on Emission

The International Panel on Climate Change (2022) reported that agriculture activities account for 22% of the total global GHG emissions. Listed as the biggest palm oil companies globally can be translated as conducting the most agricultural activities and consequently emitting the most amount of GHG. The companies need to prove to the stakeholders that they are addressing the issue. The amount of GHG emitted is reported and the percentage of reduction in emission or the amount in tCO2e is highlighted. In most cases this information is easily captured with the use of tables and charts (e.g. *SDP*, *IOI* and *GAR*) usually comparing the amount emitted over two or three years.

> *CGI* is proud to announce that it can 'reduce absolute operational GHG emissions 10% by 2025'.
>
> *WIL's* methane capture facilities 'avoided a total of 0.6 million tCO2e of GHG emissions from its operations in 2022'.
>
> *MMG's* 'GHG emission intensity decreased by 9.5% … This figure is 52% lower than our 2006 baseline, and we are well on track to reaching our 2025 target of a 55% reduction (2.68 MT CO2e/MT CPO)'
>
> *SDP* targets to reduce emissions by 50% for its upstream operations by 2030 against the 2009 baselines.
>
> *IOI* Refineries ("IOIEO") continues its excellent performance and surpassed the 2025 GHG reduction targets by ~20%. As of FY2022, IOI Refinery had recorded a 56% reduction in GHG emissions compared to the 2015 baseline, with an emissions intensity of 0.024 tCO2 e/MT product.
>
> *KLK* reduces energy consumption by 363 KWH and reduces GHG emissions by 650 tonnes of equivalent CO2 per year by employing ISCC.

PTI also reduced 54,900 ton CO2-e (7.4%) of its absolute GHG emissions from energy sector relative to 2018 base year.

A common strategy employed by the companies is producing and using renewable resources. This includes *CGI*'s Prairie Wolf Solar Project and wind farms which produce renewable electricity used in its operations and *WIL'*s electricity from biomass. *MMG* reported 95% of upstream energy consumption is renewable energy, so is 70% of *AAK*'s electricity. *PFL* has undertaken significant investments in renewable energy infrastructure to decrease its reliance on fossil fuels and reduce greenhouse gas emissions. *BGL* switched from fossil-fuel based electricity to carbon neutral in several plants. Realizing the amount of GHG emission from its plantations, *SDP* invested in biogas plants for its mills and solar PV systems for its operations. *AAK* reported the use of energy-efficient cook stoves to reduce post-harvest processing emissions at the CO_2 hotspots.

The companies have demonstrated how they are addressing the issue of agricultural activities being responsible for 23% of the world's total net anthropogenic emissions of GHGs. The strategies are clearly stated and often visually enhanced. Pages and pages of colored pictures are used to validate their claims.

Reporting on Biodiversity

Biodiversity is the variability among living organisms including diversity within species, between species and of ecosystems. Biodiversity not only has intrinsic value, but is also vital to human health, food security, economic prosperity, and mitigation of climate change and adaptation to its impacts. The agriculture sector (including palm oil industry) is associated with 70% of losses in terrestrial biodiversity because of land conversion, deforestation, soil erosion, and impacts of pesticides. The agricultural activities further pose threats to biodiversity particularly habitat loss and degradation, overexploitation of biological resources, pollution, climate change, and invasive species (GRI 13, 2022).

Many of the companies cite the law on conserving biodiversity and state their commitment to uphold the law. *WIL* has been upholding its commitment to 'No development on High Carbon Stock (HCS) forests

or High Conservation Value (HCV) areas' since the introduction of its No Deforestation, No Peat, No Exploitation (NDPE) policy in 2013 in its effort to preserve and enhance biodiversity and ecosystem services. *BGL* complies with or exceeds local laws and restrictions where it operates especially on non-deforestation, believing that all palm oil volumes must be produced in a manner that is legally compliant and traceable, that protects forests and biodiversity, reduces greenhouse gas emissions and has a positive social impact.

More importantly, the companies present their initiatives to conserve biodiversity. *MMG* partners with South East Asia Rainforest Research Partnership (SEARRP) to determine the effectiveness of its HCV monitoring efforts and develop a biodiversity baseline for its HCV areas. The results will ultimately support *MMG*'s efforts in setting measurable objectives to avoid species loss and improve biodiversity in its plantations. *SDP* has its Conservation and Biodiversity Area (CBA) initiative to determine whether a particular site needs to be protected, restored or connected with other important landscapes in order to draw up appropriate action plans. *IOI's* Laran Tree project adopted in 2016 has shown a positive impact to enriching biodiversity, supporting biodiversity and wildlife, and has the potential to contributing carbon sequestration within its operations. *KLK* also commits to protect biodiversity and HCV areas through its Biodiversity Conservation Policy while *PTI* has its Mangrove Ecosystem Restoration Alliance (MERA). *GAR*'s Zero Burning Policy and No Peat Policy ensure that fires and haze are minimized in *GAR*'s plantations. Recognizing that biodiversity had a direct impact on the livelihoods and income for billions of people, *AAK* works towards eliminating deforestation.

Conserving biodiversity is not only necessary but crucial for the palm oil industry as without fertile land no plantation can survive. Upholding the law is an effective strategy to convince the stakeholders that the companies are seriously protecting biodiversity from declining. This is further proven by comprehensive reports on the initiatives undertaken.

Reporting on Water and Effluents

Agriculture accounts for an estimated 70% of freshwater withdrawals globally (International Panel for Climate Change, 2022). The 11 big

companies certainly require a lot of water as water is critically important to agricultural productivity. Acknowledging the fact that intensive water withdrawal reduces the long-term sustainability of water resources and increases access costs for all users, the companies presented their strategies to avoid intensive water withdrawal.

CGI implemented a set of global requirements that addresses its commitment to eliminating unsustainable water impact. Its water stewardship program which focuses on measurement, monitoring, reporting and finding ways to drive water-resource efficiency has successfully reduced its average weekly water consumption by 2000 cubic meters. *WIL* also implemented water stewardship initiatives to reduce water consumption especially in extremely or high water-stressed areas such as converting its refinery into a zero-discharge facility where all water withdrawn is treated and reused in the operations, supplementing its water needs while minimizing the amount of water withdrawn.

In order to achieve its goal to reduce water consumption across its facilities, *BGL* believes in focusing on water availability at higher stress areas and works on reducing water usage at these sites. Due to large amount of water consumed, *BGL* also recycles waste water from its operations 'which amounts to 5% of the water withdrawn for use'. *MMG* is proud that it is one of the few palm oil companies that employ the Water Footprint Methodology to calculate its annual water footprint and assess water risks and reported that it has maintained a positive water balance since 2016. Because it operates near waterways, *SDP* feels that it has a responsibility to protect water sources within and around the boundaries of its operations by continuously monitoring the quality of discharged wastewater and wastewater treatment performance at its upstream operations. *SDP* has set targets for effluent intensity for each of the regions where it operates and has maintained it below the set thresholds.

It may seem impossible to common people to not use a lot of water for agricultural activities and the companies need to prove otherwise. Water stewardship initiatives seem to be a common strategy demonstrating that the companies are committed to spend to save the environment. By highlighting other initiatives, the companies show their concern on excess water withdrawal.

Reporting on Waste

Waste from agricultural activities includes organic waste, such as crop waste and inorganic waste, such as plastics. It can also include hazardous waste, such as pesticides containers. It is certainly convenient to discard waste directly to landfills but this will cause negative environmental impacts, including greenhouse gas (GHG) emissions and water pollution. Incorrectly disposed waste from agriculture can have lasting impacts on receiving environments, causing long-term contamination of soil and water which in turn will affect the companies' further agricultural activities. Contamination of agricultural land and natural resources also causes negative impacts on the health and safety of local communities and can impact the safety of food produced (GRI 13, 2022).

One of the waste management strategies highlighted is avoiding discarding waste into landfills in order to avoid causing GHGs and water pollution. Effective strategies include recycling waste. *WIL* reuses biomass as fuel and fertilizer while *MMG* and *IOI* reclaim 100% of the non-hazardous waste and recycle it back into its agricultural processes. More notable strategies include strictly managing hazardous waste in accordance with prevailing and applicable regulations (*PTI)* and zero-waste policy (*GAR*). *AAK* has successfully reduced hazardous waste with efforts to find non-hazardous alternatives. *PTJ*'s strategy is prioritizing waste reduction, reuse, recycling and responsible disposal.

Agriculture utilizes large amounts of natural gas to which *KLK* responded with techniques to use natural gas and a hydrogen-rich waste gas from an electrolysis process, upgraded with an additional waste gas supply train that uses vent gas as a supplementary fuel. *MMG* on the other hand ensures that the required oxygen demand (BOD) and chemical oxygen demand (COD) levels are managed and kept below regulatory thresholds to avoid impacting groundwater and nearby water sources.

Realizing how mismanagement of agricultural waste can negatively impact the environment and human health, the companies have assured that they are serious about protecting the environment by conscientiously discarding wastes from their plantation activities. Although some strategies may involve costs (recycling process), some can be more cost effective (such as not having to transport waste out of the plantations).

Contributions to Management

From the CGA perspective, the discussions above prove the communication style of the companies as clear, honest without trying to greenwash their environmental endeavors. All their claims are supported and proven to be verified. Use of good and clear language allows the activities reported to be clearly understood, acknowledged and accepted without any doubt by the stakeholders. Correct language style also provides readers of sustainability reports with a strategically clear direction and intentions of a company which in turn reflects the company's good practices. Language has always posed a problem in writing reports or any other company documents and analyzing language from the CGA perspective may contribute to better writing style. CGA does not only describe and explain language use but accounts for professional practices by investigating why and how professionals create, disseminate and consume specialized knowledge and exploit available semiotic resources and modes of communication to achieve their professional goals.

From the management perspective, companies can benefit from CGA as they can align their management control system with their reporting practices, using specific words with time-bound commitments, quantifiable performance indicators, independent verification and internal systems and processes. Good reporting practices depend very much on providing current and up-to-date information as required by Securities and Exchange Commission in most countries. Appropriate language skills will provide genuine and quality disclosure in sustainability practices but language can also be used by companies practicing greenwashing to hide their dishonest activities. The palm oil industry as part of the agriculture sector is known as the biggest contributor to GHG. Thus, it is crucial for the companies to portray their sustainability strategies without any attempt to greenwash information so as to gain the stakeholders' trust.

CONCLUSION

The main objective of publishing a sustainability report is to disclose the economic, environment and social impacts of business activities for the benefit of all stakeholders. By declaring that the publication is in accordance

with the GRI Standards, the companies attempt to gain the stakeholders' trust. The generic structure of the SRs proves that the companies generally comply with the requirements of reporting the eight material topics stipulated in GR13, in this case specifically for reporting environmental impact. Further discussion on the four more frequent moves which reflect material topics above proves that the companies are addressing the environmental issues of GHG emission, affected biodiversity, declining water quality and waste disposal with various strategies. The facts and figures provided are adequate to address the stakeholders' needs and expectations and should put them at ease. Initiatives to conserve biodiversity and water quality and strategies to improve waste disposal appear to be sustainable.

Overall, the SRs from the major players in the palm oil industry achieve the objectives of reporting the environmental impact of the businesses and the strategies taken to address them. The strategies in the reports show the kind of professional practice the specialist users, in this case the corporate writers, engage in their professional life. The discussion demonstrates how the writers communicate crucial corporate information to the stakeholders leading to demystifying, understanding, explaining and accounting for the type of communication style in the reports.

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APPENDIX A

12 Biggest Palm Oil Companies in the World (2023)

	COMPANY/HQ	SR TITLES	SECTIONS REFERING TO ENVIRONMENT	PAGES	%
1	Cargill Incorporated (*CGI*) United States	ESG Report 2022 Helping the world thrive	Our Sustainability Legacy	35 (148)	23.65%
2	Wilmar International Limited (*WIL*) Singapore	ANNUAL SUSTAINABILITY REPORT 2022	Protecting the environment	45 (119)	37.82%
3	Bunge Limited (*BGL*) United States	2022 Global Sustainability Report Connecting for a Better Tomorrow	Action on Climate	10 (76)	13.16%
4	Musim Mas Group (*MMG*) Indonesia	Sustainability Report 2021 FUTURE READY	Approach to Sustainability	15 (85)	17.65%
5	Sime Darby Plantation (*SDP*) Malaysia	SUSTAINABILITY REPORT 2021 LEADING SUSTAINABLY LIVING SUSTAINABLY	Climate Action	23 (129)	17.83%
6	IOI Corp Berhad (*IOI*) Malaysia	Sustainability Report 2022 Progressing Towards Net Zero	Sustainability Highlight	13 (83)	15.66%
7	Kuala Lumpur Kepong (*KLK*) Malaysia	SUSTAINABILITY STATEMENT AND REPORT (Annual Report)	Environment	8 (185)	4.32%
8	AAK AB (*AAK*) Sweden	Sustainability Report 2022 Sustainability from plant to brand	Reducing Climate Impact Protecting Biodiversity	11 (90)	12.22%
9	Patanjali Foods Limited (*PFL*) India	ESG Strategies (pp 46-47) Business Responsibility and Sustainability Report (pp 140-160)	Environment KPIs	23 (160)	14.38%
10	P.T. Indofood **Sukses Makmur Tbk (*PTI*)** Indonesia	2022 Sustainability Report Persevering Sustainably in the Midst of Global Challenges	Environmental Stewardship	44 (121/ 242)	31.21%
11	Posco International Corporation (*PIC*) Korea	Not available	N/A	N/A	
12	Golden Agri-Resources (*GAR*) Singapore	SUSTAINABILITY REPORT 2022	Our Environmental Management	21 (108)	19.44%

APPENDIX B

Sustainability strategies disclosure matrix

	Emissions	Climate Adaptation and Resilience	Biodiversity	Natural Ecosystem Conversion	Soil Health	Pesticides Use	Water and Effluents	Waste
Cargill	√	√	√	√	√	X	√	X
Wilmar	√	√	√	X	X	√	√	√
Bunge '22	√	√	√	√	√	X	√	√
Musim Mas	√	√	√	√	√	√	√	√
Sime Darby	√	√	√	X	X	√	√	√
IOI	√	√	√	X	√	√	√	√
KL Kepong	√	X	√	X	X	√	√	√
AAK	√	√	√	√	X	X	√	√
Patanjali	√	X	X	X	X	X	√	√
PT Indofood	√	√	√	X	√	√	√	√
POSCO	X	X	X	X	X	X	X	X
GAR	√	√	√	X	√	√	√	√