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An evaluation of environmental, social, and governance reporting in the agricultural sector

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Abstract

Stakeholders require transparency that companies are conducting business sustainably, which can be provided through non-financial disclosures. Businesses that act on environmental, social, and governance (ESG) matters can attain a competitive advantage. ESG has become necessary in the agricultural sector as agribusinesses are considered high-impact companies. The lack of uniformity in reporting guidelines leads to inconsistent and overloading of information. The objective of this paper is to conduct an evaluation and comparison of the current ESG reporting practices of listed agribusinesses in South Africa, Australia, and Chile. To support the quality and quantity of reporting, the concept of materiality is addressed by recognising what is material to be disclosed to stakeholders. The study evaluates how agribusinesses have incorporated the proposed material topics of the new GRI 13 sector standard into their current reporting practices. A qualitative content analysis was done to identify the presence or absence of the 34 proposed material topics in their reports. The findings indicate a distinct lack of harmonisation in the agri-food sector disclosures. Topics hardly mentioned included the rights of indigenous people, living income, and climate adaptation. Low disclosures of the keywords Climate adaptation with 3.3% and Climate resilience with 7.0% on average, for all three countries, were reported. It is recommended that the newly proposed GRI 13 sector standard must be implemented as companies can seize this opportunity for increased transparency and gain a strategic advantage. Emphasis on the materiality concept is needed as it connects with the stakeholder theory to disclose only important information.

KEYWORDS

agriculture, corporate disclosure, environmental, governance, materiality, social

1 | INTRODUCTION

Sustainability has become progressively more topical and has recently received substantial public interest. The value of sustainability in the economic decision-making process is inherently recognised as an essential consideration within modern business trends and businesses

need to find ways of operating sustainably and responsibly (Batista & Francisco, 2018, p. 226; Seguí-Mas et al., 2018, p. 2777). Organisations and projects lacking an enhanced culture of sustainability are often susceptible to underperformance and failure (Aureli et al., 2020, p. 2392; KPMG, 2021, p. 7). Against the background of sustainability, a key element of a company's future is the proper implementation of

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environmental, social, and governance (ESG) matters into management and reporting (Adams et al., 2022). A failure to integrate ESG matters into overall management can result in significant adverse effects on the company's overall performance, including loss of its licences to operate, a negative impact on reputation and brand value, and may eventually lead to financial instability (Alareeni & Hamdan, 2020, p. 1409; Seguí-Mas et al., 2018, p. 2779). ESG reporting is a key indicator of how companies can generate sustainable long-term financial returns and mitigate risks (Bermejo Climent et al., 2021, p. 5).

By claiming the importance of ESG reporting, this study has selected the agricultural sector to evaluate ESG reporting. Selected agricultural commodities that are traded globally are associated with significant environmental degradation and social harm (World Wildlife Fund, 2022). Consequently, sustainability within the agricultural sector has become a growing concern among consumers, with up to 81% claiming to care about sustainability issues in the sector (Topp-Becker & Ellis, 2017, p. 17). Many companies globally have begun to implement more sustainable practices and, subsequently, promote these practices through non-financial disclosures such as integrated-, sustainability-, and ESG reporting (Topp-Becker & Ellis, 2017, p. 17). Overall, companies lacking adequate ESG reporting are considered high-risk investments, putting them at risk of losing out on capital investment (Pedersen et al., 2020, p. 582; Bulbulia, 2020).

Three countries were selected to participate in the study, namely South Africa, Australia, and Chile, as they are major agricultural commodity exporters to the northern hemisphere. These three countries are the top southern hemisphere competitors, they export to similar markets, and all three of these countries demonstrate a specialisation in fresh and processed food product exports on a global level (Adriaen et al., 2004, p. 187). Agricultural companies in these countries are considered as high-impact companies and therefore it is critically important to reflect on their ESG disclosures (Buallay, 2022, p. 1146). Due to their significant environmental and societal impacts, ESG-minded consumers and investors expected companies in this sector to disclose their sustainability practices.

Companies often do not have the internal capacities or expertise and could find ESG requirements confusing, overwhelming, and even counterintuitive. Concurrently, companies are bombarded with changing regulations and directives, and a multitude of reporting frameworks are utilised in various markets and sectors (Seguí-Mas et al., 2018, p. 2779). Even the terminology in use can further add to the confusion, for example, equator principles, corporate governance requirements, involuntary resettlement, supply chain management, gender-based violence, stakeholder engagement, performance standards, climate change, and SDGs. ESG may at times, feel like an 'impenetrable maze that is impossible to navigate' (Krueger et al., 2021, p. 3; Seguí-Mas et al., 2018, p. 2780).

This uncertainty is further compounded by the general lack of sector-specific guidelines leading to a general inconsistency in various aspects of ESG (Krueger et al., 2021, p. 22; Siew, 2015, p. 188). In the review by Siew (2015, p. 188), the author argues that an additional concern that arises due to the lack of specific criteria is the so-called 'greenwashing' done by companies. Subsequently, several reporting frameworks have come to the fore assisting companies in

communicating to investors how to address the various ESG issues (Atkins, 2021). The more prominent of these frameworks include the global reporting initiative (GRI) standards, the Task Force on Climate-related Financial Disclosures (TCFD), and the Sustainability Accounting Standards Board (SASB) standards. Several sectors have shown their need for guidance on sustainability disclosures, whereby subsequently the GRI embarked on the process of developing sector-specific guidelines (Adams et al., 2022).

The first sector standard by the GRI, was for the Oil and gas sector, which was released in October 2021, followed by the sector standards for agriculture, aquaculture, and fishing, GRI 13 (Adams et al., 2022). This new sector standard refers to the significant impact that the agricultural sector has on the three ESG components and the importance for agribusinesses to adopt good sustainability reporting practices. Notwithstanding the significant effects on the environment of the agri-food industry, it is fundamental to satisfy people's primary needs, such as food security (Jindřichovská et al., 2020, p. 7).

Materiality is an important principle that concerns the adequate consideration of all 'significant economic, environmental, and social impacts, or those that would substantively influence the assessments and decisions of stakeholders' (GRI, 2006, p. 8; GRI, 2016, p. 5). Materiality importantly acts as a countermeasure to companies using frameworks symbolically and only reporting on those topics that show the business in a positive light, subsequently ignoring the negative issues (Adams et al., 2022; Talbot & Boiral, 2018, p. 370). As such companies do not provide the complete picture of their sustainability and ESG, adopting a so-called 'symbolic approach' that potentially leads to the covering up of unsustainable practices and risks the devaluation of sustainability and ESG reporting practices (Barkemeyer et al., 2015, p. 313; Machado et al., 2021, p. 576).

The empirical contribution of the study could benefit the agricultural sector by providing clear guidelines to the sector, and by demonstrating the sector's commitment to sustainable practices to stakeholders, environmentally conscious consumers, regulators, and NGOs. The study contributes to the literature by accenting the materiality concept and how it can add value to the quality, by disclosing only significant matters. Based on the identified requisites for non-financial disclosures such as ESG reporting, accompanied by the general lack of sector-specific guidelines and the requirement for more conciseness in reporting, the objectives of the study were formulated.

2 | OBJECTIVE

The primary objective of this paper is to conduct an evaluation and comparison of the current reporting practices of listed agribusinesses in South Africa, Australia, and Chile, with a specific focus on the material topics proposed by the GRI 13 sector standards. This evaluation encompasses the comparison of report lengths and means, as well as their correlation with the number of material topics covered. Furthermore, an important objective is to identify any existing shortcomings in ESG reporting among the studied agribusinesses and provide recommendations based on these identified gaps.

3 | LITERATURE REVIEW

Business, society, and the literature have grown an awareness that managing financial and non-financial capital are interconnected and managing them, will benefit long-term sustainability for all (International Integrated Reporting Council, 2021, p. 12; Maroun et al., 2018, p. 442). Due to factors such as climate change, lousy working conditions, depletion of natural resources, and corporate scandals, companies' social, environmental, and ethical responsibilities have come to the fore of stakeholder considerations (Conca et al., 2021, p. 1080).

The relevance of non-financial disclosures is not a new concept but has recently gained much attention concerning the sustainability discourse and subsequent corporate governance developments (Maroun et al., 2018, p. 438; Russell et al., 2017, p. 1449; Samkin et al., 2014, p. 551). The realisation that business decision-making and sustainable returns are not solely reliant on financial performance, is growing (Atkins & Maroun, 2015, p. 205; de Villiers et al., 2014, p. 1055; Maroun et al., 2018, p. 438). Additionally, stakeholders have an increased awareness of companies' societal and environmental impacts and, in turn, have gained a heightened sense of responsibility and accountability that they are transferring to business (Maroun et al., 2018, p. 457; Russell et al., 2017, p. 1448).

According to Conca et al. (2021, p. 1081), recent research has found that ESG reporting as a management practice is no longer an opportunistic behaviour by businesses but is implemented and practised as a form of legitimacy. This rising awareness of ESG is supported by research examining the impact of ESG actions on the financial performance of businesses, (Buallay, 2021, p. 777; Conca et al., 2021, p. 1085; Khan et al., 2021, p. 57; Lokuwaduge & Heenetigala, 2017, p. 439; Peiris & Evans, 2010, p. 110; Pirtea et al., 2021, p. 479; Resmi et al., 2018, p. 75; Roudaki, 2018, p. 1001).

The problem is that ESG disclosure practices vary across companies, particularly concerning quality and quantity (Conca et al., 2021, p. 1080). Additionally, where these practices are performed, they are done at a manager's discretion and may also result in variance in ESG reporting (Conca et al., 2021, p. 1081). The quality and quantity of reporting can be addressed by introducing the concept of materiality. The agricultural sector has unique opportunities and challenges regarding sustainability and ESG reporting due to its highly diverse nature. It is, therefore, of utmost importance that businesses identify those aspects that are considered material to their operations and the sustainability thereof. As part of the literature review of this article, the agriculture sector, the Global Sustainability Standards Board as well as the concept of materiality, are discussed in more detail.

3.1 | Agricultural sector

Traditional agricultural practices place considerable risks to the environment, and many previous inhumane labour practices were found in this sector (Biggs et al., 2006, p. 278; Conca et al., 2021, p. 1080; Melin et al., 2014, p. 26; Rankin et al., 2011, p. 9). These factors as

mentioned above, will continue to have severe implications for the food industry. For example, the global decrease in important pollinators has a direct negative impact on crops and, thus, financial returns (Maroun et al., 2018, p. 443; Melin et al., 2014, p. 30). The agricultural sector is coming under ever-increasing pressure from stakeholders, environmentally conscious consumers, regulators, and NGOs to demonstrate better, more sustainable practices and to minimise, among others, their environmental impacts. This, in turn, has resulted in enormous social pressures for responsible and sustainable production strategies and effective management (Conca et al., 2021, p. 1080; Maroun et al., 2018, p. 444; Mckenzie et al., 2013, p. 1275; Milne et al., 2009, p. 2148; Panait et al., 2020, p. 39; Vrabcova & Urbancova, 2021, p. 262). According to Pirtea et al. (2021, p. 479), the growth in the global population has added pressure on the agricultural sector to ensure food security safely for a growing population. High demand and usage of water in the agriculture sector, put an extra burden on the sector. Food security, as well as the financial viability of farming operations, are considered material to take note of and to report to stakeholders (Allsopp et al., 2008, p. 3; Maroun et al., 2018, p. 444; Melin et al., 2014, p. 30; Panait et al., 2020, p. 39; Scotcher, 2010; Vrabcova & Urbancova, 2021, p. 261).

It is expected that companies in the agricultural and food sectors will place significant emphasis on the management of sustainability risks and disclosures within the associated reports (Atkins & Maroun, 2015, p. 214; Levkivska & Levkovych, 2017, p. 108; Maroun et al., 2018, p. 444; Mckenzie et al., 2013, p. 1277; Panait et al., 2020, p. 39; Pirtea et al., 2021, p. 480; Vrabcova & Urbancova, 2021, p. 262). Resulting, a range of businesses in the sector have embraced adopting more sustainable practices and disclosing sustainability and ESG reports (Ihlen et al., 2011, p. 7). As stated earlier, the problem identified in connection with ESG reporting, is the lack of guidelines to follow. The next section addresses an institution that is prominent in steering the way by providing accepted guidelines.

3.2 | Global sustainability standards board

The Global Sustainability Standards Board (GSSB) is responsible for setting globally accepted standards for sustainability reporting. The GSSB operates and oversees the development of the GRI Standards. Since 2021, GRI sector standards have been introduced alongside the revised GRI universal standards (GRI, 2022, p. 2). The GRI 13 sector standards for agriculture, aquaculture, and fishing were initiated as a GSSB project in 2019 and were approved in May 2022 and will come into effect on the first of January 2024 (GRI, 2022, p. 3). The GRI 13 sector standards are only the second sector-specific standards to be released by the GRI after GRI 12 for the mining sector. Thus, indicating the high priority of sustainability in the agricultural sector (GRI, 2021, p. 3). The GRI 13 standards are suitable for a range of companies of all sizes and are the first of its kind as a cross-commodity sustainability reporting standard for the agricultural sector (GRI, 2022, p. 5). The standard will increase the completeness and comparability of sustainability information for all organisations around



the world involved in crop cultivation, animal production, aquaculture, or fishing. By using the newly introduced GRI 13 in combination with the materiality concept, the authors attempt to identify the correct keywords to apply in the content analysis of the study.

3.3 | Materiality concept

Materiality should be recognised as a guiding principle in financial and non-financial information, and currently, we are in a transitional phase where sustainability reporting is shifting from a voluntary regulation system to a more concrete or rigorous one (Ortar, 2018, p. 20). Materiality is an important indicator in the traditional corporate financial context but appears to be more critical in non-financial reporting (Lai et al., 2017, p. 533). This requires recognising what is material to investors from the company's perspective and what is significant to society (Reverte, 2015, p. 286). Materiality is a principle that concerns the adequate consideration of all 'significant economic, environmental, and social impacts, or those that would substantively influence the assessments and decisions of stakeholders' (GRI, 2006, p. 8; GRI, 2016, p. 5).

According to Bellantuono et al. (2018, p. 340), adequate material topic identification and lack of uptake of material topics are potential concerns around materiality as companies may become too selective and screen out aspects that may be highly topical and should be reported on. Businesses have been continuously encouraged to include reporting on all material aspects, no matter whether they are positive or may shine a negative light on a company's practices (Boiral, 2016, p. 757; Ahmed Haji & Anifowose, 2016, p. 196).

The study by Du Toit et al. (2017, p. 668) indicates a reduction in the length of reporting during the previous three-year period. They argued that it could be a positive signal indicating that companies are reducing needless information and making efforts to integrate sections. The conciseness of information connects with the materiality concept which involves the disclosure of significant matters.

The International Integrated Reporting Framework (IIRF), proposed by the IIRC, which focuses on the six capitals and promotes the sustainability and value creation concepts, defines materiality as an item that can substantively affect the organisation's ability to create value over the short, medium or long term (International Federation of Accountants & International Integrated Reporting Council, 2015, p. 5). In the context of IR, the challenges as indicated by Lai et al. (2017), was to align a company's materiality process with regulatory frameworks to offer a concise explanation of a company's business model.

Pirtea et al. (2021, p. 480) argue that implementing ESG through properly identifying material topics as a value-creating strategy is essential for firm profitability and sustainable development. Delgado-Ceballos et al. (2023) also refer to a need for double materiality, namely stakeholder materiality and financial materiality. In the same article, the connection between the United Nations' Sustainability Development Goals (SDGs) and the concept of double materiality was

emphasised. In context, the relation between the SDGs, the new GRI 13 standards, and the concept of double materiality is crucial for agribusinesses to identify the most relevant ESG topics.

4 | METHODOLOGY

This study used content analysis as a research method to analyse the 2021 Integrated/Sustainability/ESG reports of JSE-listed agribusinesses from South Africa and their listed market competitors from Australia (ASX) and Chile (SSE), respectively. Selection criteria for inclusion in this study were agribusinesses that fit the definition as provided by Edwards & Schultz (2005, p. 68). They defined Agribusinesses as 'a dynamic and systemic endeavour that serves consumers globally and locally through innovation and management of multiple value chains that deliver valued goods and services derived from the sustainable orchestration of food, fibre, and natural resources'. The sample selected for this study includes the entire population of companies listed as agribusinesses on the JSE, listed participants from Australia (ASX) and Chile (SSX). The only exclusion criteria for the sample were due to some reports from Chile only being available in Spanish. Ten (42%) of the companies only reported in Spanish and these were subsequently excluded from the analysis. This resulted in a total of 26 companies from SA, 29 from Australia, and 24 from Chile, for a total of 79 companies, as listed in Table 1.

The data are publicly available and the annual-, integrated-, and or sustainability reports were downloaded from the respective company's websites. Content analysis was chosen as the research method as it measures the frequency of selected keywords used. This research method aligns with previous research and literature papers evaluating sustainability in the agri-food industry by Jindrichovská et al. (2020, p. 6). The study of Jindrichovská et al. used a selection of agriculture-related keywords for each of the ESG categories. Initially, Horuckova & Baudasse (2017, p. 38) highlighted the uniqueness of this method and the selection of keywords to be utilised by agri-food businesses. The identified agriculture-related keywords were incorporated into those material topics as provided by the GRI 13 and this approach left the authors with 34 keywords that are presented in Table 2.

ATLAS.ti version 22 software was used to search for the selected terms/material topics as in Table 2. Atlas.ti was chosen as it is an accessible tool for qualitative research and thematic analysis. Results from the search were indicated by a 1 (present) if the material topic was mentioned within the report and a 0 (absent) if the material topic was not reported on. GraphPad Prism version 7.0.0 was used to visualise the data with box and whisker plots of the percentage of ESG material keywords already covered in company reporting across countries.

The data were tested for normality using the Shapiro-Wilk test, the data from South African and Chilean agribusinesses were found to be normally distributed whereas the data from Australian agribusinesses were not normally distributed. Resultingly, a parametric analysis was applied; namely, a one-way analysis of variance (one-way ANOVA) followed by a Tukey's post hoc test to determine whether the means of the groups analysed were significantly different, that is, whether

TABLE 1 Selected listed agribusinesses in South Africa, Australia, and Chile.

Listed agribusinesses		
South Africa (JSE)	Australia (ASX)	Chile (SSE)
A E C I Limited	The A2 Milk Company	Arca Continental
Anheuser-Busch InBev	Elders Limited	Agro Industrial Exportadora
Distell Group Holdings	Costa Group Holdings Limited	Agroguachal SA
Tiger Brands Limited	Select Harvests Limited	Agrokasa Holdings
AVI Limited	Ridley Corporation Limited	Agroindustrias AIB
RCL Foods Limited	Lynch Group Holdings Limited	Alfa SAB de CV
Astral Foods Limited	Duxton Farms Ltd	Alicorp SAA
Oceana Group Limited	Wide Open Agriculture Ltd	Ameral S.A.A.
Sea Harvest Group Limited	Australian Dairy Nutritionals Group	Agricola Nacional S.A.C.I.
Libstar Holdings Limited	The Sustainable Nutrition Group Ltd	Empresas AquaChile SA
RFG Holdings Limited	Wingara AG Limited	Empresa Agricola San Juan SA
Quantum Foods Holdings	Australian Agricultural Projects	Empresa Agricola La Union SA
Crookes Brothers Limited	Alterra Limited	Austral Group S.A.A
Tongaat Hulett Limited	Australian Agricultural Company	Blumar Seafoods
Premier Fishing and Brands	Bega Cheese Limited	Camanchaca
AH-Vest Limited	United Malt Group Limited	Carozzi Corp
Kaap Agri Limited	Cobram Estate Olives Limited	Carton De Colombia S A
Nutritional Holdings Limited	Ricegrowers Limited	Casa Grande SAA
Sappi Limited	Maggie Beer Holdings	Empresa Agroindustrial Cayalti SAA
Zeder Investments Limited	Clean Seas Tuna	Compania Cervecerias Unidas SA
Woolworths Holdings Limited	Seafarms Group Limited	Empresa Agraria Chiquitoy SA
York Timber Holdings Limited	Beston Global Food Company	Central Azucarera Chucarapi Pampa Blanca
Shoprite Holdings Limited	FFI Holdings	Empresas CMPC S.A.
Pick n Pay Stores Limited	Angel Seafood Holdings	Colombina
Spar Group Limited	The Food Revolution Group	Concha y Toro
Choppies Enterprises Limited	Happy Valley Nutrition Limited	Compania Agropecuaria COPEVAL SA
Bid Corporation Limited	Murray River Organics Group	Alimentos Derivados De La Cana Adecana SA
	Forbidden Foods Limited	Vinedos Emiliana SA
	Live Verdure Ltd	Pesquera Exalmar
	Pure Foods Tasmania Limited	Sociedad Agricola Fanupe Vichayal S.A.
	Wellnex Life Limited	Fondo Ganadero de Cordoba SA
TOTAL: 26	TOTAL: 29	TOTAL: 24

South African vs. Australian vs. Chilean agribusinesses reported on significantly more or significantly fewer material topics compared to one another. To assess whether a relationship exists between the number of material keywords covered and report length, Pearson correlation coefficients were calculated for South African and Chilean agribusinesses and Spearman rho for the Australian agribusinesses.

5 | RESULTS

This section details the results and discussion of the analysis of the presence of material topics covered by listed agribusinesses. The results are discussed by starting with the length of the reports,

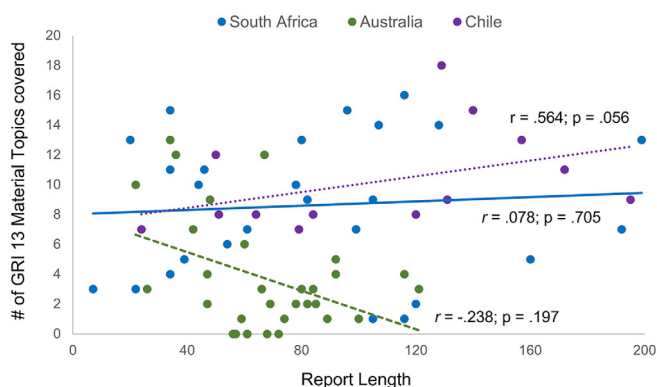
including the relationship between report length and the number of material topics covered by listed agribusinesses from each of the countries. This is followed by a discussion about the material topic usage per ESG dimension. Those results are then tailed by an overall comparison between the material topic disclosures of the different countries.

5.1 | Reporting type and report length

More South African agribusinesses reported on non-financial matters using non-financially reporting means which included integrated-, sustainability-, and ESG disclosures, than their counterparts from Australia and Chile. The average overall length of reports provided by

TABLE 2 Selected 34 environmental, social, and governance (ESG) material keywords.

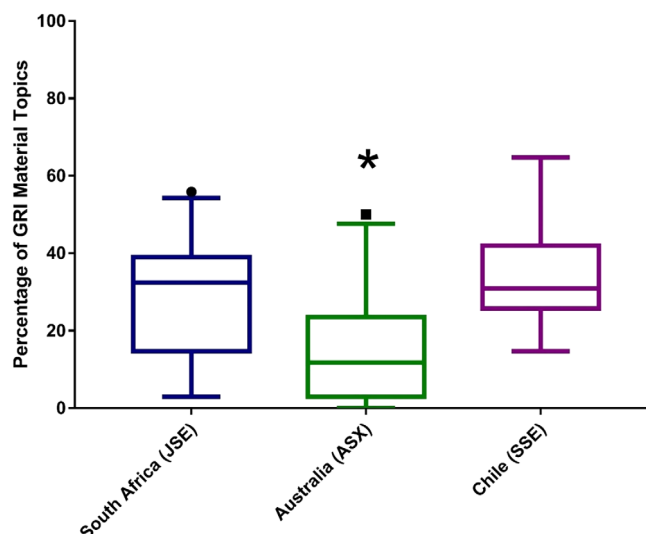
Environmental	Social	Governance
Animal Health	Economic inclusion	Anti-competitive behaviour
Animal welfare	Food loss	Anti-corruption
Biodiversity	Food safety	Child labour
Climate adaptation	Food security	Collective bargaining
Climate resilience	Land rights	Employment practices
Effluents	Living Income	Equal opportunity
Emissions	Local communities	Forced labour
Natural ecosystem conversion	Non-discrimination	Freedom of association
Pesticides use	Occupational health and safety	Lobbying
Soil health	Resource rights	Public policy
Waste	Rights of Indigenous Peoples	Supply chain traceability
Water		
TOTAL: 12	TOTAL: 11	TOTAL: 11

**FIGURE 1** Correlation between report length and the number of GRI 13 material topics covered in the respective reports from South African, Australian, and Chilean listed agribusinesses.

South African agribusinesses was 73 pages. In total, 11 reports (42%) were over 100 pages long. The overall average length of reports provided by Australian agribusinesses was 68 pages. Three reports (10%) were over 100 pages in length. Reports provided by Chilean agribusinesses were on average 113 pages. Six reports (43%) were over 100 pages in length.

5.2 | Relationship between report length and the number of material topics covered

The statistical analysis did not indicate any significant correlation between the length of reports by the listed agribusinesses in any of the countries ($p > .05$). However, unique trends were observable for

**FIGURE 2** The percentage of the GRI 13 material topics covered in the reports of JSE, ASX, and SSE-listed agribusinesses.

agribusinesses from each of the countries. No observable trend was apparent for South African agribusinesses ($r = .078$) whereas results from Australian ($r = -.238$) and Chilean ($r = .546$) agribusinesses indicated opposite trends (see Figure 1). In the more concise reports of Australian agribusinesses, more material topics were included. In the longer Australian reports less material topics were covered. This was in contrast with the longer Chilean agribusiness reports where more material topics were evident.

The following section aims to analyse and compare the agribusiness reports by using a textual analysis of the usage of material topics as provided in the GRI 13 for each of the ESG dimensions within each of the selected countries. The results presented below are linked to the materiality concept as organisations should focus on reporting topics that are material to their business and key stakeholders, ensuring the production of more relevant, credible, and concise reports.

5.3 | Number of material topics covered

South African (JSE-listed) agribusinesses covered on average 29.71% (10) of the 34 material topics. Australian (ASX-listed) agribusinesses only disclose on average, 14.29% (5) of the 34 material topics in each report. Chilean (SSE-listed) agribusinesses covered roughly the same amount of material topics (33.17%–11) within their reports compared to agribusinesses from South Africa.

The range, variation (5% to 95%), and the average number of GRI material topics of the GRI 13 that were covered in current reporting of agribusinesses from South Africa, Australia, and Chile are shown in Figure 2 as box and whisker plots. Symbols outside of the range indicate outliers. The asterisk indicates significant ($p < .05$) differences among countries, with agribusinesses from Australia incorporating significantly fewer of the GRI 13 material topics compared with those from South Africa and Chile. All

TABLE 3 Environmental pillar of ESG material topics for listed agribusinesses.

Environmental	% agribusinesses reporting on each material environmental topic			
	South Africa (26)	Australia (29)	Chile (14)	Mean usage across agribusinesses
Material Topic	%	%	%	%
Animal health	7	14	17	12.6
Animal welfare	20	17	33	23.3
Biodiversity	60	23	72	51.6
Climate adaptation	10	0	0	3.3
Climate resilience	13	8	0	7.0
Effluents	40	14	56	36.6
Emissions	40	54	100	64.6
Natural ecosystem conversion	0	0	0	0.0
Pesticides use	10	20	5	11.6
Soil health	13	9	0	7.3
Waste	87	57	100	81.3
Water	93	71	100	88.0

South African and Chilean agribusinesses covered at least a few of the GRI materiality topics, whereas six (21%) ASX-listed agribusinesses (FFI Holdings, Food Revolution Group, Forbidden Foods, LiveVerdure, Sustainable Nutrition group, and WellNex) did not mention or cover any of the GRI material topics.

After presenting the results of the number of proposed GRI material topics used by agribusinesses from the three selected countries, it is crucial to determine which of the specific material topics within each dimension are most frequently used across agribusinesses in their reporting.

5.4 | Keyword count analysis

The keyword count analysis and resulting discussion of agribusiness reporting on each of the ESG pillars are presented for each country. Table 3 indicates the percentage of agribusinesses from each country reporting on each of the GRI material topics for the Environmental pillar.

5.5 | The most and least covered material environmental topics

Those material topics highlighted in grey, in Table 3, were on average the material topics most frequently referred to within the environmental pillar. Material topics mostly disclosed, on average by the three countries, were *water* (88%), *Waste* (81.3%), and *Emissions* 64.6%. Chile has a 100% reporting rate on *emissions*. Conversely, (highlighted in green) *Natural ecosystems* (0%), *climate adaptation* (3.3%), and *climate resilience* (7%) were on average the least referred to environmental material topics.

Those material topics highlighted in grey, in Table 4, were on average the material topics most frequently referred to within the

social pillar, namely, *Food safety* (60.6%), *Local communities* (53.6%), and *Occupational health and safety* 51.6%.

Agribusinesses from South Africa indicated a 70% usage of the keyword *Food security*, whilst not the same attention was provided by Australia and Chile. The material topics, (highlighted in green) *Resource rights* (0%), *Rights of indigenous people* (1%), and *Living income* (1%) were on average, the least mentioned topics for the social dimension.

Following the analysis of the environmental and the social pillars, the disclosures on governance are presented in Table 5.

The most covered GRI material topics, for Governance, were on average 47.3% for *Collective bargaining*, 43% for *Anti-corruption*, and 34% for *Child labour*. The material topics that were referred to the least under governance were *supply chain traceability* (1%), *Lobbying* (4%), and *Employment practices*, 5.3%. Agribusinesses in all three countries reported the least on material topics related to the Governance pillar.

5.6 | Reporting rate of specific GRI material topics per country

The percentage of agribusinesses reporting or covering each material topic is discussed below. South African agribusinesses reported on all but three material topics, whereas participants from Australia and Chile did not report on 10 material topics each.

5.7 | South African (JSE) listed agribusinesses

The 10 most covered material topics by South African agribusinesses were (letters in parentheses next to each material topic indicate the ESG pillar they fall under E—environmental, S—social, G—governance). Starting with the keyword mostly disclosed was *water* (E)—93%, *waste* (E)—87%, *food security* (S)—70%, *food safety* (S)—67%,

TABLE 4 Social pillar of ESG material topics for listed agribusinesses.

Social	% agribusinesses reporting on each material social topic			
	South Africa (26)	Australia (29)	Chile (14)	Mean usage across agribusinesses
Keywords (11)	%	%	%	%
Economic inclusion	10	0	6	5.3
Food loss	27	0	6	11
Food safety	67	43	72	60.6
Food security	70	14	22	35.3
Land rights	3	2	0	1.6
Living Income	3	0	0	1
Local communities	57	43	61	53.6
Non-discrimination	10	6	33	16.3
Occupational health and safety	63	20	72	51.6
Resource rights	0	0	0	0
Rights of Indigenous Peoples	3	0	0	1

TABLE 5 Governance pillar of environmental, social, and governance (ESG) material topics for listed agribusinesses.

Governance	% agribusinesses reporting on each material governance topic			
	South Africa (26)	Australia (29)	Chile (14)	Mean usage across agribusinesses
Keywords (11)	%	%	%	%
Anti-competitive behaviour	16	0	11	9
Anti-corruption	43	14	72	43
Child labour	36	11	55	34
Collective bargaining	53	11	78	47.3
Employment practices	10	6	0	5.3
Equal opportunity	47	7	33	29
Forced labour	23	11	39	24.3
Freedom of association	47	3	50	33.3
Lobbying	6	0	6	4
Public policy	20	0	28	16
Supply chain traceability	0	3	0	1

occupational health and safety (S)—63%, biodiversity (E)—60%, local communities (S)—57%, collective bargaining (G)—53%, freedom of association (G)—47% and equal opportunity (G) with 47%. These topics represent an equal mix of each of the three pillars of ESG. Of the most covered topics, three were from the environmental dimension, four from the social dimension, and three from the governance component.

The three materiality topics not covered by South African agribusinesses include *natural ecosystem conversion* (E), *resource rights* (S), and *supply chain traceability* (G). The next seven least covered topics include *land rights* (S)—3%, *rights of indigenous peoples* (S)—3%, *living income* (S)—3%, *animal health* (E)—7%, *lobbying* (G)—7%, *climate adaptation* (E)—10%, and *pesticide use* (E)—10%. Of the least covered topics, four were from the environmental dimension, four from the social dimension and two from the governance component.

5.8 | Australian (ASX) listed agribusinesses

The 10 most covered material topics by Australian agribusinesses were: *water* (E)—71%, *waste* (E)—57%, *emissions* (E)—54%, *local communities*—43% (S), *food safety*—43% (S), *biodiversity* (E)—23%, *occupational health and safety*—20% (S), *pesticide use*—20% (E), *animal welfare* (E)—17%, and *anti-corruption* (G)—14%.

Six of the 10 materiality topics covered most frequently by Australian agribusinesses were from the environmental component, three were from the social dimension, and only a single topic from the governance component. The 10 material topics not covered by Australian agribusinesses were *climate adaptation* (E), *natural ecosystem conversion* (E), *food loss* (S), *resource rights* (S), *rights of indigenous peoples* (S), *living income* (S), *economic inclusion* (S), *public policy* (G), *lobbying* (G), and *anti-competitive behaviour* (G). The material topics related to the social component of ESG were the

least covered with five of the topics, two topics were from the environmental dimension, and three were from the governance component.

5.9 | Chilean (SSE) listed agribusinesses

The most reported material topics by Chilean agribusinesses were *emissions*, *water*, and *waste*, all of them from the environmental pillar with 100% of the companies reported on them. This is followed by *collective bargaining* (G) with 78%, *biodiversity* (E), *food safety* (S), *occupational health and safety* (S), and *anti-corruption* (G), all with 72%. *Local communities* (S)—61% and *child labour* (G) with 56% conclude the top 10 used words. An equal mix of topics from each of the three elements of ESG was evident. Of these most covered topics, four were from the environmental dimension and three from the social and governance pillars.

The 10 material topics not covered by Chilean agribusinesses were *climate adaptation* (E), *climate resilience* (E), *natural ecosystem conversion* (E), *soil health* (E), *land rights* (S), *resource rights* (S), *rights of indigenous peoples* (S), *employment practices* (G), *living income* (S), and *supply chain traceability* (G). The material topics not covered by the Chilean agribusinesses were primarily related to the environmental and social aspects of ESG.

5.10 | Comparison between countries

5.10.1 | South African (JSE) listed agribusinesses

On average, JSE-listed agribusinesses covered double the amount of material topics compared to their Australian counterparts. South African agribusinesses covered 29.71% (10) of the 34 material topics on average in each report. Six companies covered 50% or more of the material topics in their respective reports. These companies were: AB Inbev, AVI Limited, Distell, OCEANA, TonGaet Hullett, and Woolworths Holdings Limited. AB Inbev covered the most material topics at 55.88%.

5.10.2 | Australian (ASX) listed agribusinesses

Overall, Australian agribusinesses covered significantly fewer of the GRI material topics compared to South African and Chilean agribusinesses. On average, ASX-listed agribusinesses only covered 14.29% (5) of the 34 material topics in each report. Only two (7%) companies, BEGA Cheese Limited and Elders, covered at least 50% of the material topics in their respective reports.

5.10.3 | Chilean (SSE) listed agribusinesses

On average, SSE-listed agribusinesses included roughly the same amount of material topics (33.17%— 11) within their reports

compared to agribusinesses from South Africa. Three companies (21%) reported 50% or more of the material topics, including Blumars, Salmones, and Vina Concha y Toro, with Blumars covering the most material topics of all studied companies at 64.71%. Remarkably, the Chilean agribusiness covering the least amount of material topics was Empresas CMPC, but it still covered ~9% (3) more of the material topics than the average Australian agribusiness at 23.53%.

6 | CONCLUSIONS

Reports by the SA and Chilean agribusinesses frequently surpassed 100 pages and were generally longer, whereas the Australian agribusiness reports seldom exceeded 100 pages and were typically shorter. The finding that JSE and SSE listed agribusinesses' reports are longer than those of their ASX counterparts aligns with the findings of Barkemeyer et al. (2015, p. 323), which showed that companies from developing nations generally did more extensive reporting. The authors attributed this to the fact that companies in developing countries may face greater exposure to ESG and CSR challenges, especially when their specific contexts are considered; thus, their reports tend to be more extensive. Although the reports of South Africa and Chile were longer, the authors questioned whether this was assumed because they did not consider the materiality concept. Conclusions in the next paragraphs provide more clarity on whether the materiality items were addressed or not.

The most covered environmental topics on average by the three countries were *water* (88%), *Waste* (81.3%), and *Emissions* 64.6%. The results indicate that the environmental pillar has the highest disclosure rate, and this finding declares that the environment is closely linked to agribusinesses. It also matches the fact that *Food safety* and *local communities* were the maximum used words, under the social pillar. The most reported GRI material topics, for the Governance pillar were on average 47% for *Collective bargaining*, 43% for *Anti-corruption*, and 34% for *Child labour*. Those words can also be closely linked to what is important and material in the agribusiness sector.

The finding that none of the top-mentioned material topics was related to the governance pillar of ESG, may be linked that the GRI frameworks have traditionally been used to enhance reporting on environmental and social aspects and echo the findings of Bellantuono et al., 2018, p. 351. The study by Bellantuono et al. (2018, p. 353) indicated that the topics of *biodiversity*, *waste* and *occupational health and safety* were highly material and core aspects for agribusinesses to report on.

None of the agribusinesses mention the topics of *natural ecosystem conversion* or *resource rights*. Other topics that were hardly mentioned included the *rights of indigenous people*, *living income*, and *climate adaptation*. Alarming, very low disclosures were reported on the keywords *Climate adaptation* with 3.3% and *Climate resilience* with 7.0% on average, for all three countries. This is a concern when considering the close relationship between climate change and the agriculture sector.

Notable results concerning the material topics of the proposed GRI 13 were that all SA and Chilean agribusinesses covered at least a

few material topics. However, several Australian agribusinesses did not cover a single material topic in their current reporting. This finding illustrates that although South African and Chilean reports were longer than those of Australia, it does not mean that longer reports did not consider materiality and therefore conciseness in reporting. On average, SA and Chilean agribusinesses covered ~30% of the proposed material topics in their current reporting. This finding relates to the findings of Barkemeyer et al. (2015, p. 318) which showed that businesses from developing countries covered more GRI indicators than those from developed nations.

Listed Chilean businesses have demonstrated the use of various keywords, and almost 30% compliance with the proposed GRI 13, and this is aligned with the findings of Lavin & Montecinos-Pearce, (2022, p. 3) that in the Chilean context, some companies have favoured non-financial disclosures.

The enhanced reporting on material topics as identified by South African agribusinesses is likely due to businesses being obligated to report on these aspects. Listed companies in South Africa must provide non-financial disclosures regarding their sustainability and ESG practices on compliance or explain basis. It also indicates a greater awareness by these agribusinesses of materiality compared to their Australian counterparts, which are not mandated to report on ESG aspects.

To conclude, the lack of uniformity in ESG reporting practices in the agricultural sector in the three selected countries is evident. However, the study indicates which agribusinesses are aware of the ESG material topics related to their business practices and signifies that some companies are ready to incorporate the new GRI sector standards into their future ESG reporting.

7 | RECOMMENDATIONS

Due to the contrasting adoption rates of ESG and the material topics covered, the recommendation is to move towards more mandatory disclosure practices. Concerns previously raised by Adams et al. (2022) to make ESG reporting mandatory, are accordingly shared in this study.

It is recommended that agribusinesses pay more attention to *climate change*, *natural ecosystem conversion* and *biodiversity* in their daily operations as well as disclosures thereof. Climate change is one of the most critical threats to agribusinesses and a risk that they also largely contribute to. It is recommended that the aspect of *climate adaptation* be more accentuated as it provides companies with the opportunity to evaluate how they can adjust and measure these impacts. *Land and natural ecosystem conversion* are practices that happen daily within the sector and more attention is needed as this can have tremendous impacts on the environment, and biodiversity and may even lead to the displacement of communities.

More emphasis is needed on the social impacts within the agri-food sector as many farm workers are known to live below the poverty line, it is thus important for agribusinesses to demonstrate how

they address social issues as it has a direct impact on an important stakeholder group, namely their employees.

More prominence on the materiality concept is needed as it connects with the stakeholder theory to disclose only important information that could have an impact on their stakeholders. Incorporating the double-materiality concept can support the quality and quantity of reporting. It is hence recommended that agribusinesses decide on the materiality of each topic and report on those relevant to their business and stakeholders. This recommendation was confirmed by Kim et al. (2017, p. 26) which demonstrated that companies closely adhering to an advanced level of reporting using GRI frameworks, not only improve ESG report quality but, importantly, convey information to key stakeholders more effectively.

Proper ESG practices, as may be offered by utilising sector-specific guidelines such as those from the GRI sector standards, can provide South African and other southern hemisphere agribusinesses with a strategic advantage through greater transparency and higher investment ratings.

8 | LIMITATIONS OF THE STUDY

This study is limited to companies listed on the stock exchanges, whereas many agricultural companies, particularly in South Africa, are not listed. As such, the study will not provide an overview of the sustainability of the entire agricultural sectors of the selected countries but rather of larger companies in which agricultural practices form a part of the operations.

The selection of keywords and type of analysis may be a misleading factor in ascertaining the quality of the actual reports, as the approach only identifies if a keyword was present or absent.

To conclude, it should be kept in mind that none of these agribusinesses were reporting using the specific GRI sector standards, as these were not yet available and were still under review during this study. As such, agribusinesses were not expected to demonstrate high compliance on many of the material topics identified through the sector standards for agriculture, aquaculture, and fisheries.

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