

Investigating the reporting of waste in the food producers' sector listed in the Johannesburg Stock Exchange of South Africa

D Kirchner



orcid.org/0000-0003-3649-6178

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Supervisor: Prof AM Smit

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PREFACE

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ABSTRACT

The study is done to determine the regard that food producing companies in South Africa have for reporting of waste management. The target group is the food producers' sector of the JSE. Content analysis is the research method of choice to analyse annual reports. It is the most suitable method and is used regularly in the management accounting field. Non-financial disclosing requirements are mostly regarded as "recommended" and not regarded as an obligation. Companies report annually on their performance in their IR. The GRI document is one of a few recognised frameworks that are often used to enhance the quality of reporting. Non-financial disclosures are divided into groups consisting of social, economic, and environmental categories according to the GRI document. The environmental category contains a sub-heading to disclose on waste and the disposal thereof. There are various types and forms of waste and can therefore be grouped into different categories. Firstly, waste can be divided into hazardous and non-hazardous waste. Any liquid, solid or gas waste material that has the potential to be harmful or dangerous to the environment or any living organism, can be categorised as a hazardous waste material. The food producers' sector has a few opportunities to reduce, reuse and recycle waste. Main food wastes of the food producers include packaging, date-labelling, logistics, and changing consumer behaviour to reuse and redistribute. The study provides insight of companies' current reporting status using the GRI as a framework. Results are presented in percentages and comparative graphs. The results show that all companies do not use the GRI to conduct reporting. The need to regulate reporting is a growing need as only some of the companies regard the disclosing of non-financial as important. Discussions regarding waste are often available in the IR of the companies studied. All the involved companies in the sector had an IR or sustainability report. All reports were not conducted using the GRI framework. As a result, companies often neglected to report on the amount of waste measured in tons, displaying that all companies do not have the same regards for reporting on their waste. Recommending that without regulatory requirements or legislation to do sustainability reporting, the JSE listed companies will not develop the reporting culture that is suggested for transparency as desired by the latest King IV document. All the companies that were investigated had an IR. Only eight out of thirteen (61.5%) companies published a sustainability report. The GRI guidelines were used by only three of the thirteen (23.1%) companies to report. Companies that clearly indicated they are serious about environmental governance/ management were twelve of the thirteen (92.3%) companies. With regards to waste, only eight out of the thirteen (61.5%) displayed their high regard for waste management.

OPSOMMING

Die studie word gedoen om vas te stel wat voedselproduserende maatskappye in Suid-Afrika doen omtrent verslaggewing. Die teikengroep is die voedselprodusentesektor van die JSE. Inhoudsontleding is die navorsingsmetode wat gekies word om jaarverslae te ontleed. Dit is die mees geskikte metode en word gereeld in die bestuursrekeningkunde-veld gebruik. Nie-finansiële openbaarmakingsvereistes word meestal as 'aanbeveel' beskou en nie as 'n verpligting beskou nie. Maatskappye rapporteer jaarliks oor hul prestasies in hul IR. Die GRI-dokument is een van 'n paar erkende raamwerke wat dikwels gebruik word om die kwaliteit van verslaggewing te verbeter. Nie-finansiële openbaarmakings word volgens die GRI-dokument verdeel in groepe wat bestaan uit sosiale, ekonomiese en omgewingskategorieë. Die omgewingskategorie bevat 'n subopskrif om afval bekend te maak en die wegdoen daarvan. Daar bestaan verskillende soorte en vorme van afval en kan dus in verskillende kategorieë gegroepeer word. Eerstens kan afval verdeel word in gevaarlike en nie-gevaarlike afval. Enige vloeibare, vaste of gasafvalmateriaal wat moontlik skadelik of gevaarlik vir die omgewing of enige lewende organisme kan wees, kan geklassifiseer word as 'n gevaarlike afvalmateriaal. Die voedselprodusentesektor het enkele geleenthede om afval te verminder, te hergebruik en te herwin. Die belangrikste voedselafval van voedselprodusente sluit in verpakking, etikettering van datum, logistiek en die verandering van verbruikersgedrag om weer te gebruik en weer te versprei. Die studie bied insig van die huidige verslagdoeningstatus van maatskappye met behulp van die GRI, aangesien die resultate in persentasies en vergelykende grafieke aangebied word. Die resultate toon dat alle ondernemings nie die GRI gebruik om verslagdoening te doen nie. Die behoefte om verslagdoening te reguleer, is 'n groeiende behoefte, aangesien slegs sommige van die maatskappye die bekendmaking van nie-finansiële inligting as belangrik beskou. Besprekings rakende afval is dikwels beskikbaar in die IR van die ondernemings wat bestudeer is. Al die betrokke maatskappye in die sektor het 'n verslag oor IR of volhoubaarheid gehad. Alle verslae is nie met behulp van die GRI-raamwerk gedoen nie. As gevolg hiervan het ondernemings dikwels nagelaat om verslag te doen oor die hoeveelheid afval gemeet in ton. Dit toon dat alle ondernemings nie dieselfde gesag het vir die rapportering van hul afval nie. Aanbevelings is dat sonder regulatoriese vereistes of wetgewing om volhoubaarheidsverslagdoening te doen die JSE-genoteerde maatskappye nie die verslagdoeningskultuur sal ontwikkel wat nodig is vir deursigtigheid soos voorgestel deur die jongste King IV-dokument nie. Al die maatskappye wat geondersoek was, het 'n IR. Slegs agt uit dertien (61,5%) maatskappye het 'n volhoubaarheidsverslag gepubliseer. Die GRI-riglyne is slegs deur drie van die dertien (23,1%) maatskappye gebruik om verslaglewering te doen. Ondernemings wat duidelik aangedui het dat hulle ernstig is oor die bestuur van die omgewing,

was is twaalf van die dertien (92,3%) maatskappye. Wat afval betref, het slegs agt uit die dertien (61,5%) hul agting vir afvalbestuur getoon.

KEYWORDS

Reporting

Governance

Disclosures

Global Reporting Index

Integrated Reports

JSE

Food producers

Environment

Waste

List of acronyms:

JSE- Johannesburg Stock Exchange

GRI- Global Reporting Initiative

SRI- Socially Responsible Investment

GSSB- Global Sustainability Standards Board

IR- Integrated Report

CDSB- Climate Disclosure Standards Board

IFRS- International Financial Reporting Standards

SASB- Sustainability Accounting Standards Board

TBL- Triple Bottom Line

IIRC- International Integrated Reporting Council

GAAP- Generally Accepted Accounting Principles

TABLE OF CONTENTS

PREFACE	I
ABSTRACT	II
OPSOMMING	III
CHAPTER 1 NATURE AND SCOPE OF THE STUDY	1
1.1 Introduction	1
1.2 Background to the study.....	3
1.3 Objective of the research	7
1.3.1 Main objective.....	7
1.3.2 Secondary objectives.....	7
1.4 Research methodology	8
1.4.1 Literature study.....	8
1.4.2 Empirical study	8
1.4.2.1 Research design/ research method	8
1.4.2.2 Population	9
1.4.2.3 Sample	9
1.4.2.4 Data collection	10
1.4.2.5 Analysis of data	10
1.5 Limitations of the study	10
1.6 Conclusion.....	10
CHAPTER 2 LITERATURE REVIEW.....	11
2.1 Introduction	11

2.2	Reporting	12
2.2.1	Transparency.....	13
2.2.2	Governance	14
2.2.2.1	Integrated reports	14
2.2.2.2	Global Reporting Initiative (GRI)	16
•	Corporate Reporting Dialogue	18
•	Carbon Disclosure Project (CDP)	19
•	Climate Disclosure Standards Board (CDSB)	19
•	International Financial Reporting Standards (IFRS)	20
•	ISO	20
•	Sustainable Accounting Standards Board (SASB)	20
•	Other Legislation and Accountability Standards.....	21
2.3	The South African Constitution	21
2.3.1	Waste types.....	22
2.3.2	Disposal of hazardous and non-hazardous waste materials	23
2.3.3	Waste disposal	25
2.3.3.1	Landfills and composting:	27
2.3.3.2	Incineration:	27
2.3.3.3	Deep well injection:.....	27
2.3.4	Organisation's self-disposal of waste or contractors disposing waste:	28
2.3.5	Waste management.....	28
2.3.5.1	Environmental Regulations in the JSE sectors:.....	29

2.3.5.2	Environmental Regulations for Food producers:	30
2.3.5.3	Product responsibility regarding waste:.....	30
2.4	Conclusion.....	32
CHAPTER 3 EMPIRICAL RESEARCH.....		33
3.1	Introduction	33
3.2	Research method	33
3.2.1	Strengths and opportunities of content analysis.....	34
3.2.2	Weaknesses and limitations of the content analysis method.....	34
3.2.3	Structured framework used.....	34
3.3	Process followed to achieve the results.	35
3.4	Disclosure of results	36
3.5	Summary of the results per company	41
3.5.1	AH West Limited:	41
3.5.2	AVI Limited:	41
3.5.3	Crookes Brothers Limited:	41
3.5.4	Libstar Holding Limited:	42
3.5.5	Oceana Group Limited:.....	42
3.5.6	Premier Food and Fishing Brands Limited:	42
3.5.7	Quantum Foods Limited:	42
3.5.8	RCL Foods Limited:	42
3.5.9	Rhodes Food Group Limited:.....	42
3.5.10	Sea Harvest Group Limited:.....	43

3.5.11	Tiger Brands Limited:.....	43
3.5.12	Tongaat Hulett Limited:.....	43
3.6	Conclusion.....	43
CHAPTER 4 CONCLUSION		45
4.1	Introduction	45
4.2	Summary of Results	45
4.3	Limitations	46
4.4	Challenges and recommendations.....	47
4.5	Conclusion.....	48
4.6	Chapter summary	48
BIBLIOGRAPHY		50
ANNEXURES.....		63
LAST UPDATED: 31/03/2021.....		76

LIST OF TABLES

Table 2.1: Characteristics of the framework.....	16
Table 2.2: Role players in waste management	24
Table 2.3: Different plastics recyclability	25
Table 3.1: Example of GRI altered checklist.	35
Table 3.2: Demographic results.....	37
Table 3.3: Methods to dispose Hazardous waste	38
Table 3.4: Disposal methods of non-hazardous waste.....	40

LIST OF FIGURES

Figure 2.1: Hierarchy of waste management	26
Figure 2.2: Integrated waste management flow (Waste Solutions, 2020)	26
Figure 3.1: Waste disposal disclosures of JSE listed food producers.	37
Figure 3.2: Hazardous waste disclosures of JSE listed food producers.	39
Figure 3.3: Non-hazardous waste disclosures of JSE listed food producers.	40

CHAPTER 1 NATURE AND SCOPE OF THE STUDY

1.1 Introduction

Companies need to report annually on their performance. The disclosure of the information could be separated into two categories, namely, the financial and the non-financial parts. The disclosure of the financial sections is more standardised; there are specific rules and regulations that need to be adhered to. The disclosure of non-financial information is not always regulated and therefore the rules and guidelines are not as clear (Mansoor, & Maroun, 2016).

Financial reporting, which includes the annual financial statements of the company, should adhere to the International Financial Reporting Standards (IFRS), while a variety of guidelines are available for the non-financial side of disclosures. One of the guidelines that are often used for the non-financials, is the Global Reporting Initiative (GRI) (Nieman, & Fouché, 2016). The GRI framework provides excellent guidelines to support a variety of non-financial disclosures and could be used successfully to report on these disclosures.

The GRI document is one of a few recognised frameworks that are often used to enhance quality reporting. Non-financial disclosures are divided into groups consisting of social, economic, and environmental categories according to the GRI document. There are other frameworks and guidelines like the AccountAbility's AA1000 that provides principle-based standards and a framework that can be used by a broad spectrum of organisations. Social accountability's SA 8000 is an international certification standard that encourages organisations to develop, maintain and apply socially acceptable practices in the workplace.

According to Deloitte (2016), the King IV Report is bolder than ever, created to provide guidelines for corporate governance and governance structures to operate within public companies of South Africa. In 2009, the King Report was incorporated into the listing requirements of the JSE (Zulu, 2018).

Socially acceptable practices are set out in the King IV Report which builds on its previous documents, King II and King III, and which inspires companies to maintain good corporate governance as an important part of the Triple bottom line. The triple bottom line (TBL) is a framework that suggests that companies focus on the people, planet, and profit rather than profit only (O'Neil, 2018). Due to initiatives such as the TBL, various similar initiatives have been developed. One of these initiatives is the concept of integrated thinking, which headed to the framework of integrated reporting. Integrated reporting (IR) relates to frameworks and guidelines that were accentuated in the TBL to bring solidarity and more efficiency to the reporting process.

Not all countries adhere to the instructions of Integrated Reporting (IR), but South African listed companies are required to adhere, as it suggests good practice within the King IV governance document. Integrated reports are compulsory for Johannesburg Stock Exchange (JSE) listed companies as they are regulated by the International Integrated Report Commission (IIRC) (De Villiers, *et.al.*, 2017).

In South Africa, there are companies taking a leading role in good reporting by setting an example of complying to guidelines, and often make use of the GRI framework to do so successfully (McNally, *et.al.*, 2017). IR can often highlight a company's transparency. Companies need to apply the concept of materiality to prevent an information overload as it is impossible to disclose detailed information on all topics provided. The Materiality Principle states that an accounting standard can be overlooked if the totality of the impact is so small, and that the impact on the report would not be misleading to the reader. (Jeter & Chaney, 2019).

Using guidelines such as the GRI could assist companies and governments worldwide to report on their environmental impact. Critical sustainability issues such as climate change, human rights, corporate governance, and social well-being are being confronted in the GRI. The GRI Sustainability Reporting Standards are developed through many stakeholders' influences and are rooted to represent the interest of the public (Niemann, & Hoppe, 2018).

GRI standards assist companies in reporting on their impacts on the economy, environment, and society. GRI is for voluntary use in organisations. GRI categories have a variety of performance indicators to deliver a broader vision on how the company complies and reports on a specific item. The GRI's overview starts at the Foundation of the document (GRI 101) and is then subdivided into the General disclosure document (GRI 102) and Management approach document (GRI 103). Environmental is abbreviated as (EN) in the document and consists of categories such as: materials, energy, water, biodiversity, emissions, effluents and waste, products and services, compliance, and transport to disclose information on (GRI, 2020).

Considering this, the focus of this study will be on waste and disposal methods that companies can report on when using the GRI disclosure 306 (2016). Topics mentioned in this disclosure include that of compost recovery and energy recovery, incineration of waste, deep well injection, landfill, and on-site storage. How waste disposal methods are determined is subject C in this disclosure that companies can report on. Waste and disposal of waste is a worldwide concern (Verschoor, 2017). The environmental sustainability category focuses more specifically on the waste and disposal thereof. Main food wastes of the food producers include packaging, date-labelling, logistics, and changing consumer behaviour to reuse and redistribute (Zhao, *et.al.*, 2019).

1.2 Background to the study

South African public companies report on their financial and non-financial information as they are obligated to report on it in their IR. Reporting should be guided by guidelines that need to be adhered to such as GRI framework or IFRS. Rules and regulations are in place to report on the financial information of the company. In non-financial information, the rules and guidelines are not so evident, however it is improving to assist in the quality of reporting.

Emerging trends in America and Europe are the interest amongst new compost facilities, so as to avoid European Union (EU) Fines (Foster, 2010). Reporting is done to create transparency in these companies. The EU Members state that they are obliged to monitor and introduce the measures, to limiting the food wastage (Łaba, *et.al.*, 2019).

The Global Sustainability Standards Board (GSSB) has the responsibility for setting the first globally accepted standards for sustainability reporting. The GSSB works only in the interest of the public, according to the vision and mission of the GRI. The GRI Framework assists companies in setting up the IR annually as required by the various companies' stock exchange rules and regulations, such as the JSE (Corvino. *et.al.*, 2019).

Considering this, the JSE grouped companies into different sectors. A sector consists of companies selling and/or producing the same or similar products. These companies are however in constant competition with one another. Comparison of content and analysis of results for the reports published by the companies in this sector indicate the success that companies achieve in their report on waste. The sector of food producers will be more specific to this study. The companies in the food producers' sector, compete on numerous levels. Similarly, they are required to produce an IR annually, disclosing important information. The type of information that will be used in this study will refer to the environmental impact of the companies, and the information they disclose regarding waste. According to the GRI disclosure 306-2, waste's compost recovery and energy recovery, incineration of waste, deep well injection, landfill and on-site storage are named as methods of waste disposal. Companies should report on how waste disposal methods are determined in subject C of this disclosure.

Definition of Waste according to the National Environmental Management: Waste Amendment Act, 2014 (Act No 26 of 2014), is that it can be in any substance which is thrown out after its primary use and is regarded as worthless with no more use.

Waste substances are obligated, by law, to be disposed of (Hackett, 1989). There are various types and forms of waste, and can therefore be grouped into different categories. Firstly, waste can be divided into hazardous and non-hazardous waste (Mora et al., 2016). Any liquid, solid or

gas waste material that has the potential to be harmful or dangerous to the environment or any living organism, can be categorised as a hazardous waste material (Manahan, 2017). Highly hazardous waste can be fatal to humans such as: Plating solutions, unusable commercial products, spent chlorinated solvents, some pollution control dusts, some wastewater treatment sludge's, some still bottoms and spent wood preserving solutions. Designated hazardous waste material is waste that is either ignitable, corrosive, reactive or toxic (Waste, 2018). Non-hazardous waste materials are the opposite of hazardous waste materials. These are waste materials that will not cause any harm when being disposed of. Examples are food waste (household waste), furniture, cut down plant materials and non-hazardous agricultural waste (Inglezakis & Moustakas, 2015).

It is crucial to know the difference between hazardous and non-hazardous waste as they need to be managed differently. One difference in management is the method of disposal. Because hazardous waste could harm the environment, it needs to be disposed of more carefully than non-hazardous waste materials.

Buying food is a necessity for almost all humans. The food that is bought in shops is provided by food producers. The magnitude of this sector is enormous. A total of 1.3 billion tons of food waste is produced worldwide (Arun, *et.al.*, 2020). Locally, all the food producers listed on the JSE are responsible for an exceptionally large amount of food waste (Maroušek,*et.al.*, 2020). Food producers go through a series of processes from the start of buying the food from the farmer, to getting the food packaged and placed on the shelves. This includes a strenuous process that is harmful to the environment.

Modern food packaging methods can provide a way to make food safe, reliable, shelf-stable, and clean. Regrettably, most food packaging is designed for single use and is not recycled. Food packaging waste that is not recycled or composted is typically landfilled or incinerated. While both choices provide a solution for waste management, they both cause pollution. Food producers' packaging is a large contributor to waste. Companies striving to a more sustainable packaging alternative have a large selection of packaging products. Companies such as the Spur Group displays their attempt to more sustainable packaging by resorting to biodegradable products such as paper or cardboard containers and straws (Spur Corporation, 2021). Sustainable packaging is a great consumer trend in 2021 and consumers are more likely to buy the more environmentally friendly packaging than regular packaging (Su, *et.al.*, 2021). Although it can be more expensive to use biodegradable or reuse and recyclable packaging products it can have a positive effect on sales.

Most food packaging can be broken down into four major types:

Plastic packaging - Such as bottles, packets, and Styrofoam takeaway boxes. The raw materials used to make plastic packaging may be harmful to the environment or may use harmful chemicals to make plastic more functional.

Metal packaging - This includes aluminium and other metal cans where both food and beverages are packaged in.

Paper/fibre packaging - This includes pack cartons, other types of cartons and takeaway food containers.

Glass packaging - This includes glass bottles and other containers. The properties of each packaging type have its own advantages and disadvantages.

Given the above categories of food packaging careful consideration is necessary to manage the waste of each type of packaging effectively. In the background of the study, as previously discussed, the important issue surrounding waste, how to manage waste and waste disposal have been highlighted. Problem statement

South Africa has unique challenges regarding waste management. As the focus of this study is on the reporting thereof, the importance, but also the lack of uniform standards and guidelines has prompted the following problem as indicated in the next paragraph. These challenges brought to light the need to create a workable strategy that would attend to South Africa's economic, environmental, and social issues. Food producers are one of the largest contributors to packaging waste. The South African Initiative's top agenda point is to find a solution and create an environmentally sustainable use for problematic 'single-use' packaging. This entire initiative was coordinated by the Consumer Goods Council of South Africa (Hanekom, 2020).

An article published in 2020 from the institute University of Lisbon, recommends an improvement in the quality of reporting. This study found that reporting is different in all countries due to the fact that the rules and regulations are different. This changes a country's responsibility of reporting quality (Isidro, *et.al.*, 2020). The finding in this study suggested that future research on how to improve the quality of reporting is essential.

Esch, Schnellbacher and Wald, conducted a study in 2019 with the title *Does integrated reporting information influence internal decision making? An experimental study of investment behaviour*. The study found that sustainability reports created a mind shift in many companies' management to have an inclusive approach to daily management to improve processes and ensure sustained good governance practises that ultimately lead to improved, inclusive external corporate reports. Research in this study considered the motivations and different frameworks of integrated

reporting, and how these reports provide a better information basis for investors. Integrated reporting information can also affect the internal decision-making process, by providing stakeholders with a broad spectrum of information that can impact the firm's current strategy to be more sustainable. The study found, through a scenario-based experiment, to test how financial, unlinked financial and non-financial, and integrated information had an effect on the outcomes of investor's decisions. Similarly, the study found that the information of the IR's lead to decisions with higher sustainable value. This proved that information published for an external report can also be used for internal decision making to assist companies in establishing more sustainable behaviour (Esch, *et.al.*, 2019).

Sustainable development and the European Union Policy on non-financial information: An Italian empirical analysis about Corporate Social Responsibility and Environmental Management. The study was conducted by Grimaldi, Muserra, and Papa (2020), found that non-financial information would be capable of increasing corporate transparency and sustainable development. The study was conducted as specified by the Italian regulation. In the audit, the non-financial statements are regarded as equally successful approaches to the discipline as financial information.

Companies disclosing non-financial information through sustainability reporting practices provide markets with information on their social and environmental governance performance. The quality of sustainable reporting is often discussed because it affects factors such as the credibility, accountability and building of stakeholders' trust in the company. The perception of quality is different to each company, and the empirical evidence relating to the quality of sustainability reporting presents different findings. However, regulations on mandatory non-financial disclosures opened a new perspective for research on sustainable reporting's quality. The results of 132 observations demonstrated that the quality of sustainable reporting increased after the implementation of the law, on mandatory non-financial disclosures, which were implemented in Germany and Italy (Mion & Loza Aduai, 2019).

Waste Management approach, as elucidated by the South African Government, provides a national public awareness campaign and a building programme to promote waste management in urban and rural areas across South Africa. The waste management bill is a crucial goal to attain in this awareness campaign. All industries will need to participate to create a joint effort to deal with wastes, which consist of solid waste as the largest majority (National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).)

Proper waste management consists of using garbage as a valuable resource; it can be recycling or reusing the items that do not need to end up in a landfill just yet. This process does not only involve the service of garbage removal companies but an activity that can be carried out internally

in all companies. An appropriate disposal method of products that no longer have any use should be conducted in a safe and efficient manner. Ways to manage waste properly include (Gorilla Bins, 2016):

- Reduce and Reuse.
- Recovery and Recycling
- Landfills
- Incineration
- Composting

1.3 Objective of the research

1.3.1 Main objective

Based on the problems stated above, the following main objective is formulated:

The problem investigate in the study therefor is reporting of waste in the food producers' sector.

1.3.2 Secondary objectives

The secondary objectives will be divided into two categories, namely the literature and empirical objectives.

Secondary objectives in literature:

- To investigate the importance of waste reporting in the food sector. Food producers manufacture in magnitude, and are dependent on packaging, transport and other sources that contribute to waste. Similarly, the processing of food also creates waste (Molina-Besch, 2019). All of this can be managed and disposed of, in various ways.
- To explore what environmental reporting is, and to investigate waste and the importance of information about the disclosure thereof that is communicated to all the stakeholders. Waste in particular, food producers are largely dependent on packaging for the distribution, causing a holistic form of waste that needs to be managed in different ways.
- To investigate the qualities of good disclosure practices, documents such as the King documents is used. The King governance documents create standardised requirements for companies to achieve to ensure good governance.
- To identify the different rules and frameworks that support non-financial disclosures such as the GRI framework and the AA1000 that companies use to create their IR.

- To conceptualise the IR as published from the International Integrated Reporting Council (IIRC). JSE companies should publish their IR annually, according to the standards as set out by the IIRC.

Secondary objectives in the empirical study:

The study identified companies that use GRI and other frameworks to gather information to compile their integrated report; it is used as such.

- To identify the population and the sample, such as food producers and the GRI to use in the research; the research method suitable for this study will be content analysis. This type of analysis is used to study documents and communication artefacts to observe the communication patterns.
- To create a disclosure index as a measuring instrument, based on the GRI disclosure on waste and waste management.
- To use the developed disclosure index as a measuring instrument to observe the communication patterns of the companies' IR in the food producer's sector.

1.4 Research methodology

1.4.1 Literature study

The study will be conducted using academic databases, such as EBSCOhost, Sabinet Online, and LexisNexis to support the information used and gathered. Search engines will be used such as: Google Scholar. The GRI document is one of the documents that contains the required information when setting up the checklist. The company's IR is found on their own hosted websites and will be found through the use of Google or Yahoo search engines.

1.4.2 Empirical study

1.4.2.1 Research design/ research method

The research method utilised in this study is content analysis. Each company's IR will be analysed to complete the checklist consisting of companies listed on the JSE/public sector under food producers. A list of food producing companies listed on the JSE within the sector food producers, will be identified. Each companies' IR will be gathered to study their disclosures and measure their reporting based on the GRI. The GRI 306 will be used to create a checklist on Microsoft excel. The IR's will be analysed and coded to complete a checklist for each company.

1.4.2.2 Population

The companies in the population are those listed on the JSE in the sector of food producers. All companies' IR reports are publicly available within this sector as listed on the JSE. The company names will be collected from the website for African markets under JSE. These public companies have a large influence on the South African economy. The JSE has a market capitalisation value of 1005 billion US dollar (JSE, 2021). The larger sized companies can prove the severity and the impact on the environment, economy, and people (Ackers, 2017). JSE companies' social value reports are envisioned for all JSE stakeholders. The list of companies as listed on the JSE for the food producers' sector are: (African Markets, 2019)

1. AH-Vest Limited
2. Astral Foods Limited
3. AVI Limited
4. Clover Industries Limited
5. Crookes Brothers Limited
6. Oceana Group Limited
7. Pioneer Food Group Limited
8. Premier Food and Fishing Limited
9. Quantum Food Holdings Limited
10. RCL Foods Limited
11. Rhodes Food Group Holdings Limited
12. Tiger Brands Limited
13. Tongaat Hulett Limited

1.4.2.3 Sample

No sampling was needed as all the companies were selected to be a part of the study. The participants consist of all companies registered at the JSE under the sector of food producers. The comparison of their annual reports will focus on the information regarding waste disposal and the management of waste. Available frameworks and guidelines, such as the GRI are normally used by companies as a guideline on non-financial reporting when they prepare their IR's. Importance of waste and waste management, and what they report on to their stakeholders will be investigated. The GRI's document is used as a basis to create the checklist for the investigation regarding the company's reporting on hazardous waste and non-hazardous waste, and of the disposal thereof.

1.4.2.4 Data collection

The checklist that will be developed based on the GR will be used as measuring instrument and will be applied to the data as collected from the integrated and sustainability reports of the companies. The checklist (instrument) assigns a value or code for each possible answer to its question. If the company reports on a particular item, a 'Yes' tick will be applied. If the company failed to report on an item, a 'No' tick will be applied. If that aspect is not relevant to that company, it will be indicated as 'Not Applicable'.

1.4.2.5 Analysis of data

The data, as collected from all the reports measured against the checklist, will be converted into percentages, and then compared to observe the different levels of reporting by the companies in the food producer's sector.

1.5 Limitations of the study

The study considers only one period, but the findings of the study might change over time. Therefore, more time in the future surrounding this matter may enable more progress to recognise the movements of sustainability reporting across time.

1.6 Conclusion

Chapter 1 provided information on the focus of the study. It is important for all companies to communicate with their stakeholders through their annual performance report. Reporting is divided into two groups: financial and non-financial reports. Companies tend to disclose their financial information as they are obligated to meet accounting standards used. The rules and guidelines are not as clear for non-financial reporting and therefore the disclosure of this information is not always regulated. Despite the lack of non-financial reporting regulations, there are a wide range of guidelines available for the disclosure for non-financial information. The GRI framework is one of the guidelines that is often used for non-financial reporting and divides the disclosures into three main categories, namely: economic, social, and environmental. The King IV Report provides practises and governance principles as guidelines to promote transparency and inclusive disclosure for all stakeholders to be viewed. Companies use the King reports to uphold good corporate governance which forms an important part of the triple bottom line (TBL). The TBL is an approach that encourages companies to concentrate on the people, planet, and profit, rather than profit only. By using the guidelines emphasised in the TBL, a company can report effectively by setting up an IR. An IR is mandatory for all JSE listed companies as they are regulated by IIRC. The GRI document provides all the necessary guidelines to support companies

in reporting on their impact on the environment. A company's environmental impact can consist of various aspects such as energy, biodiversity, materials, emissions, water, effluents and waste, compliance and transport, product, and services. All the listed aspects should be reported on if applicable to the company. In this study, the focus is on the food producing company's reporting on waste and the disposal thereof, by using GRI disclosure 306. The type of waste produced by a food producing company includes packaging and date-labelling. Other aspects to consider are changing consumer behaviour, to reuse and to redistribute.

The next chapter will analyse how different waste types, waste disposal methods and waste management strategies are implemented and applied within the food producers' sector, as well as the company's ability to report on it. This discussion will facilitate the identification of measurable dimensions of waste management to be included in a checklist for use in the empirical part of the study. IR will be discussed by looking at the necessary requirements and the supporting frameworks. The benefits of IR show greater improvement in future cash flow for companies that have high quality IR. Literature provides guidelines to set up IR, and these will be discussed using the GRI as primary basis for comparison of current practices in the sector. The JSE sectors and the magnitude of the sector, as well as the influence on the South African economy will be discussed. Food producers is the sector that will be discussed in more depth; the reporting they do regarding waste and waste management.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

In this chapter, the literature review has been performed using previous authors' findings on this topic for contextual evidence, as well as in support of the conclusions made in this mini dissertation. The central point for this literature review is on the non-financial reporting and its importance thereof. The business environment is frequently changing, and businesses need to adapt to the importance of environmental sustainability. The way in which a company prepares its reports and communicates this information, may provide an indication of a company's circumstances, and approaches towards environmental sustainability.

Reporting is conducted using different frameworks to provide guidelines to different companies for effective reporting on the organisation's current circumstances related to the environment in which they operate. Because companies have a variety of frameworks and guidelines to use when they report on non-financial aspects, it is possible that the lack of standardisation could cause

miscommunication with its stakeholders. The focus of the study is on the non-financial reporting of waste within food producing companies listed on the JSE.

According to Moneva & Cuellar (2009), the subject of reporting is divided into two groups: financial and non-financial reporting. Non-financial reporting is not regulated as clearly as financial reporting (Mansoor, & Maroun, 2016). Guidelines used for non-financial reporting clearly state that it is for voluntary use and not regarded as a requirement (GRI, 2016).

The JSE is supported by information in the King III and IV? Report to comply with listing requirements of the JSE (Zulu, 2018). Reporting is regarded as a socially acceptable practice whereby companies can prove that they maintain good corporate governance. The King III document focusses on the importance of the triple bottom line (TBL) as a framework that suggests that companies maintain good governance of people, planet, and profit (Vorster & Marais, 2014).

The GRI disclosure is a comprehensive document with a topic on waste and the disposal methods that companies use to manage the waste. Food producing companies' main food wastes include packaging, labelling and other items used in the logistics of the products (Garrone, et al., 2016). Disclosing of such information in a company's integrated report will prove transparency as well as the willingness to grow and develop into a sustainable company.

Food producers are a sector of companies listed on the JSE. The Johannesburg Stock Exchange (JSE) companies are the South African Public Companies. The JSE uses the Industry Classification Benchmark (ICB) to classify companies into sectors (JSE, 2018). The ICB sector categories make it easier to compare companies in the same sector. In this sense, companies in the food sector are compared with each other in the sector.

2.2 Reporting

Financial and non-financial reporting frameworks share common founding principles of transparency and accountability. Reporting is an imperative part of communicating with stakeholders and is the reaction to the necessity for non-financial reports. Unfortunately, the rules and regulations of non-financial reporting are almost not regulated (La Torre, et al., 2018). Reports are drawn up using different principles and guidelines, which can restrict comparisons across sectors. The purpose is to increase transparency and to assess progress. This is proven by surveys conducted by organisations setting up a report on their Corporate Social Responsibility (CSR), in which approximately 80% of all reports followed the guidelines set by GRI (Křištofík, et al., 2016).

A company can discuss reporting to be a social responsibility that they have towards society, investors, or stakeholders. These involved and invested parties should all have the knowledge of operations inside the company, deeper than just the visible financials which the company displays (Adams & Zutshi, 2004). Reporting companies want their reports to be clear, transparent, and comparable to communicate with their stakeholders, in order to provide them with the company's crucial information requirements. The Regulations of the Directive 2014/95/EU of the European parliament amends the disclosure of non-financial and diverse information by large undertakings and groups. Based on the EU Commission (2014), this directive has led the example to move forward, with a goal to standardise the rules of reporting on non-financial information and improve companies' transparency and value. The directive will set a clear guideline of how companies should be forced into a situation of reporting that is audited along with a company's financial reports to provide the invested parties with a transparent view of the company's operations.

2.2.1 Transparency

Companies use reporting as one of the methods of communication to convey a transparent impression regarding their environmental impact. Corporate Social Responsibility (CSR) is one aspect that companies prefer to report on, using the selected framework such as the GRI framework to do reporting (Dhaliwal, et al., 2011). The reporting that companies do are guided by a framework that they prefer to use, that guides the company to reach a certain goal that must be stipulated by leaders and managers. Companies can use these frameworks as tools to improve the non-financial areas of reporting in the company. Reporting and transparency are two concepts that are inter-linked, especially when referring to sustainability reports (SR) (Piechocki, 2004). Transparency is regarded as essential when considering the stakeholders as well as the general society.

How a company goes about the treatment of waste is important, as it is part of their responsibility towards the environment. It could also indicate the impact the company has on the environment and how it deals with it as part of its social responsibility. Some companies experience more pressure from stakeholders when reporting on their environmental effects. For example, mines and oil companies (Frynas, 2005). It is also noted that companies within the same industry will influence one another based on their level of transparency due to the pressure that will arise in the general society when one company is extremely more transparent than another (McManus, et al., 2006). Therefore, the attitude towards reporting in different companies could influence investors (Drabek & Payne, 2002). When a company is more transparent, investors will be able to make more informed decisions when investing in that specific company (Fernandez-Feijoo, et al., 2014). Being transparent for investors could be a clear indication of the quality of governance the company operates under.

2.2.2 Governance

Some companies might treat the non-financial section of reporting as a mere administrative duty. Companies that make use of reporting as an opportunity to improve their governance, use it to communicate the company's way forward towards a more sustainable, transparent, and greater stakeholder involvement (Aureli, *et al.*, 2020).

Reporting on corporate governance was announced to educate and align the new democratic South Africa that was conspired as a capitalist market system. The King Report was revised to create the King (II) report in 2002, and then again revised to create and release King III in 2009. The King III was effective since 2010. The aim of this document was to match the document used in the United Kingdom of the Combined Code of 2010.

The King Report can be one of the reflected changes in the socio-economic political domain in South Africa, and an ideal reference to corporate governance at times. King I was meant to challenge and adjust to create a new image regarding corporate governance. It laid the foundations of an established corporate governance. King II recognised the need for change in the economic and environmental governance. King III realised the need for a more thorough report; to prevent the collapse of many leading corporate companies (Dube, 2016). According to PWC's (2021) description of King IV Report, it is created to reinforce the transparency of companies, and to implement the good corporate governance in an integrated way that is more accessible.

2.2.2.1 Integrated reports

The Integrated Report Framework was developed by the IIRC (International Integrated Reporting Commission) and recognises that the discussion to achieve effective reporting cannot be isolated in one framework. Therefore, the IR framework has a cooperating role to support frameworks assisting in the reporting and disclosure of information (Katundu, 2020).

Other items outlined by the IR framework issued by the International Integrated Reporting Council (IIRC) are to provide a holistic view on value creation. This is to support and address all the different aspects of the discussion as it is represented from the IR (Herbert & Graham, 2020).

According to Simnett & Huggins (2015), Integrated Reporting (IR) strives to provide more information about a company's financial stability and sustainability. Reporting on the economic section of a business makes it more measurable. This is done to acknowledge the status of the company and give direction as an aggregate. It can then be used to differentiate and compare to other reports.

The value that integrated reporting adds, can also contribute to improve a company's social status to their employees and society. Expectations from society and other entities can be found in the report. This should legitimise the company's actions. Stakeholders are more aware of environmental issues and are constantly becoming more focused to ensure that the company does not exploit the environment to have a negative impact on the environment.

Part of the integrated report is to disclose the company's business models. The concept of creating an IR is provided by the IIRC and can be created from any accepted framework such as GRI. Companies can often avoid disclosing completely within the limits of the materiality concept, as it can create tension internally and externally. The competitiveness of a company's operation should not be jeopardised through reporting. IIRC's main agenda is encouraging quality reporting and improve corporate reporting (Tweedie, et al., 2018).

Companies should release the IR on a company's web page, on the JSE's web page as well as to other publishers for public viewing. The public, that has direct connections to the company, must have easy access to the document under the investor's relations tab of the company website. Deciding investors must also be able to find the report easily to measure and compare potential profit returns. Similarly, this should also provide an indication of risk investing in the company. Integrated reporting is conducted annually to monitor and analyse growth. The purpose of the reporting is to report only, and it does not compel or force a company to execute or plan, but report on the impact left on the people, planet, and profit (Mio, 2016).

The International Integrated Reporting Council (IIRC) (2016) is a global combination of companies, academia, investors, regulators, standard setters, NGOs, and the accounting profession. Communication about value creation is supported as the follow up in the evolution of corporate reporting by the alliance. The focus of the IIRC is to establish integrated reporting as the norm, not only in the private sector, but in the public sector too. The aim is to align corporate behaviour and capital allocation using integrated reporting. This will ensure sustainable development and financial stability.

2.2.2.2 Global Reporting Initiative (GRI)

Table 2.1 compares five frameworks by associating their stakeholder roles, sustainability, materiality, completeness, accuracy, balance, clarity, comparability, reliability, timeliness, consistency to compare, strategic focus and future orientation as well as connectivity of information.

Table 2.1: Characteristics of the framework

GRI	IIRC	SASB	IASB	CDSB
Stakeholders inclusiveness	Stakeholder relationship	Stakeholder inclusiveness		
Sustainability context				
Materiality	Materiality	Materiality	Materiality	Materiality & relevance
Completeness	Completeness	Complete	Complete	(Part of materiality & relevance)
Accuracy	Reliability	Fair	Free from material error	Free from error
Balance	Reliability/ Completeness	Neutral	Neutral	Neutral
Clarity	-Conciseness	-useful	Understand ability	Clear & understandable
Comparability	Comparability	Comparable	Comparability	Comparability
Reliability	Reliability	-Verifiable	Faithful representation	Verifiable
Timeliness			Timeliness	Timely
(Part of comparability)	Consistency	(Part of comparability)	Consistency	Consistent
	Strategic focus & future orientation			-forward looking
	Connectivity of information			Connected

(Corporate Reporting Dialogue, 2019)

Global Reporting Initiative (GRI) Standards, for example, equally allows internal and external stakeholders to form opinions and make informed decisions regarding an organisation's contribution to the goal of sustainable development.

The GRI principles include a basis for comparison, comparing the reporting quality of the IR to other companies and comparison of previous years of reporting. Global Reporting Initiative (GRI) standards establish a framework used to report on a company's impact. This includes the impact it has on the economy, environment, and society. It is a suggested world-wide sustainable reporting index. GRI is available for voluntary use in organisations. The GRI provides basic guidelines and not principles or conducts. GRI is for diverse usage in all sectors and is not limited to a selected sector. The GRI's vision is to remain dedicated to improving the framework on every new released document (Lampinen & Prahl, 2018). The GRI is a network-based organisation that established the largest and most used sustainability reporting framework world-wide (Verschoor, 2017). GRI categories and aspects have more than just one performance indicator to take a broader vision on how a company can comply with the CSR and report about the non-financial disclosures in the company (Dissanayake, 2020).

To encourage greater unity, reliability and comparability among corporate reporting frameworks, a program called the Corporate Reporting Dialogue was developed by the IIRC. The main purpose was to support organisation, cooperation, and configuration amongst framework developers with a substantial international impact on the corporate reporting landscape and key standard setters (Hoque, 2017).

Principles of using the Global Reporting Initiative

The GRI document provides the principles of defining the report's content:

- Materiality - The current information in the IR should cover the topics that reflect the company's waste management to influence the stakeholder's investment decisions.
- Stakeholder involvement - The report should indicate what is needed for and by stakeholders to make informed decisions to meet the expectations of stakeholders.
- Sustainability content - IR is released annually along with financial reports representing the company's performance in a larger context.
- Completeness - Selected relevant information must be reported on to reflect sufficient disclosing within the report. Assessing the performance of the IR rather than the compliance thereof.

- Balance - The balance of reporting on both the negative and positive aspects of the companies, allows stakeholders to assess the company in a transparent way.
- Comparability - Comparing companies should be based on a selected and consistent theme. Reports should be analysed according to the company's performance over a period.
- Accuracy - the IR should contain sufficient, accurate and detailed information for stakeholders to assess the reporting performance.
- Timelines - Reporting should occur on a repetitive schedule (annually), to allow stakeholders to make current and informed decisions.
- Clarity - Information should be presented clearly, direct, understandable, and accessible to use the report.
- Reliability - The quality and materiality of the IR should be disclosed in a way that can be subjected to examination.

According to the Corporate Reporting Dialogue (2019), the following frameworks can be used by companies to report:

- Corporate Reporting Dialogue

The Corporate Reporting Dialogue strives to avoid miscommunication and therefore, they develop how frameworks can be explained in a practical manner as well as communicate the developments, direction, and content of reporting frameworks. They also ensure the sharing of all relevant information and resolve all issues to interpret information effectively (Corporate Reporting Dialogue, 2019).

GRI is a framework used by companies to ensure transparency for stakeholders represented by governments, consumers, and investors. The GRI framework aims to assist and support organisations to realise and take accountability for their impact in being more transparent regarding the issues. This is therefore done through reporting. The GRI framework helps organisations in recognising and communicating the impact on issues such as climate change, human rights, and corruption. This framework sets the way to communicate for companies to report by through the use of the standard (GRI, 2016).

Many companies in the food producers' sector find it important to publish a sustainability report. Some refer to it as their SR or as their Environmental, Social and Governance (ESG) report. Integrated reports guide companies to identify and gather information on their current sustainability status for comparison purposes (Camilleri, 2018). The framework is used in more than 90 countries by governments, Small Medium Enterprises (SMEs), NGOs and industry groups. In 2017, the majority of the largest 100 public companies based on market capitalisation, reported using the GRI reporting framework (Goerdeler, 2017). The document is free to use for all companies to conduct their sustainable reporting for the good of the public (Michalczyk & Konarzewska, 2018). In contrast to previously used frameworks, the GRI has a modular structure to enable companies to make updates and to adapt the report easily (GRI, 2018).

- Carbon Disclosure Project (CDP)

According to the CDP (2017), this framework focuses on the companies' understanding of their environmental impact. It is a global environmental disclosure system that aims to build a sustainable economy for the environment, as well as for the society. They believe the company will only completely comprehend their environmental impact when they are able to measure it.

CDP helps cities, regions, and companies, through recommendations on how to manage their environmental impact by measuring their influence on water security, climate change and deforestation. What about carbon footprints report?

- Climate Disclosure Standards Board (CDSB)

CDSB is an international group of business and environmental NGOs. CDSB is dedicated to improving and aligning the global conventional corporate reporting model, to compare natural capital with financial capital (Yates, & Brennan, 2020). This framework is for companies to use on reporting environmental information with a similar rigor to the financial information. It will help the companies to provide investors with environmental knowledge and information via the conventional corporate report, to improve the effective allocation of capital. Regulators can also profit from the compliance-ready materials.

Recognising that information about natural, and financial capital is of the same importance to understand the corporate performance. The aim is to build trust and transparency that is required to promote resilient capital markets. According to Santamaria & Coalition (2018), collectively the aim is to contribute to more sustainable economic, social, and environmental systems. This framework drives on the environment and natural capital reports. This assists users to work towards a more sustainable financial system.

Investors will have higher quality information regarding the environmental opportunities and risks, as disclosed by the company, providing the company does quality and thorough reporting, therefore making better informed capital allocation decisions (Scanlan, 2020). Companies can make use of the CDSB Framework to incorporate an environment of change and natural capital-related information in conventional financial reports. The CDSB Framework can guide companies in a comprehensible way of how environmental issues influence their performance. It can also guide companies to take necessary actions required to address the associated risks and opportunities.

Regulators can profit from the standard-ready templates used to disclose information, as well as a framework that can be referenced. Stock exchanges should consider a voluntary or mandatory listing requirement. To consider the changed environment of the natural capital's-related risks and opportunities. Accounting firms can provide a more comprehensible declaration of investigated companies' reports, regarding their natural capital-related performance. Analysts can then be more equipped to use the changed environment and natural capital-related information, when deciding on the impact of future cash flow and company valuations.

- International Financial Reporting Standards (IFRS)

According to Mohsin (2020), the International Financial Reporting Standards is a non-profit foundation that focuses on transparency, efficiency and taking responsibility for the impact caused by the company. It provides companies with a global accounting standard that is used to support the company in measuring their impact. Well-known companies, such as the World Bank, G20 and the Financial Stability Board, use this framework.

- ISO

ISO is a non-governmental, independent international organisation. This organisation has a membership of 165 national standard bodies. The members of this organisation set the standards that provide possible solutions to challenges faced globally, as well as the provision of innovation. The standards set by the members must be consensus-based, voluntary and market-relevant. The ISO also provides services that support the aim. This framework strives to create awareness and educate companies on their impact (Ab Wahid, 2019).

- Sustainable Accounting Standards Board (SASB)

The SASB is an organisation that aims to connect investors and businesses on the financial effects of sustainability (Ng, 2018). The SASB focuses on financial material information. This includes social and environmental topics, as well as industry-specific sustainability areas. It uses

frameworks such as Climate-related Financial Disclosures and integrated reporting as it is regarded as principle-based frameworks. The purpose of this is for companies and investors to be able to communicate thoroughly.

- Other Legislation and Accountability Standards

According to the AccountAbility1000 report (1999), the framework includes working for the Institute of Social and Ethical Accountability in the AA1000 framework. This also includes guidelines such as: Disposal of non-hazardous waste and national legislation. The disposal of hazardous waste and national legislation: The King reports II & III, is to enhance the ethical accountability of companies. The Bill of Rights and South African Constitution has an Environmental Conservation Act of 1989, which includes the National Environmental Management of Air Quality Act.

2.3 The South African Constitution

Section 24 of the Constitution of the Republic of South Africa Act (Act No. 108 of 1996) places a duty on the State and citizens to protect the environment.

According to the National Water Act (Act 36 of 1998) and the National Environmental Management Act (Act 107 of 1998), everyone has the right to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that:

- i. Prevent pollution and ecological degradation.
- ii. Promote conservation.
- iii. Secure ecologically sustainable development and use of natural resources while promoting.
- iv. Justifiable economic and social development.

These reporting guidelines are all dedicated to a more sustainable working environment that is transparent for investors, working towards a goal of reporting at a high quality in the annual integrated report. Inclusive reporting, as provided by the GRI, include that all topics are covered to report on thoroughly.

Waste is grouped into two categories, hazardous waste, and non-hazardous waste. Waste must be disposed of in the correct and appropriate way. There are a few methods that can be used to dispose waste according to the GRI (2020). The following methods are listed to report on in both hazardous and non-hazardous waste (GRI, 2020):

- i. Reuse
- ii. Recycling
- iii. Composting
- iv. Recovery, including energy recovery.
- v. Incineration (mass burn)
- vi. Deep well injection
- vii. Landfill
- viii. On-site storage
- ix. Other (to be specified by the organisation)

Companies should also declare how the method that was selected was determined:

- i. Disposed of directly by the organisation, or otherwise directly confirmed.
- ii. Information provided by the waste disposal contractor.
- iii. Organisational defaults of the waste disposal contractor

Any waste materials derived from the production of any product that is hazardous should be taken to hazardous landfill sites monthly. Therefore, a certificate of safe disposal should be kept up to date. The company should also be aware of where they get water from to run the machinery. The company should also dispose of the used water safely which is possibly filled with potential pollutants.

2.3.1 Waste types

Substances that are obligated by law to be disposed of are known as wastes (Hackett, 1989). There are many different types and forms of wastes, therefore waste can be grouped into different categories. Firstly, waste can be divided into hazardous and non-hazardous waste (Mora et al., 2016).

Any liquid, solid or gas waste material that has the potential to be harmful or dangerous to the environment or any living organism, can be categorised as hazardous waste materials (Manahan, 2017). There are various sub-categories under which the different types of hazardous wastes can be classified.

Acutely hazardous waste is waste that can be fatal to humans such as: Plating solutions, unusable commercial products, spent chlorinated solvents, some pollution control dusts, some wastewater treatment sludge's, some still bottoms as well as spent wood preserving solutions. Designated hazardous waste material is waste that is either ignitable, corrosive, reactive or toxic (Waste, 2018).

Non-hazardous waste materials are the opposite of hazardous waste materials. These are waste materials that will not cause any harm when being disposed of, for example: food waste (household waste), furniture, cut down plants' materials and non-hazardous agricultural waste (Inglezakis & Moustakas, 2015).

It is important to be able to differentiate between hazardous and non-hazardous waste as they need to be managed differently. One difference in management is the method of disposal. As hazardous waste could harm the environment, it should be disposed of more carefully than non-hazardous waste materials.

2.3.2 Disposal of hazardous and non-hazardous waste materials

According to The National Waste Management Strategy (2017), the first step of disposal starts at the house, factory, or industry. That is the basic separation of waste into the different types. For example: hazardous waste, organic waste, and clean general recyclable waste. Non-hazardous waste can be re-used, recycled, or recovered. There are different role players in the process of re-use, recycle and recovering of waste and this is summarised in the table 2.2.

Table 2.2: Role players in waste management

Role	General waste	Organic Waste	Recyclable (paper, plastic, metal, glass, and tyres)	Hazardous (batteries, solvents, CFLs)
Advocacy and education	Municipality	Municipality (with national and provincial support)	Industry in partnership with municipality	Industry
Providing bins at source or take back facilities	Municipality	Municipality	Municipality to provide additional bins at source)	Industry
Collecting waste	Municipality	Municipality	SMEs supported by industry	Industry
Processing waste	Municipality	Municipality	MRFs run by SMEs and supported by industry	Industry
Dispose of waste	(Landfill)	Municipality (composting facilities)	No disposal as per set target	Industry

(National Waste Management Strategy, 2017)

According to the Department of Environmental Affairs (2017), there are methods that could be used to determine if the re-use of waste, waste minimisation, waste recovery and waste recycling has taken place. One of the methods involves the department measuring in which way industries implement the re-use of waste, recycling of waste and waste minimisation. This should be a part of the industries' waste management plan.

Table 2.3: Different plastics recyclability

PET-1 plastics	These include soft drinks and water bottles, mouthwash containers, salad dressing and hard plastic fruit trays.
PE-HD-2 plastics	These plastics are found in milk jugs, shampoo, yogurt, and some detergent containers.
PPE-LD-4 plastics	Examples of these include bread, frozen food and dry-cleaning bags, bubble wrap and magazine wrappers.
PP-5 plastics	These include syrup and ketchup bottles, straws, ready-made meal containers and ice-cream tubs.
PS-6 plastics	These plastics include disposable plates and CD covers.

(Gu & Ozbakkaloglu, 2016)

Plastic is one of the major packaging products used by food producers (Coles *et al.*, 2003). As seen in table 2.3 there are five main types of plastic used in the food producer packaging industry. The types of plastic are arranged from most recyclable product (PET-1 plastic) until least recyclable product (PS-6 plastic). Examples are given to specify which packaging product is made from that specific type of plastic. This information plays an important role in the decision-making process when the company wants to establish which type of packaging to use.

2.3.3 Waste disposal

In line with the order of waste management, prioritises waste and handling methods of waste, for the purpose of reducing the wastes volumes to landfill facilities. The South African company Interwaste created an Integrated Waste Management Model. The model is closely aligned to the Waste management hierarchy. Published by the government of environmental affairs (lwmp.environment.gov.za. 2021).

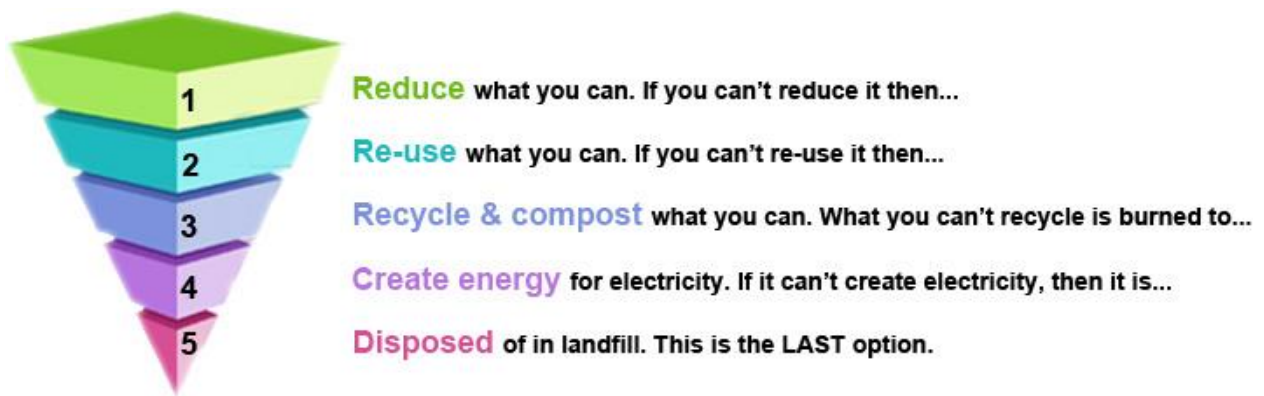


Figure 2.1: Hierarchy of waste management

The foundation of the services is created with the hierarchy as illustrated in Figure 2.1 above, in mind. Interwaste provides an integrated service offering with a diverse range of skills and capabilities. Interwaste provides companies with assistance to meet their sustainability goals and strategies of their waste streams. Figure 2.2 displayed the services offered by Interwaste. As illustrated in Figure 2.2, waste management is an integrated process which includes various processes.



Figure 2.2: Integrated waste management flow (Waste Solutions, 2020)

Waste management is guided by the order in which it is prioritised in. Handling the waste to the most suitable method of disposal should reduce the volumes in the waste disposal facilities. There are numerous ways to dispose of waste. Each type of waste has a different method of disposal depending on, for example, whether it is hazardous or non-hazardous. Companies in the food

producers sector have companies to their disposal that can handle their waste to provide them with a thorough report.

2.3.3.1 Landfills and composting:

It is not only important for a household or a company to dispose of waste correctly, but also for towns and countries to work together to accomplish this common goal. An example of this is San Francisco in North America that is surely becoming waste free. Their goal is to turn refuse into resource. This city has a three-stream sorting system. Recology, San Francisco's hauler, instituted discount which is given to any business that recycles and creates compost. This discount can be up to 75% on their trash bills. They even implemented a method to observe one's status online as well as the amount of discount one is receiving. This not only shows the amount of waste generated by a household, but also serves as motivation to decrease usage (Sullivan, 2011).

A law was instated in 2009 that requires all businesses and households to recycle and compost. Recology is a company that provides resource recovery services and landfill diversions by collecting all waste from companies and homes and composting the waste that could serve as compost and recycling the recyclable material. Recology, as well as the San Francisco Department of Environment, wants to achieve the goal of not landfilling and burning waste, but rather reducing use and recycling. The main method of achieving this goal for the past ten years has been through law enforcement. According to Sullivan (2011), breaking the law of recycling and composting is regarded as a serious offence and it is due to the strict enforcement of this law that San Francisco can regard themselves as almost waste free.

2.3.3.2 Incineration:

Some waste is sometimes incinerated, and this method is also known as thermal waste treatment. The waste is burned until it changes into a form that can easily be disposed of. It is important to manage this residue from incineration waste treatment. It should not impact the environment or the health of humans (Sabbas *et al.*, 2003).

2.3.3.3 Deep well injection:

This technique is a method to dispose of liquid waste that can be treated or untreated. The formation in which this liquid is placed prevents contaminants to infiltrate aquifers. This system consists of pipes that extend down to a highly saline zone that is surrounded by impermeable strata (Schijven *et al.*, 2000).

2.3.4 Organisation's self-disposal of waste or contractors disposing waste:

Does the organisations' use a system of; self-disposal of waste and, or do the company make use of contractors to do the disposal of waste? Companies such as Recology, based in San Francisco, developed many partnerships with companies in their area. Small to as large as possible, Recology collects the waste to dispose of using the most sustainable method suited for the type of waste. In collaboration with the majority of San Francisco, they are becoming a Zero waste city. Companies such as Recology in South Africa are growing and so is the industry; these companies create the opportunity to simplify reporting on the waste of the company (Hake, *et al*, 2016).

Companies are becoming more sustainable and are proud to report on waste. These companies are not only turning the tables on the trouble of the disposal of waste, but they also use it to cut on expenses and generate their own energy. Results of this efficient waste management are reported on in most cases, as found in the paper by Mikhailov, *et al*. (2017) that includes their results found on efficiency. Reporting would be beneficial to recognise the good and the bad waste disposal practises in companies. Whitaker reported in the Barloworld Waste Management Policy of 2016 that they are self-disposing of waste by reducing, reusing, and recycling. As a last resort, they might make use of their own landfill.

2.3.5 Waste management

There are vast amounts of literature on the role of reporting as a constructed and constructing tool, shaping both management practices of waste management (Maroušek *et al.*, 2019). Generally, for each of the participants' framework, organisations gain better insight into company activities and use that to improve on management and strategic decision-making. Frameworks issued by the International Integrated Reporting Council (IIRC) of the management cycles can provide a more holistic view of the company. Such holistic views on value creation can support strong strategic management that can address most disciplines. It is common practice for companies to account for financial flows, assets, and liabilities as part of good management and good governance (Braune *et al.*, 2020).

Industries and households have the obligation to reduce their environmental impact by reusing and recycling all waste materials where possible. The most sustainable method is by reducing the amount of waste. An industry can reduce the formation of waste by avoiding the generating of waste. Some examples of how a company can do this is by: Reducing paper usage from printing, or to print on both sides of a paper. Other options include the completion of all administrative work on a computer and completing forms online (Godfrey & Oelofse, 2017).

A company can also reuse certain materials, especially when they purchase reusable material from the start. As seen in Table 2.3 it should be the municipality's responsibility to have bins available for recycling purposes, and therefore all households should recycle material that is relevant such as: metals, glass, paper, and plastic (Godfrey & Oelofse, 2017). Certain food waste can be used as compost to contribute to the environment (Guidoni, *et al.* 2018).

Hazardous waste should first be treated before being disposed of. It is of utmost importance that all staff members of these waste disposal companies are educated on how to handle the specific type of hazardous waste that is received. The company should either appoint staff that has the necessary knowledge on the correct procedure of disposal, or they should outsource the obligation (Waste, 2018). South Africa has set laws on the appropriate disposal of hazardous waste and a company can be heavily fined, or the accountable party/individual may even face imprisonment if they do not comply with their social obligation (Setia *et al.*, 2015).

All companies listed on the JSE must adhere to environmental regulations set by listing requirements as in the sustainability segment regarding waste (JSE. 2021). The company must firstly ensure that the production of their product does indeed comply with the Environmental Legislation.

2.3.5.1 Environmental Regulations in the JSE sectors:

The third level of the Industry Classification Benchmark (ICB) is Sectors. The classification of the All-Share Index (J203) at Sector level will be used to calculate the Sector Indices. The Sector Indices include constituents of the All-Share Index (J203) that are classified in the Sector after which the index is named.

JSE companies' stock exchange makes use of the Generally Accepted Accounting Principles (GAAP). Managers require information to estimate reasonable numbers to report on in the Public Financial Statement or IR (Shroff, 2017). The IR and JSE direct companies to comply with the King II and III report. King II recognised changes in the economy and environment in the global corporate world. King III realised what the need for comprehensive reporting is (Dube, 2016).

In May 2004, the JSE launched the Social Responsibility Index (SRI) for companies to report voluntarily, contributing to a screening process to assess the extent to which they complied with the Triple Bottom Line (TBL) performance criteria. The last index review was concluded at the end of 2015 according to the JSE (2021). This SRI was based on guidelines provided by GRI (Setia, *et al.*, 2015). The FTSE/JSE Responsible Investment Index Series is the most recent reporting system of companies' TBL performance that JSE listed companies should use.

2.3.5.2 Environmental Regulations for Food producers:

The Food Producers sector make use of a large amount of packaging, leading to household waste that is not reported on in the company's IR. Sustainability, biodiversity and the reporting of the company's impact should be broad enough to cover the attempt at reporting on their sustainable packaging methods. The total household trash generated frequently is increasing which poses environmental threats (Klaiman, *et al.* 2016). As the quantity of packaging used has increased, companies should be forced to take responsibility for the life cycle of their product. Similarly, environmentally sustainable packaging is trending and increasing as companies adhere to the Triple Bottom Line principle (Klaiman, *et al.* 2016).

Even with the increase in the amount of packaging recycled, it is still not a sustainable solution to the problem as biodegradable materials are. Automated properties of packaging as an application of biodegradable polymers are usually considered a solution for the growing problem of plastic waste management (Kuciel, *et al.* 2018).

2.3.5.3 Product responsibility regarding waste:

Consumers are ever more concerned about the environmental consequences of packaging. Companies are pressured to use eco-friendly packaging for their products not only pressured from consumers but also from regulatory bodies (Nguyen., *et.al.* 2020).

- Customer health and safety- Provide the customer with information to use the product and packaging in a way that is healthy and safe for the customer and their environment.
- Product and service labelling- Create labels that enforces sustainability and guide customers to dispose of waste in the correct way.
- Marketing communication- The marketing can contain information on the waste created during manufacturing and after the use of the product. It creates a strong marketing attraction to indicate the form of packaging and the sustainable disposal of the waste.
- Customer behaviour- Customers have the right to dispose of most products in a manner that suits them. Informing them to make more sustainable decisions regarding waste disposal is the priority of the food producers.
- Compliance- Laws and guidelines are easily accessible and should be used by companies. The GRI is an inclusive document that makes reporting easy and is free of charge. Complying with reports create an opportunity to grow.

2.3.6 Environmental consequences:

Environmental implications pose threats as well as opportunities for companies, as waste is regarded as negative.

- **Materials-** Declared by the food producers is stipulated to either be hazardous waste or non-hazardous waste. Waste material is then treated, by the method companies find suitable. The method is then declared in the IR. The GRI guideline for the checklist required the weight of the waste materials.
- **Energy-** Waste can often be transformed into a source of energy. Biofuel is generated as a form of energy that is created from waste. Some companies declared in the IR how energy was transformed and reused. However, the quality of reporting does not meet all the expectations set by the GRI as quantities are not declared.
- **Water-** Food producers are largely dependent of water and some producers supply fish and fish products. Water usage and waste are declared and is also regulated by the government.
- **Biodiversity-** Food producing companies try to be as sustainable as possible for their own future. The companies need the biodiversity to ensure future production and supply of animal products and plant products.
- **Emissions, effluents, and waste-** Reporting and disclosing is conducted by most companies in the sample group to report waste and emissions. The quality of reporting varies and is not at a level of excellence.
- **Products and services-** Products contain waste in the form of packaging and cause waste to create an acceptable product suitable for customers. Services contain the method of choice using a contractor or conducting the waste disposal internally.
- **Compliance and transport-** Waste can be processed on the site or be transported to a facility that does the waste disposal for the company in an appropriate way.

2.3.6.1 Consequences for the society

Society contains the following groups: the community/ society/ people living working, or visiting the environment impacted by the company. Corruption in South Africa is a major problem with bribes and other forms of corruption causing the system to have no control of the enforcement of rules and growing the reporting environment. Competitive and anti-competitive behaviour can be

a healthy business environment, guiding one another to grow, or it can cause an unhealthy environment where companies take shortcuts to gain a competitive advantage in the wrong way.

2.4 Conclusion

This chapter observed deeper into studies that was previously done with regards to the topic of this mini dissertation. These studies provide insight to the historical trends of other countries that essentially sets the benchmark that South Africa will need to pursue.

This chapter explained and discussed the use of the GRI framework as well as how it compares to other frameworks that companies use to do reporting. It is important to remember that reporting is done to prove that a company has good corporate governance. These types of reporting are guided by the King documents that sets the guideline for frameworks, regulations and legislation in South Africa and other countries.

South African food producers listed on the JSE are among the largest companies in the country. The JSE listed companies have potential to influence the economy, society, and environment with great effect. The environmental aspect of reporting is currently not an obligation in South Africa but is a growing trend, as it is and where in European and US companies.

In the next chapter, the empirical part of the study will be performed to evaluate the reporting practices on waste.

CHAPTER 3 EMPIRICAL RESEARCH

3.1 Introduction

The topic addressed in the literature review focussed on the reporting of non-financial disclosures of waste disposal from JSE listed companies. This included environmental management and waste management. The different waste types were also identified.

Reporting frameworks were viewed to gather more information and their aims. The GRI framework is selected and will be used in the application to find results in this part of the study. Even though the GRI is the most well-known and used framework, other frameworks can also be used to report.

In this chapter, data has been gathered regarding waste management within the food producing sectors of the JSE. Secondary data sources have been used to gather information. The purpose of the data collection is to study the involvement and quality of the food producing sectors as displayed in their annual integrated reports.

Communication channels for these large food producers listed on the JSE can vary, therefore the integrated reports can be found on the internet, newspapers, and business magazines. This study specifically focuses on the annually published integrated and sustainability reports of the companies listed in the food producing sector. The integrated reports are regarded as the most well-known and accepted documents for corporate communication.

3.2 Research method

Content analysis is the research method used in this study. This method is valuable to analyse the content of the annually published integrated reports of companies listed on the JSE (van Zijl, & Hewlett, 2021). According to Corporate content (2021), content analysis could be used to analyse annual reports as it is the most suitable method and is used regularly in the management accounting field. The advantage is that it is easy and convenient to gain access to information. Information for content analysis has become inexpensive and easily accessible.

Identifying the theme in any analysis of content is one of the most fundamental tasks to investigate the information. The different themes in this study are identified by the researcher by identifying key concepts as identified in the literature study. Techniques that can be used to identify themes:

- Word analysis
- Reading of larger units

- Intentional analysis of linguistic features
- The physical manipulation of texts

3.2.1 Strengths and opportunities of content analysis

Normally, by using content analysis, it could be easy to gain access to the information required in the study. It is usually not an expensive method and the study can provide reliable results as content analysis can be easily repeated. Content analysis can provide an objective view of events or themes. The method is usually unobtrusive, it does not involve interaction with people or objects that are being studied. Therefore, the researcher would not be able to influence the behaviour or results of the study (Cho & Lee, 2014).

3.2.2 Weaknesses and limitations of the content analysis method

The researcher must select and record the data of the study very accurately. Attempting to quantify the results will not reveal much regarding the quality of the sample group's relationships. The method may be time consuming. It requires the analysis of many annual reports, newspapers, and other applicable sources. The study can describe and prove facts and disclosures rather than explaining it. Quality takes priority over quantity in the disclosure (Cho & Lee, 2014).

3.2.3 Structured framework used.

The GRI, as a structured framework on the content of reporting on waste, is used to develop and identify the themes. The content can be placed in different general categories. The main themes as addressed in this analysis are:

1. Demographics
2. Disclosures on waste management:
 - Waste type hazardous
 - Waste type non-hazardous
 - Determination of disposal method.

The main themes as discussed above, are based on the GRI, and is processed into a checklist with the necessary adaptations of sustainability indicators, as seen annexure A.

3.3 Process followed to achieve the results.

The GRI altered checklist was used to analyse the results that has a direct impact on waste management. Disclosure of results is specific to waste management, identifying the waste type and selecting the appropriate disposal method.

The following adjusted GRI (GRI, 2018) checklist is used to gather results. See Annexure A for the completed checklists of the thirteen companies in the food producers' sector:

Table 3.1: Example of GRI altered checklist.

DEMOGRAPHICS		
Name of company:		
	YES	NO
Does the company have an Integrated report?		
Does the company have a sustainability and/or environmental report?		
Does the company use the GRI guidelines?		
Are there any indication that the company is serious about the governance/ management of the environment?		
Are there any indication that the company is serious about the governance and management of waste?		

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste			
If yes, indicate which of following disposal methods where applicable			
i) Reuse			
ii) Recycle			
iii) Composting			
iv) Recovery, including energy recovery			
v) Incineration (mass burn)			
vi) Deep well injection			
vii) Landfill			
viii) on-site storage			
ix) Other (to be specified by the organization)			
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does it report the total weight of the non-hazardous waste?			
If yes, indicate which of following disposal methods where applicable			
i) Reuse			
ii) Recycle			
iii) Composting			
iv) Recovery, including energy recovery			

v) Incineration (mass burn)			
vi) Deep well injection			
vii) Landfill			
viii) on-site storage			
ix) Other (to be specified by the organization)			
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed			
ii) Information provided by the waste disposal contractor			
iii) Organizational defaults of the waste disposal contractor			

3.4 Disclosure of results

Food producing companies produce a large amount of waste that can be divided into two groups, hazardous and non-hazardous waste. In this study, the points of interest include how these companies go about reporting on their waste disposal and their waste disposal methods. The attention was on the quality of reporting and not just mentioning the waste disposal method. The requirement was to specify on the total weight of the waste that was reported on. Where companies did not mention if the waste is hazardous, the assumption was made that the waste is non-hazardous, and it was reported accordingly. The checklist also expected the companies to disclose on the way the disposal is handled by the company itself or by waste disposal contractors.

The principles of the report content were used to benchmark and analyse according to the disclosures made in the integrated report of the companies within the food producing sector. The process compared the disclosures of the integrated reports (as set out in the GRI's principals) on their waste management practices.

The disclosure of the results is presented according to the checklist headings. In the first place the demographic details are addressed.

Demographics: The study identified thirteen companies in the food producers' sector. It was possible to identify all the reports from the listed companies. The results provide an indication of the company's reporting status on waste and environmental sustainability. All the investigated companies compiled an IR. Eight out of thirteen (61.5%) of the companies also publish a sustainability report. Three of the thirteen companies (23%) clearly used the GRI as a guideline to report. Twelve out of the thirteen (92.3%) companies made it clear that they care for the

environment and eight of the thirteen (61.5%) made a strong case that they are serious about waste disposal.

Table 3.2: Demographic results

Waste disposal disclosures of companies in the food producers' sector of the JSE	total number of companies	%
Had an IR	13	100.0
Had a sustainability report	8	61.5
Use the GRI guidelines	3	23.1
Serious about the environment	12	92.3
Serious about waste management	8	61.5

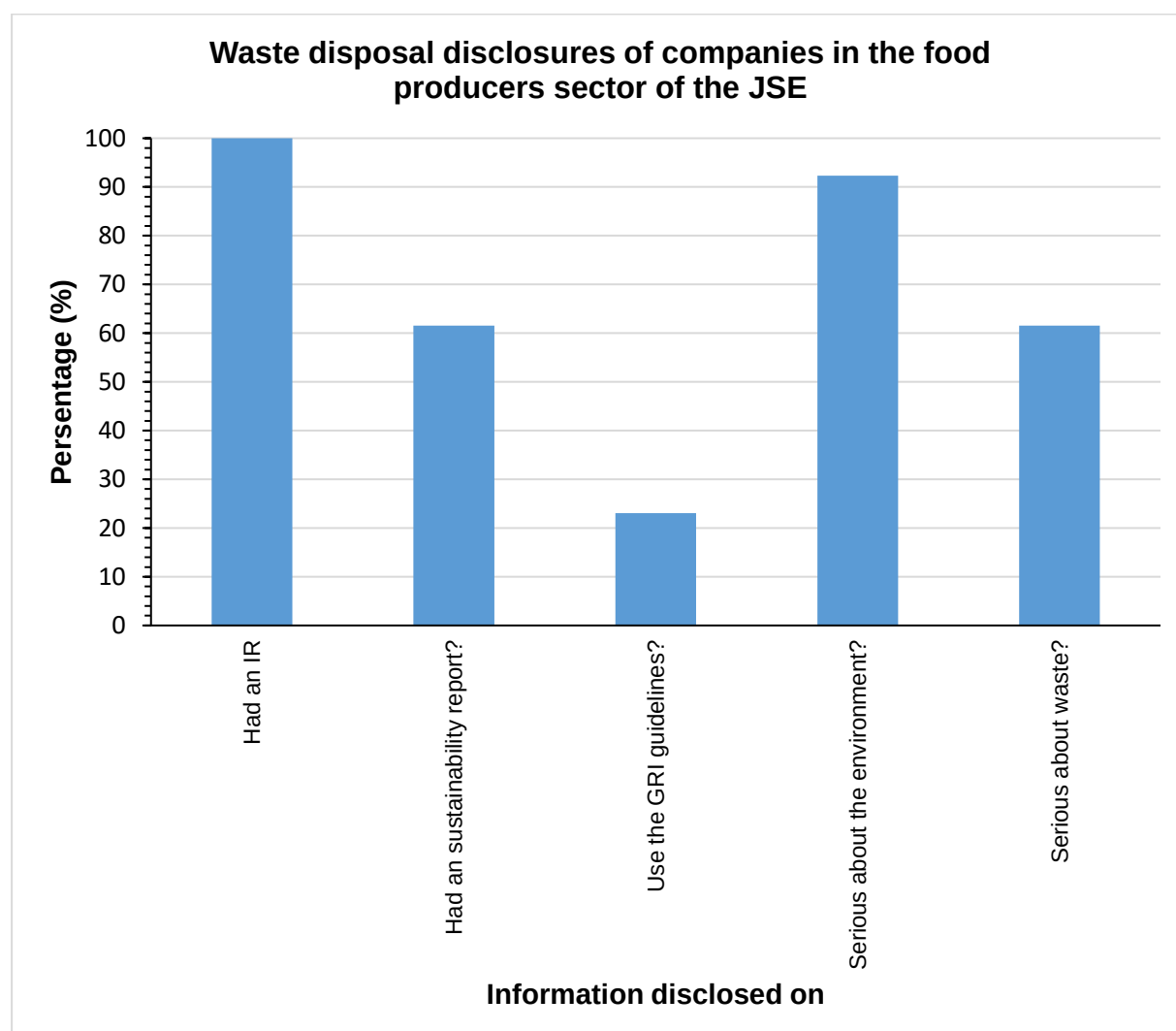


Figure 3.1: Waste disposal disclosures of JSE listed food producers.

Figure 3.1 provides an overall view of the company's demographic information as requested. All the companies have produced an Integrated Report while 61% also provide some additional information in the sustainability report. The GRI sets the basic guidelines on reporting about waste to follow. As discussed in the literature review, the GRI is most of the time used for voluntary reporting. The GRI framework motivates companies to take on their CSR and reporting. The GRI guidelines cover both qualitative and quantitative information. In the results of the study only three out of thirteen (23.1%) companies provide an indication that they use the GRI guidelines.

Hazardous waste: Only four out of thirteen (30.8) reported on the weight of the hazardous waste they disposed of. In the following table is a breakdown of the methods used to dispose the hazardous waste.

Table 3.3: Methods to dispose Hazardous waste

Hazardous waste		
Reuse	2	15.4
Recycle	1	7.7
Composting	0	0.0
Recovery	2	15.4
Incineration	1	7.7
Deep well injection	0	0.0
Landfill	2	15.4
on-site storage	0	0.0
Other	0	0.0

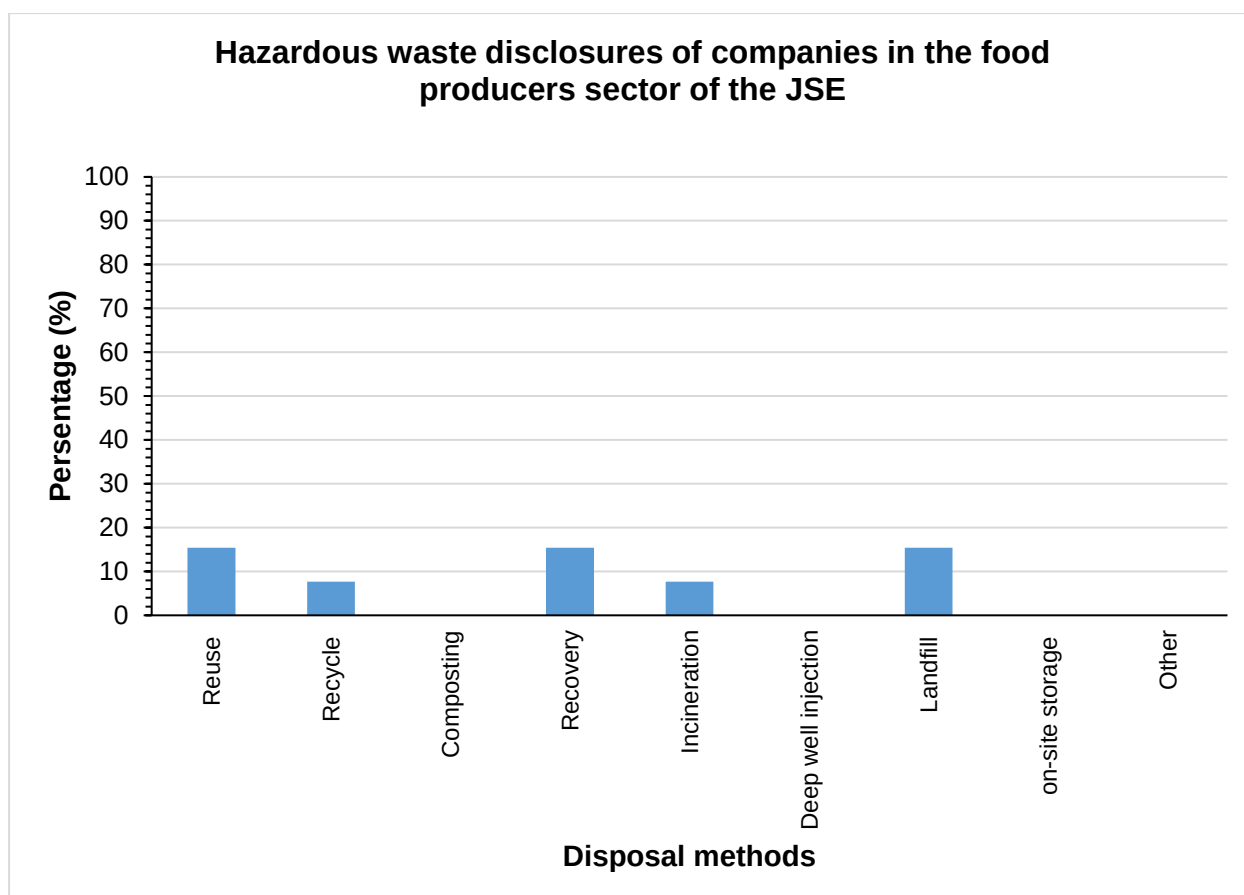


Figure 3.2: Hazardous waste disclosures of JSE listed food producers.

Only a few companies reported that they have hazardous waste. Companies' main method of choice to dispose is incineration or alternatively companies recover, recycle, landfill, or reuse the hazardous waste. None of the methods reported on exceeds 20%, although the reuse, landfill and recovery are indicated to be the most popular ways for these companies to deal with hazardous waste.

The next section of the checklist deals with Non-hazardous waste.

Non-hazardous waste: More companies reported on the amount of non-hazardous (eight out of thirteen) (61.5%) waste, compared to the amount of hazardous waste. The results of the investigation are displayed in Table 3.3.

Table 3.4: Disposal methods of non-hazardous waste

Non-hazardous waste		
Reuse	3	23.1
Recycle	7	53.8
Composting	1	7.7
Recovery	2	15.4
Incineration	1	7.7
Deep well injection	0	0.0
Landfill	6	46.2
On-site storage	0	0.0
Other	0	0.0



Figure 3.3: Non-hazardous waste disclosures of JSE listed food producers.

Figure 3.3 indicates that most companies that reported their waste disposal methods attempt to recycle waste and report about their waste in a measurement of tons. Landfill comes across as a popular waste disposal method for the food producers as six out of thirteen or 46% of the companies made use of the disposal method. Reusing waste is a great way to save money and it is a sustainable solution for daily operations, but only three out of thirteen (23.1%) of companies disclosed that they reuse waste. Most of the disclosed waste is non-hazardous as the percentages calculated are much higher compared to hazardous waste.

The last section of the checklist has addressed how the companies determine their waste disposal methods.

Responsibility of Waste disposal

Companies' indication on how the waste disposal method was determined was also part of the study. Eight of thirteen (61.5%) of the companies are self-responsible for their disposal of waste. Disposal by a contractor is done in two of the thirteen (15.3%) of the companies, while the other (23, 2%) did not provide any indication of the method used.

3.5 Summary of the results per company

The results were gathered and analysed. The following were recognised:

3.5.1 AH West Limited:

The study recognised that this organisation/company does not report on waste and does not mention the word waste in the IR (2020). However they mentioned their intentions of moving closer to the goals of King IV report. Astral Foods Limited:

This company/organisation indicated conversion of waste to energy solutions and waste management as a strategic response. Waste is dealt with by a supplier of beneficiation of waste. Waste is treated and transferred from the plant. Waste heat is recycled and reduced at the thermal energy usage turbine. A zero-landfill goal is set, and 95% of waste is recycled. The waste amount is disclosed in terms of weight as guided by the GRI document.

3.5.2 AVI Limited:

Sustainable development makes use of a supplier for waste removal. The environmental policy guides the company towards responsible environmental management. The company does thorough discussions in of waste, but not reporting on the specific amounts of waste they dispose of. Disposal is grouped to manage accordingly as in the IR. The sustainable development plan is guided by the GRI, but this is only discussed, no weight is disclosed in terms of weight as required in the GRI.

3.5.3 Crookes Brothers Limited:

Crookes Brothers Limited provided a sustainability report, with no discussion of waste amounts or any other waste management strategies or disposal of waste. The website's link to compliance does not discuss waste or disposal.

3.5.4 Libstar Holding Limited:

The findings from this company indicated that the focus was on the reduction of waste, but there was no disclosure regarding the weight, type, or disposal method.

3.5.5 Oceana Group Limited:

The company mentioned waste and indicated its aim to reduce it. Waste disposal amount of hazardous and non-hazardous were disclosed along with the amount of waste disposed. The method of disposal was landfill.

3.5.6 Premier Food and Fishing Brands Limited:

The report of this company did not mention waste or the management thereof when the study was conducted.

3.5.7 Quantum Foods Limited:

The report discussed waste and the disposal thereof, as well as the management of the waste. It also reported that the company made use of landfills and disclosed on the waste amount as measured in tons. Candidate you must always report in past tense

3.5.8 RCL Foods Limited:

RCL have a waste to value plant that promotes recycling within the company's operation. Trying frequently throughout IR to be waste free. Discussed the use of landfill (minimised) provides extremely limited information further on regarding the use of the landfill. A 135-ton daily wastewater is disclosed. It is processed to be reused. The section natural capital discloses on waste amount and provides the amount in weight as required by GRI. The waste biogas is 5250-tons, and the total recycled waste is 9078-ton. From this total, plastic is 574-ton, paper and wood are 8101-ton and wood and metal are 403-ton.

3.5.9 Rhodes Food Group Limited:

The findings indicate that the report made mention of reducing waste together with environmental as well as the societal impact caused by their waste disposal. The report mentioned that the company recycled plastic, glass and cardboard. Some wastes were reused to feed the boiler as coal substitute. Waste to landfill were measured and disclosed on in Kilograms and a percentage of wastewater is treated and reused in irrigation systems. Other wastes are processed to compost. These amounts are not disclosed, only discussed.

3.5.10 Sea Harvest Group Limited:

In the report the company created recycling programs and created an eco-brick recycling from 1.4-ton of plastic diverted from landfills. Medical waste (such as PPE) were disposed of appropriately. A thorough discussion of sustainable and environmental management was available in the IR of which year. A total of 12-tons of plastic is diverted from flowing into the ocean.

3.5.11 Tiger Brands Limited:

The report indicated that the company focussed on their environmental performance and they addressed their material environmental impact producing (greenhouse gas emissions, reducing operational and packaging waste). The report also mentioned action taken to create partnerships to aid in the reduction of food waste and packaging waste. Mention was also made of the use of landfills and striving towards a zero-landfill operation. The company was exploring opportunities to convert more waste to energy.

3.5.12 Tongaat Hulett Limited:

The report mentioned 20% reduction through reusing, recycling and recovery in hazardous waste to the amount of 240-ton from previous 299-ton in 2019. The report focussed on reducing waste, although 97% of the waste was reported to be recycled. Waste management is done and reported on in the IR which mentions the disposal methods of hazardous waste.

In summary, Table 3.4 shows the number of companies active in the event. That amount is then processed into a percentage. Thirteen companies were used to conduct the research. To get to the percentage the number of active companies in the event is divided by the total amount of companies in the sector used in the study and then multiplied by a hundred to get a total in percentage.

3.6 Conclusion

Companies disclosing on their waste disposal methods and amounts measured in weight, normally have identified waste as a materiality item. This means that they only disclose on the waste as it is very applicable to their operations. An assumption was made while completing the checklist, that companies that conduct thorough reporting and disclosures on their waste management practices', waste disposal methods and amounts measured in weight, are those that really identify waste as a material item and that they are serious about waste management.

In this chapter, the sample group was studied and the most recent IR they released were used to complete a checklist. The checklist is created from the GRI 306-2 with changes: Waste by type and disposal method. This checklist was not only created to identify whether the companies in the sample group reported or not, but also if the quality of the reporting is conducted according to the requirements of the GRI. One of the requirements noted on the GRI, is that the weight of waste must also be reported.

The content of reports indicated that reporting and disclosure of information are important for companies, although the reporting on waste was below average. South African food producers' companies listed on the JSE could improve their reporting practices and also follow the guidelines as prepared by the GRI more consequently.

In the environmental part of the IR, companies only mention their waste and do not expand further. The GRI document requires a company to indicate whether waste is hazardous or not. In the IR, some companies fail to mention hazardous or non-hazardous waste, although a few companies did comply with this requirement. Also, if a company does not indicate that waste is hazardous, and the company mentions waste, it was assumed that the waste was non-hazardous.

This indicates that some companies are indeed reporting, but not as required and of good quality when comparing it to the requirements of the GRI. There are companies that avoid reporting and do not mention waste in the IR at all.

CHAPTER 4 CONCLUSION

4.1 Introduction

The study focused on identifying companies of the JSE in the food producer's sector's reporting behaviour regarding waste. Waste must be identified and classified to be disposed of appropriately. Disposing of waste methods can be determined or classified when using the GRI to conduct reporting. There are other frameworks available, but as mentioned in the literature review, the GRI is the most well-known and used reporting framework.

To conduct the research, the content analysis method was selected as the most appropriate method to gather and process the research information. The GRI is used to create a checklist as it is a very comprehensive and widely used document. The GRI's environmental reporting heading version 306: effluents and waste were used. This study focussed only on the waste section of GRI 306, namely 306-2, Waste by type and disposal method.

Annually published Integrated Reports were studied to determine the quality of reporting companies have conducted regarding waste. The GRI topics, in the section 306-2: waste by type and disposal method, was used to create indicators that measure the level and quality of compliance to report on waste disposal. In these IRs, companies disclose on sustainability performance measures to create a degree of transparency stakeholders can use to compare previous disclosures and competitor disclosures. Sustainability reporting is a broad term used to describe companies' CSR's disclosures. This must be a balanced report disclosing good and bad measures of sustainability reporting.

4.2 Summary of Results

This study compared performance within an organisation and among organisations of the same sector using the most recent IR released by the companies. The most important results of the study were:

The demographics' results gave an overall view of the results of the reporting that was done from the investigated companies. All the investigated companies had an IR whereas only eight out of thirteen (61.5%) companies set up a sustainability report. The GRI guidelines were not observant in most of the reports and only three of the thirteen (23.1%) companies clearly used the GRI guidelines to report. Companies that clearly indicated they are serious about environmental governance/ management were found in twelve of the thirteen (92.3%) companies. With regards to waste, only eight out of the thirteen (61.5%) displayed their high regard for waste management.

To determine the following results companies had to provide a disclosure or indication of the amount of waste that is hazardous or non-hazardous of sort. The amount had to be disclosed along with the disposal method the company found applicable. Four out of thirteen (30.8%) companies disclosed on the weight of their hazardous waste. Eight of thirteen (61.5%) disclosed the weight of their non-hazardous weight. Methods include Reuse, Recycle, Composting, Recover, Incineration, Deep well injection, Landfills, on-site storage or if none of the methods other. Two of thirteen (15.4%) companies made use of Reusing waste, recovery, and landfills as their disposal method of choice for hazardous waste making it the more popular choice. Seven of the thirteen (53.8%) companies recycle their non-hazardous waste, making recycling the most popular choice to dispose of non-hazardous waste.

The company then had to disclose on how the method was determined. Did the organisation disclose of the waste directly, or did a waste contractor do the disposal, or was the information disclosed on by the waste disposal contractor? Eight of thirteen (61.5%) is clearly the most popular option that indicates disposal is done by the organisation directly. No company indicated that a disposal contractor disclosed waste disposal information on their behalf. Two of the thirteen (15.4%) of the companies used disposal contractors and disclosed on the information themselves.

4.3 Limitations

The limitations of this study are that reports are only published on an annual basis and not all at the same point of time during the year, therefore the most recent IR will be the most applicable document to use. The sector does not necessarily represent other sectors in the JSE; thus, it is important to interpret each company and sector's data individually.

Growing into a more sustainable environment over time, companies can improve and most likely will improve when looking at the examples set in Europe and USA. At this point in time, the most relevant documents are the most recent documents, and they display room for improvement.

There is a growing tendency to do quality reporting, but the problem remains that there are no regulatory bodies to achieve the minimum requirements. The findings focus on the quality of the disclosed information rather than just disclosure of any type.

Despite the limitations above, the study investigates the quality of the reporting practices in the food producers' sector for informative comparisons. Comparing the quality of reporting on the waste management of the company an indication can be given on how important the reporting process is to the company. This is accompanied by the knowledge that there is no regulation or

audit on the disclosure. In doing so, companies that do not show transparency or any effort of reporting with regards to their waste management, can be considered as unconcerned of their environmental impact.

The GRI is the most well-known and used framework world-wide, but the JSE companies do not use the index to the full extent to conduct reporting in all sectors. According to the study done on the sector food producers only 23.1% used the framework.

Some of the key challenges regarding sustainability is that it demands new and innovative ways of thinking. In doing this, companies can gain investors to create even more opportunities in the future.

The latest innovations in technology, management and the public policies are challenging organisations to make decisions regarding their operations, products, services, and activities that impact the environment, society, and economy.

The risks and threats are not investing towards sustainability, alongside good governance that can increase opportunities. Transparent companies that invest time and effort towards good governance often do thorough reporting, providing knowledge about economic, environmental, and social impacts the company has. The expectation is to communicate clearly and openly about sustainability in a globally shared framework such as the GRI of information about a company's daily operations.

4.4 Challenges and recommendations

Based on the finding of this study, it can be argued that without regulatory requirements in relation to sustainability reporting such as on waste, the JSE listed companies will not develop the reporting culture that is required. It is questionable whether these companies will accept accountability for issues that they cause as they do not disclose all the information. When companies disclose on information, it provides an image of accountability for the actions of the company. In the environmental part of the IR, companies only mention their waste and do not expand further

Further recommendations are to develop a concrete policy around the JSE that sets a standard to be reported by. The policy will be set up by using the foundations of the leading framework such as the GRI. Auditing the reports annually, along with the financial reports will improve reporting practices to lead to a more sustainable environmental impact and transparent reporting. The main requirement is to give more attention to the communication that the JSE companies in the food producers sector are sending out to the stakeholders about the values in their operations.

The JSE can devote significant amounts of attention and resources to enhance reporting practices towards building, training, and motivating companies to conduct quality reporting. Initiatives recommended would be e-learning, creating a national qualification for sustainable environmental management, making it a key part of an accountability level companies obtain through quality reporting.

4.5 Conclusion

Most of the JSE companies in the food producers' sector did report on the impact they have on the environment. What the reports failed to do was not making use of a standardised framework to guide the report and to disclose on the topics as set out in the GRI. One of the topics not disclosed on frequently is the amounts of waste measured in tons. More emphasis on the disclosure of a company's environmental impact can avoid scandals and large losses.

Companies focused on the TBL, can add value in the market's environment, economy, and society a display of good governance. It is possible to be profitable and sustainable when adapting to examples from Europe and USA. The investors are attracted to companies making a profit consistently with a low risk and the assessment of the risk is done with the report and the transparency the report displays.

Socially, companies can feel obligated to maintain the environment and the society along with making profits; this is an attractive investment opportunity. Stakeholders must have a clear vision to guide the company into a sustainable future while keeping the competitive advantage.

Companies in the food producers' sector of the JSE are clearly competitive on every level. The companies that waste environmental resources, waste money. Frequent inefficiency can cost companies millions. Reusing, reducing, and recycling of environmental resources is a great method of maintaining waste management to gain the competitive advantage.

Companies that value society and employees create a sense of pride within the company for each employee to gain a sense of responsibility to uphold the brand of the company. It is a growing customer trend to support products and companies that use and sell environmentally friendly products. Knowing that companies dispose of waste in the best possible way can have the best impact of environmentally friendly products in the market.

4.6 Chapter summary

This chapter begins with the introduction on a sustainable business and the companies that should take care of the society, environment, and the economy. Companies should report on what they have done using a standardised framework such as GRI. They can consider this action to

attract investors and customers as it might provide a company with the competitive edge against other companies. Customers and stakeholders have positive associations with a company that is transparent through quality reporting.

BIBLIOGRAPHY

Ab Wahid, R. 2019. Sustaining ISO 9001-based QMS in higher education: a reality. *The TQM Journal*. pp. 563-577.

Accountability Report. 2019. *Understanding the value of transparency and accountability*. <https://corporatereportingdialogue.com/publication/understanding-the-value-of-transparency-and-accountability/> Date of access: 30 Nov. 2020.

Ackers, B. 2017. Independent corporate social responsibility assurance: a response to soft laws or influenced by company size and industry sector. *International Journal of Disclosure and Governance*, 14(4):278-298.

Adams, C. and Zutshi, A. 2004. Corporate social responsibility: why business should act responsibly and be accountable. *Australian accounting review*, 14(34):31-39.

African markets. 2019. *Johannesburg Stock Exchange (JSE) - Listed Companies*. <https://www.african-markets.com/en/stock-markets/jse/listed-companies> Date of access: 29 Jul. 2020.

AH Vest. 2020. *Annual Integrated Report*. http://www.alljoy.co.za/AnnualReports/AH_VEST_2020.pdf Date of access: 10 Dec. 2020.

Arun, K.B., Madhavan, A., Sindhu, R., Binod, P., Pandey, A., Reshmy, R. and Sirohi, R. 2020. Remodeling agro-industrial and food wastes into value-added bioactives and biopolymers. *Industrial Crops and Products*, 154:112621.

Astral Foods Limited. 2019. *Annual Integrated Report*. <https://www.astralfoods.com/assets/Documents/Investor%20Centre/2019/Astral-annual-report-2019.pdf> Date of access: 10 Dec. 2020.

Aureli, S., Del Baldo, M., Lombardi, R. and Nappo, F. 2020. Nonfinancial reporting regulation and challenges in sustainability disclosure and corporate governance practices. *Business Strategy and the Environment*, 29(6):2392-2403.

REPORTI, S.A.O.I. 2017. Australasian-Centre for Social and Environmental Accounting Research (A-CSEAR) Conference: 7 to 9 December 2017 Manuscript Submission Cover Sheet.

AVI. 2020. *Annual Integrated Report*. <https://www.avi.co.za/wp-content/uploads/2020/10/AVI-Annual-Report-FY20-Final.pdf>. Date of access: 10 Dec. 2020.

Braune, E., Sahut, J.M. and Teulon, F., 2020. Intangible capital, governance and financial performance. *Technological Forecasting and Social Change*, 154:119934.

Camilleri, M.A. 2018. Theoretical insights on integrated reporting. *Corporate Communications: An International Journal*, 23(4):567-581.

CDP, C. 2017. Disclosure Insight Action.

Cho, J.Y. and Lee, E.H. 2014. Reducing confusion about grounded theory and qualitative content analysis: Similarities and differences. *The qualitative report*, 19(32):1.

Coles, R., McDowell, D. and Kirwan, M.J. 2003. Food packaging technology (Vol. 5). CRC press.

Dialogue, C.R. 2019. Driving Alignment in Climate-related Reporting.

Corporatereportingdialogue.com. 2021. *Understanding the value of transparency and accountability paper*. <https://corporatereportingdialogue.com/wp-content/uploads/2019/12/Understanding-the-value-of-transparency-and-accountability-paper.pdf>. Date of access: 24 Feb. 2021.

Corrêa, É.K. 2018. *Home composting using different ratios of bulking agent to food waste*. Gu, Crookes Brothers Limited. 2020. *Annual Integrated report*. <https://www.cbl.co.za/wp-content/uploads/2020/11/IR30Sept20.pdf> Date of access: 10 Dec. 2020.

De Villiers, C., Venter, E.R. and Hsiao, P.C.K. 2017. Integrated reporting: background, measurement issues, approaches and an agenda for future research. *Accounting & Finance*, 57(4):937-959.

Deloitte. 2016. *King IV: bolder than ever*. <https://www2.deloitte.com/content/dam/Deloitte/za/Documents/governance-risk->

compliance/DeloitteZA_KingIV_Bolder_Than_Ever_CGG_Nov2016.pdf. Date of access: 1 Aug. 2020.

Deloitte. 2019. *Changing the lens: GDP from the industry viewpoint*.

[https://www2.deloitte.com/us/en/insights/economy/spotlight/economics-insights-analysis-07-2019.html#:~:text=The%20economy%20is%20divided%20into,in%202018%20\(figure%201\)](https://www2.deloitte.com/us/en/insights/economy/spotlight/economics-insights-analysis-07-2019.html#:~:text=The%20economy%20is%20divided%20into,in%202018%20(figure%201))

Date of access: 11 Aug. 2020.

Department of Environmental Affairs. 2021. *Integrated waste management plan: Introduction*.

http://iwmp.environment.gov.za/guideline/1#figure_1 Date of access: 25 Mar. 2021.

Dhaliwal, D.S., Li, O.Z., Tsang, A. and Yang, Y.G. 2011. Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The accounting review*, 86(1):59-100.

Dissanayake, D. 2020. Sustainability key performance indicators and the global reporting initiative: usage and challenges in a developing country context. *Meditari Accountancy Research*, pp. 2049-372X.

Doni, F., Corvino, A. and Martini, S.B. 2019. King Codes on Corporate Governance and ESG Performance: Evidence from FTSE/JSE All-Share Index. In *Integrated Reporting*. Cham: Springer. pp. 341-364.

Drabek, Z. and Payne, W. 2002. The impact of transparency on foreign direct investment. *Journal of Economic Integration*, pp. 777-810.

Dube, Z.L. 2016. The King Reports on Corporate Governance in South Africa: An Ubuntu African Philosophy Analysis. In *Corporate Governance in Africa*. London: Palgrave Macmillan. pp. 199-222.

Dube, Z.L. 2016. The King Reports on Corporate Governance in South Africa: An Ubuntu African Philosophy Analysis. In *Corporate Governance in Africa*. London: Palgrave Macmillan. pp. 199-222.

Environmental reporting. *Environmental and Resource Economics*, 44(3):441-456.

Esch, M., Schnellbacher, B. and Wald, A. 2019. Does integrated reporting information influence internal decision making? An experimental study of investment behavior. *Business Strategy and the Environment*, 28(4):599-610.

EU Commission. 2014. Directive 2014/95/EU of the European Parliament and the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. *ABIEU L*, 330:1-9.

Fernandez-Feijoo, B., Romero, S. and Ruiz, S. 2014. Effect of stakeholders' pressure on transparency of sustainability reports within the GRI framework. *Journal of business ethics*, 122(1):53-63.

Foster, P. 2010. BioCycle INTERNATIONAL-IRELAND-NEW RULES TARGET COMMERCIAL FOOD WASTE-Effective in 2010, Ireland's new food waste regulations require major producers of food waste to segregate these materials for separate collection. *Biocycle*, 51(2):31.

Frynas, J.G. 2005. The false developmental promise of corporate social responsibility: Evidence from multinational oil companies. *International affairs*, 81(3):581-598.

Garavini, S., Sangiorgi, D. and Guthrie, J., 2015, November. Social Report Disclosures: A Study of the Level of Performance Indicators over Time. In *A-CSEAR 2015-Proceedings of the 14th Australasian Centre on Social and Environmental Accounting Research Conference: A-CSEAR 2015* (p. 39). Academic Conferences and publishing limited.

Garrone, P., Melacini, M., Perego, A. and Sert, S. 2016. Reducing food waste in food manufacturing companies. *Journal of Cleaner Production*, 137:1076-1085.

Global Reporting Initiative. 2018. *Global Reporting Initiative Standards*.
<https://safetyforum.com.au/wp-content/uploads/2018/10/Dr-Sharron-ONeill-Senior-Lecturer-UNSW-Canberra-GRI403-The-New-Global-Standar.pdf> Date of access: 12 Aug. 2020.

Godfrey, L. and Oelofse, S. 2017. Historical review of waste management and recycling in South Africa. *Resources*, 6(4):57.

Goerdeler, K.P.M. 2017. *The road ahead: The KPMG survey of corporate responsibility reporting 2017*. URL: <https://home.kpmg/content/dam/kpmg/xx/pdf/2017/10/kpmg-survey-of-corporate-responsibility-reporting-2017.pdf> Date of access: 9 May 2020.

Gorilla Bins. 2016. *How To Manage Waste Properly*. <http://www.gorillabins.ca/blog/how-to-manage-waste-properly/> Date of access: 20 Jul. 2020.

Graneheim, U.H., Lindgren, B.M. and Lundman, B. 2017. Methodological challenges in qualitative content analysis: A discussion paper. *Nurse education today*, 56:29-34.

Gregory, V. and Chasomeris, M. 2016. JSE-listed companies in the food and drug retail sector: a content analysis of financial statements to determine their primary purpose. *Journal of Economic and Financial Sciences*, 9(3):927-950.

GRI. 2016. GRI 101: Foundation.

GRI. 2016. GRI 306: Effluents and waste.

GRI. 2020. GRI 306: Waste.

Gu, L. and Ozbakkaloglu, T. 2016. Use of recycled plastics in concrete: A critical review. *Waste Management*, 51:19-42.

Guidoni, L.L.C., Marques, R.V., Moncks, R.B., Botelho, F.T., da Paz, M.F., Corrêa, L.B. and Corrêa, É.K. 2018. Home composting using different ratios of bulking agent to food waste. *Journal of environmental management*, 207:141-150.

Guidoni, L.L.C., Marques, R.V., Moncks, R.B., Botelho, F.T., da Paz, M.F., Corrêa, L.B. and Hackett, D.P. 1989. Assessment of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. *Am. UJ Int'l L. & Pol'y*, 5:291.

Hake, J., Horenstein, B., Zipkin, J., De Lange, V. and Grow, P. 2016. Positive Energy through Collaboration—Developing Partnerships to Increase Food Waste Digestion at EBMUD's Wastewater Treatment Plant. *Proceedings of the Water Environment Federation*, 2016(11):2458-2469.

Hanekom, A. 2020. South African Initiative to End Plastic Pollution in the Environment. *South African Journal of Science*, 116(5-6):1-2.

Herbert, S. and Graham, M. 2020. Application of principles from the International< IR> Framework for including sustainability disclosures within South African integrated reports. *South African Journal of Accounting Research*, pp.1-27.

Hoque, M.E. 2017. Why company should adopt integrated reporting?. *International Journal of Economics and Financial Issues*, 7(1).

IIRC. 2016. *Journey to breakthrough*. https://integratedreporting.org/wp-content/uploads/2017/07/IIRC_IR2016_IntegratedReport.pdf Date of access: 1 Dec. 2020.

Inglezakis, V.J. and Moustakas, K. 2015. Household hazardous waste management: A review. *Journal of environmental management*, 150:310-321.

Interwaste.co.za. 2020. *Waste Solutions*. https://www.interwaste.co.za/waste-solutions?utm_campaign=Interwaste_Waste-Solutions_Always-On. Date of access: 2 Dec. 2020.

Isidro, H., Nanda, D. and Wysocki, P.D. 2020. On the relation between financial reporting quality and country attributes: Research challenges and opportunities. *The Accounting Review*, 95(3):279-314.

Jahansoozi, J. 2006. Organization-stakeholder relationships: exploring trust and transparency. *Journal of management development*, 25(10):942-955.

Jeter, D.C. and Chaney, P.K., 2019. *Advanced accounting*. John Wiley & Sons.

JSE. 2018. *Johannesburg Stock Exchange (JSE) - Listed Companies*. <https://www.african-markets.com/en/stock-markets/jse/listed-companies> Date of access: 15 Aug. 2019.

JSE. 2018. Market Note. Changes to ICB & SA Sector indices.

JSE. 2021. *JSE Announces New Sustainability Segment*. Johannesburg Stock Exchange. <https://www.jse.co.za/news/press-releases/jse-announces-new-sustainability-segment>> Date of access: 19 Mar. 2021.

- Katundu, M. 2020. Fostering Rural Development and Social Inclusion in East Africa: Interrogating the Role of Cooperatives. In *The Palgrave Handbook of Agricultural and Rural Development in Africa*. Cham: Palgrave Macmillan. pp. 367-393.
- Klaiman, K., Ortega, D.L. and Garnache, C. 2016. Consumer preferences and demand for packaging material and recyclability. *Resources, Conservation and Recycling*, 115:1-8.
- Krištofík, P., Lament, M. and Musa, H. 2016. The reporting of non-financial information and the rationale for its standardisation. *E+M Ekonomie a Management*, 19(2):157-175.
- Kroyer, G.T. 1995. Impact of food processing on the environment—an overview. *LWT-Food Science and Technology*, 28(6):547-552.
- Kuciel, S., Mazur, K. and Hebda, M. 2020. The Influence of Wood and Basalt Fibres on Mechanical, Thermal and Hydrothermal Properties of PLA Composites. *Journal of Polymers and the Environment*, pp.1-12.
- La Torre, M., Sabelfeld, S., Blomkvist, M., Tarquinio, L. and Dumay, J. 2018. Harmonising non-financial reporting regulation in Europe. *Meditari Accountancy Research*, 25(4):598-621.
- Łaba, S., Niedek, M., Szczepański, K., Łaba, R. and Kamińska-Dwórznička, A. 2019. Regulation of the food waste measuring in the EU in the light of the need of counteracting the food wastage. Environmental Protection and Natural Resources; *The Journal of Institute of Environmental Protection-National Research Institute*, 30(4):1-7.
- Lampinen, J. and Prah, A. 2018. *The Transition from G4 to GRI Standards: A case study of Löfbergs AB*. Sweden, Karlstad: Karlstad University. (Masters Thesis) <https://www.diva-portal.org/smash/get/diva2:1230085/FULLTEXT02> Date of access: 15 Aug. 2020.
- Leang, A.L., Meyer, J.E., Manahan, C.C., Delistraty, D.A., Rieck, R.J., Powell, T.P., Smith, M.N. and Perkins, M.S. 2020. Regulation of Persistent Chemicals in Hazardous Waste: A Case Study. *Integrated Environmental Assessment and Management*, 17(2):455-464.
- Libstar. 2019. *Annual Integrated report*. https://www.libstar.co.za/wp-content/uploads/2020/05/LIBSTAR_IAR-2019-13May.pdf. Date of access: 10 Dec. 2020.

Manahan, S.E. 2017. Industrial ecology: environmental chemistry and hazardous waste. Routledge: CRC Press. pp. 1-18.

Mansoor, H. and Maroun, W. 2016. An initial review of biodiversity reporting by South African corporates: The case of the food and mining sectors. *South African Journal of Economic and Management Sciences*, 19(4):592-614.

Maroušek, J., Stehel, V., Vochozka, M., Kolář, L., Maroušková, A., Strunecký, O., Peterka, J., Kopecký, M. and Shreedhar, S. 2019. Ferrous sludge from water clarification: Changes in waste management practices advisable. *Journal of Cleaner Production*, 218:459-464.

Maroušek, J., Strunecký, O., Kolář, L., Vochozka, M., Kopecký, M., Maroušková, A., Batt, J., Poliak, M., Šoch, M., Bartoš, P. and Kliešтик, T. 2020. Advances in nutrient management make it possible to accelerate biogas production and thus improve the economy of food waste processing. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, pp.1-10.

McNally, M.A., Cerbone, D. and Maroun, W. 2017. Exploring the challenges of preparing an integrated report. *Meditari Accountancy Research*. pp. 488-504.

Michalczyk, G. and Konarzewska, U. 2018. GRI Reporting Framework As A Tool Of Social Accounting. *Economic and Social Development: Book of Proceedings*, 2018:230-240.

Mikhailov, V.G., Golofastova, N.N., Galanina, T.V., Koroleva, T.G. and Mikhailova, Y.S. 2017, January. Environmental-Economic Assessment Of Generation, Flow And Efficiency Of Use Of Production And Consumption Waste. *IOP Conference Series: Earth and Environmental Science*, 50(1):012038

Mio, C. 2016. Integrated reporting: The IIRC framework. In *Integrated Reporting*. London: Palgrave Macmillan. pp. 1-18.

Mion, G. and Loza Adauí, C.R. 2019. Mandatory nonfinancial disclosure and its consequences on the sustainability reporting quality of Italian and German companies. *Sustainability*, 11(17):4612.

Mohsin, M., Nurunnabi, M., Zhang, J., Sun, H., Iqbal, N., Iram, R. and Abbas, Q. 2020. The evaluation of efficiency and value addition of IFRS endorsement towards earnings timeliness disclosure. *International Journal of Finance & Economics*. pp. 1-15.

- Molina-Besch, K., Wikström, F. and Williams, H. 2019. The environmental impact of packaging in food supply chains—does life cycle assessment of food provide the full picture? *The International Journal of Life Cycle Assessment*, 24(1):37-50.
- Moneva, J.M. and Cuellar, B. 2009. The value relevance of financial and non-financial. *Environmental and Resource Economics*, 44(3):441-456.
- Mora, J.C., Baeza, A., Robles, B. and Sanz, J. 2016. Assessment for the management of NORM wastes in conventional hazardous and nonhazardous waste landfills. *Journal of hazardous materials*, 310:161-169.
- Muserra, A.L., Papa, M. and Grimaldi, F. 2020. Sustainable development and the European Union Policy on non-financial information: An Italian empirical analysis. *Corporate Social Responsibility and Environmental Management*, 27(1):22-31.
- Ng, A.W. 2018. From sustainability accounting to a green financing system: Institutional legitimacy and market heterogeneity in a global financial centre. *Journal of Cleaner Production*, 195:585-592.
- Nguyen, A.T., Parker, L., Brennan, L. and Lockrey, S. 2020. A consumer definition of eco-friendly packaging. *Journal of Cleaner Production*, 252:119792.
- Nieman, G. and Fouché, K. 2016. Developing a regulatory framework for the financial, management performance and social reporting systems for co-operatives in developing countries: A case study of South Africa. *Acta Commercii*, 16(1):1-7.
- Niemann, L. and Hoppe, T. 2018. Sustainability reporting by local governments: a magic tool? Lessons on use and usefulness from European pioneers. *Public management review*, 20(1):201-223.
- O'Neil, J. 2018. 'People, Planet, Profits' and Perception Politics: A Necessary Fourth (and Fifth) Bottom Line? Critiquing the Current Triple Bottom Line in the Australian Context. In *The Goals of Sustainable Development*. Singapore: Springer. pp. 19-42.
- Oceana Group Limited. 2019. *Annual Integrated report*.
https://oceana.co.za/pdf/Oceana_IAR_2019_WEB.pdf Date of access: 10 Dec. 2020.

Piechocki, R. 2004. Transparency of annual sustainability reports. *Corporate Reputation Review*, 7(2):107-124.

Premier Food and Fishing Brands Limited. 2020. *Annual Integrated report*.
<https://premierfishing.co.za/wp-content/uploads/2020/01/PFB-Report-22-January-low-res.pdf>
Date of access: 10 Dec. 2020.

Quantum Food Holdings Limited. 2019. *Annual Integrated report*.
<http://quantumfoods.co.za/downloads/2019/quantum-foods-integrated-report-2019.pdf> Date of access: 10 Dec. 2020.

Rani, M., Marchesi, C., Federici, S., Rovelli, G., Alessandri, I., Vassalini, I., Ducoli, S., Borgese, L., Zacco, A., Bilo, F. and Bontempi, E. 2019. Miniaturized near-infrared (MicroNIR) spectrometer in plastic waste sorting. *Materials*, 12(17):2740.

RCL Foods Limited. 2020. *Annual Integrated report*. https://rclfoods.com/wp-content/uploads/2020/09/2020_Abridged-Integrated-Annual-Report_compressed.pdf Date of access: 10 Dec. 2020.

Rhodes Food Group Holdings Limited. 2019. *Annual Integrated report*.
<http://www.rfg.com/app/uploads/2019/12/RFG-Integrated-Report-2019.pdf> Date of access: 10 Dec. 2020.

Sabbas, T., Poletini, A., Pomi, R., Astrup, T., Hjelm, O., Mostbauer, P., Cappai, G., Magel, G., Salhofer, S., Speiser, C. and Heuss-Assbichler, S. 2003. Management of municipal solid waste incineration residues. *Waste management*, 23(1):61-88.

Santamaria, M. and Coalition, N.C. 2018. Combining Forces on public and private sector work on natural capital. pp. 1-12.

Sawic.environment.gov.za. 2021. *South African Waste Information Centre*. [online] Available at: <http://sawic.environment.gov.za/?menu=60> Date of access: 18 Mar. 2021.

Scanlan, M.K. 2020. Climate Risk Is Investment Risk. *Natural Resources & Environment*, 35(2):18-27.

Schijven, J.F., Medema, G., Vogelaar, A.J. and Hassanizadeh, S.M. 2000. Removal of microorganisms by deep well injection. *Journal of Contaminant Hydrology*, 44(3-4):301-327.

Sea harvest group Limited. 2019. *Annual Integrated report*. https://seaharvestgroup.co.za/wp-content/uploads/2020/05/Sea_HARvest_IR_Full_29Apr-1.pdf Date of access: 10 Dec. 2020.

Setia, N., Abhayawansa, S., Joshi, M. and Huynh, A.V. 2015. Integrated reporting in South Africa: some initial evidence. *Sustainability Accounting, Management and Policy Journal*, 6(3):397-424.

Shroff, N. 2017. Corporate investment and changes in GAAP. *Review of Accounting Studies*, 22(1):1-63.

Simnett, R. and Huggins, A.L. 2015. Integrated reporting and assurance: where can research add value. *Sustainability Accounting, Management and Policy Journal*, 6(1):29-53.

Spur Corporation. 2021. *SPUR GROUP IS COMMITTED TO ENVIRONMENTAL SUSTAINABILITY - Spur Corporation*. <https://www.spurcorporation.com/spur-group-committed-environmental-sustainability/> Date of access: 23 Mar. 2021.

Stolowy, H. and Paugam, L. 2018. The expansion of non-financial reporting: an exploratory study. *Accounting and Business Research*, 48(5):525-548.

Study of Washington State (USA). Integrated Environmental Assessment and Management.

Su, D.N., Duong, T.H., Dinh, M.T.T., Nguyen-Phuoc, D.Q. and Johnson, L.W. 2021. Behavior towards shopping at retailers practicing sustainable grocery packaging: The influences of intra-personal and retailer-based contextual factors. *Journal of Cleaner Production*, 279:123683.

Sullivan, D. 2011. Zero waste on San Francisco's horizon. *Biocycle*, 52(7):28.

Tiger Brands Limited. 2019. *Annual Integrated report*. <https://www.tigerbrands-online.co.za/reports/ir-2019/pdf/full-iar.pdf> Date of access: 10 Dec. 2020.

Tongaat Hulett Limited. 2020. *Annual Integrated report*. <https://www.tongaat.com/wp-content/uploads/2020/08/2020-Integrated-Annual-Report.pdf> Date of access: 10 Dec. 2020.

Tweedie, D., Nielsen, C. and Martinov-Bennie, N. 2018. The business model in integrated reporting: Evaluating concept and application. *Australian Accounting Review*, 28(3):405-420.

Van Zijl, W. and Hewlett, V. 2021. An analysis of the extent and use of fair value by JSE Top 40 companies. *South African Journal of Accounting Research*, p.1-24.

Verschoor, C. 2017. Sustainability Reporting Increases: Nonfinancial reports-including those on environmental, social, and corporate governance issues-are the new norm. *Strategic Finance*, 99(4):20-22.

Vitolla, F. and Raimo, N. 2018. Adoption of integrated reporting: Reasons and benefits—A case study analysis. *International Journal of Business and Management*, 13(12):244-250.

Vorster, S. and Marais, C. 2014. Corporate governance, integrated reporting, and stakeholder management: A case study of Eskom. *African Journal of Business Ethics*, 8(2).

Waste, F.H. 2018. *Hazardous waste management*.

<http://ademmail2.state.al.us/programs/land/landforms/HWBasics.pdf> Date of access: 10 Dec. 2020.

Whitaker, C. 2016. *Barloworld Waste Management Policy*.

<https://www.barloworld.com/pdf/sustainability/policies/environmental/barloworld-waste-management-policy.pdf> Date of access: 3 Dec. 2020.

Whitaker, C. 2019. *Barloworld Waste Management Policy*. Barloworld.

<https://www.barloworld.com/pdf/sustainability/policies/environmental/barloworld-waste-management-policy.pdf>. Date of access: 3 Oct. 2019.

Wolf, J. 2017. *What The JSE Listings Requirements Say About Integrated Reporting - Corporate Content*. <http://www.corporatecontent.co.za/articles/2017/06/26/what-the-jse-listings-requirements-say-about-integrated-reporting> Date of access: 10 Jan. 2021.

Yates, L. and Brennan, K.J. CLIMATE DISCLOSURE AND THE ROLE OF THE BOARD. *The Implications for Boards - Article Series*. 2020:16.

Zulu, N.N. 2018. Integrated reporting in the South African mining sector and the King Report IV on Corporate Governance 2016. South Africa, Pretoria: University of Pretoria (Doctoral dissertation) <http://hdl.handle.net/2263/70052> Date of access: 10 Dec. 2020.

Zyznarska-Dworczak, B. 2018. Accounting theories towards non-financial reporting. *Studia Ekonomiczne*, 356:157-169.

ANNEXURES

DEMOGRAPHICS		
Name of company: AH-Vest Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?		X
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?		X
Are there any indication that the company is serious about the governance and management of waste?		X

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed		X	
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		x	

DEMOGRAPHICS		
Name of company: Astral Foods Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?	X	
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill	X		
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle	X		
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill	X		
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: AVI Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?	X	
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed		X	
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor	X		

DEMOGRAPHICS		
Name of company: Crookes Brothers Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?		X

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed		X	
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: Libstar Holdings Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?		X
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?		X

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed		X	
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: Oceana Group Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill	X		
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle	X		
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill	X		
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: Premier Foods and Fishing Brands Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?		X
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?		X

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed		X	
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		x	

DEMOGRAPHICS		
Name of company: Quantum Food Holdings Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?		X
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse			X
ii) Recycle			X
iii) Composting			X
iv) Recovery, including energy recovery			X
v) Incineration (mass burn)			X
vi) Deep well injection			X
vii) Landfill	X		
viii) on-site storage			X
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: RCL Foods Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse	X		
ii) Recycle			X
iii) Composting			X
iv) Recovery, including energy recovery	X		
v) Incineration (mass burn)	X		
vi) Deep well injection			X
vii) Landfill			X
viii) on-site storage			X
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse	X		
ii) Recycle	X		
iii) Composting			X
iv) Recovery, including energy recovery	X		
v) Incineration (mass burn)			X
vi) Deep well injection			X
vii) Landfill			X
viii) on-site storage			X
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS			
Name of company: Rhodes Food Group Holdings Limited			
	YES	NO	
Does the company have an Integrated report?	X		
Does the company have a sustainability and/or environmental report?	X		
Does the company use the GRI guidelines?		X	
Are there any indication that the company is serious about the governance/ management of the environment?	X		
Are there any indication that the company is serious about the governance and management of waste?	X		
The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse	X		
ii) Recycle	X		
iii) Composting	X		
iv) Recovery, including energy recovery	X		
v) Incineration (mass burn)	X		
vi) Deep well injection			X
vii) Landfill	X		
viii) on-site storage			X
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: Sea Harvest Group Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?		X
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?		X

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse	X		
ii) Recycle	X		
iii) Composting			X
iv) Recovery, including energy recovery			X
v) Incineration (mass burn)			X
vi) Deep well injection			X
vii) Landfill	X		
viii) on-site storage			X
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

DEMOGRAPHICS		
Name of company: Tiger Brands Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?		X
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste		X	
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle		X	
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle	X		
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill	X		
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor	X		

DEMOGRAPHICS		
Name of company: Tongaat Hulett Limited		
	YES	NO
Does the company have an Integrated report?	X	
Does the company have a sustainability and/or environmental report?	X	
Does the company use the GRI guidelines?	X	
Are there any indication that the company is serious about the governance/ management of the environment?	X	
Are there any indication that the company is serious about the governance and management of waste?	X	

The reporting organisation shall report the following information on Hazardous waste			
	YES	NO	N/A
Does the company report the total weight of the hazardous waste	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse	X		
ii) Recycle	X		
iii) Composting			X
iv) Recovery, including energy recovery	X		
v) Incineration (mass burn)			X
vi) Deep well injection			X
vii) Landfill			X
viii) on-site storage			X
ix) Other (to be specified by the organization)			X
The reporting organisation shall report the following information on Non-Hazardous waste			
	YES	NO	N/A
Does they report the total weight of the non-hazardous waste?	X		
If yes, indicate which of following disposal methods where applicable			
i) Reuse		X	
ii) Recycle	X		
iii) Composting		X	
iv) Recovery, including energy recovery		X	
v) Incineration (mass burn)		X	
vi) Deep well injection		X	
vii) Landfill		X	
viii) on-site storage		X	
ix) Other (to be specified by the organization)		X	
Does the company indicate how the waste disposal method has been determined?			
	YES	NO	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	X		
ii) Information provided by the waste disposal contractor		X	
iii) Organizational defaults of the waste disposal contractor		X	

The results

1.DEMOGRAPHICS		
	Number	%
How many companies had an Integrated report?	13/13	100
How many companies had a sustainability and/or environmental report?	8/13	61.5
How many companies use the GRI guidelines?	3/13	23.1
What number of companies indicated that the company is serious about the governance/ management of the environment?	12/13	92.3
What number of companies indicated that the company is serious about the governance and management of waste?	8/13	61.5

LAST UPDATED: 31/03/2021

2. The reporting organisation shall report the following information on hazardous waste			
	Number	%	N/A
Does they report the total weight of the hazardous waste	4/13	30.8	
If yes, indicate which of following disposal methods where applicable			
i) Reuse	2/13	15.4	
ii) Recycle	1/13	7.7	
iii) Composting	0	0	
iv) Recovery, including energy recovery	2/13	15.4	
v) Incineration (mass burn)	1/13	7.7	
vi) Deep well injection	0	0	
vii) Landfill	2/13	15.4	
viii) on-site storage	0	0	
ix) Other (to be specified by the organization)	0	0	
3. The reporting organisation shall report the following information on Non-Hazardous waste			
	Number	%	N/A
Does the company report the total weight of the non-hazardous waste?	8/13	61.5	
If yes, indicate which of following disposal methods where applicable			
i) Reuse	3/13	23.1%	
ii) Recycle	7/13	53.8%	
iii) Composting	1/13	7.7%	
iv) Recovery, including energy recovery	2/13	15.4%	
v) Incineration (mass burn)	1/13	7.7%	
vi) Deep well injection	0/13	0	
vii) Landfill	6/13	46.2%	
viii) on-site storage	0/13	0	
ix) Other (to be specified by the organization)	0/13	0	
4. Does the company indicate how the waste disposal method has been determined:			
	Number	%	N/A
i) Disposed of directly by the organization, or otherwise directly confirmed	8/13	61.5%	
ii) Information provided by the waste disposal contractor	0/13	0	
iii) Organizational defaults of the waste disposal contractor	2/13	15.4%	