Business and Biodiversity

The current state of affairs of biodiversity reporting by Dutch businesses.

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Glossary

CBD
Convention on Biological Diversity; signed by 150 government leaders at the 1992 Rio Earth Summit, dedicated to promoting sustainable development. It aims for the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.

KPI
A Key Performance Indicator (KPI) is a measurable value that demonstrates how effectively a business is achieving key business objectives. Organizations use KPIs to evaluate their success at reaching targets.

GAP / GlobalGAP
Good Agricultural Practices; codes, standards and regulations aimed at practices that address economic viability, environmental sustainability, social acceptability and food safety and quality. GlobalGAP is an international non-governmental organization that sets voluntary standards for the certification of agricultural products.

GDP
Gross domestic product; the total market value of all final goods and services produced in a country in a given year, equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports.

Greenwashing
Describes the process of a business, government or other group that promotes green-based environmental initiatives or images, but in fact is using these proceedings to legitimise non-environmentally friendly activities.

No Net Loss
A "No net loss" policy can be defined as a principle by which businesses strive to take away negative impact on biodiversity by means of the avoidance, minimization and compensation of negative impact, and ultimately preferably to create a positive impact.

REDD+
Reducing Emissions from Deforestation and Forest Degradation (REDD) is an effort to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development.

Skal
Supervisor for proven reliability of organic products in the Netherlands.

Summary

The loss of biodiversity is an expanding global problem which is increasingly recognised by (inter)national authorities, NGO's and the public. Every business has an impact on biodiversity through its actions, however, biodiversity has been receiving little attention within businesses so far. Attention for biodiversity fits within the frame of Corporate Social Responsibility (CSR), which reflects: the responsibility of businesses towards society and environment. Currently only a few, mainly big leading businesses have incorporated biodiversity as a part of their CSR or sustainability policies. By monitoring and reporting about biodiversity, businesses can gain insight in the risks and opportunities of their impact. Reporting is important for businesses to communicate their measures and performance on biodiversity and to show responsibility. However, reporting on specifically biodiversity is not often done until now, and existing biodiversity disclosures appear to be dissimilar in quantity and quality. It is unclear what exactly is causing the low and ambiguous way of biodiversity reporting. This gives rise to the question what the state of biodiversity reporting by businesses in the Netherlands currently is.

The theoretical basis of this study was formed by the concept of CSR, followed by the way biodiversity is related to the CSR policies of businesses, and the characteristics of biodiversity reporting as a part of environmental reporting. This explorative study was focused on the first 50 large Dutch businesses listed on the Elsevier Top 500 in the year 2014, these businesses are from several sectors. A content analysis of five years of annual or sustainability reports (2010 to 2014) of all 50 businesses has been carried out, to determine the quantity and quality of their biodiversity disclosure. This was done by using the coding for biodiversity themes in accounting reports, derived from existing literature and GRI indicators developed by Grabsch *et al.* (2011). In addition, interviews were conducted with 9 of the 50 businesses in order to understand their way of, and motivation for (not) reporting about biodiversity. For every business, the person who was responsible for CSR-reporting within the business (or very knowledgeable on the subject) was interviewed in a semi-structured manner. The transcripts of these interviews were analysed by elaborating the interpretations in a number of subjects, in order to get an overview of the motivations behind the way of reporting by the businesses.

The study showed that the majority of the 50 businesses reported on biodiversity to a greater or lesser extent, but that the overall disclosed information on biodiversity is of superficial nature. This is evident, even though both the amount of businesses that reports, as the amount of biodiversity related content within reports have increased over the five investigated years. Most biodiversity related information in reports is rather vague than detailed or specific, anyhow seldom quantified. At first sight, it seems that more businesses within the higher, 'red' biodiversity risk zone report on biodiversity than in the lower amber and green risk zones, yet these differences turned out not to be statistically significant. Some biodiversity category elements are clearly applied more frequently than others in the business reports. Furthermore, the majority of the reports contain a low amount of applied category elements, opposite of a small part of reports that contain many different category elements.

The motivations behind the sometimes reasonable extensive, but nonetheless usually very limited biodiversity disclosure of the businesses, are quite different. This is often due to the relationship each business has with biodiversity, which varies per business type or sector. The most common reasons to report on biodiversity are stakeholder engagement, continuity of the business and transparency in relation to responsibility and reputation. Motivations to not report on biodiversity are mainly related to the (indirect) relationship with biodiversity, low materiality of the issue and the impossibility or complexity of quantifying biodiversity. The latter is considered to be a limitation by many of the interviewed businesses, and also literature mentions that proper instruments for measuring biodiversity are crucial to make reporting possible. This matter implies that for a large part of the businesses there is mainly a practical reason for not reporting on biodiversity. The will to report is not necessarily lacking, as for instance some businesses indicated they want to implement the No Net Loss principle. NGO's as well as new technologies can play an important role in initiating this within businesses. It is concluded that this research shows that biodiversity reporting by Dutch businesses is currently generally poor, but can be improved by the development of methods that will help make biodiversity reporting more accessible for businesses.

Preface

The course of writing this thesis did not went as I had expected or had in mind in advance. But for that very reason, I am extra proud of the end result that there is now. All the adversity I've encountered along the way, was largely caused by force majeure. This involved a great sense of powerlessness and dissatisfaction. Eventually I learned a lot from this difficult period, and I managed to find the patience in order to complete this thesis in a way that I can be satisfied with.
What has helped is my great motivation to do research at, and work with the main theme of this thesis, namely biodiversity. Biodiversity is extremely important for maintaining ecosystems that are essential to all life on earth. Personally, I see biodiversity loss as the major upcoming world problem. This was therefore the reason for me to delve myself into the existing problems and possible opportunities for the halting of biodiversity loss. This motivation was why I started this Master's in the first place, in order to contribute something here. This ambition, in spite of all obstacles, continues and I aim to keep and exercise it after my graduation as well.

Fortunately, there a number of people who I can and should thank for their contribution to this thesis, in whatever shape or form. For this thesis could not have been brought to a successful ending just by myself.

During this process, I was guided by my supervisor Marjanke Hoogstra-Klein (Wageningen University). She helped me at my starting point in finding an interesting research direction, to form a more logic and structural work, and her critical views on the research and design encourage d me to reach a higher level. Although little personal contact took place due to various restrictive circumstances, there was always a lot of understanding for my situation and my progress was always the basis.

Then, I would like to thank the people who made it possible for me to interview them, for their time and provided information, which was essential in order to be able to write this thesis.

Last but not least, I want to thank my family and friends. In particular my partner Aschwin, who encouraged me to follow this education in the first place, and supported me up to and including the writing of the very last sentence of this thesis. Thank you for believing in me. You were always the first to be there for me in the hard times, and also helped me to relax and have some fun for a change. I am also grateful to my parents, who have always encouraged me to pursue my dreams and were always there for me. Also, thanks to my friends who supported and encouraged me to go on. Thanks for showing interest in what I was doing, for making me laugh at times and for identifying the misspellings and the other advice concerning this thesis.

1. Introduction

1.1 Background & problem statement

1.1.1 Biodiversity decline

Worldwide, biodiversity is declining at an alarming rate. WWF (2014) reported that the planet has lost 52% of its biodiversity between 1970 and 2010; the size of populations (described in terms of the number of individuals) of mammals, birds, amphibians, reptiles and fish has fallen by half. This is calculated in the Global Living Planet Index, by using trends in 10,380 populations of 3,038 vertebrate animal species (see Figure 1). Plant species are not even taken into account here, which are also in decline (TEEB, 2008).

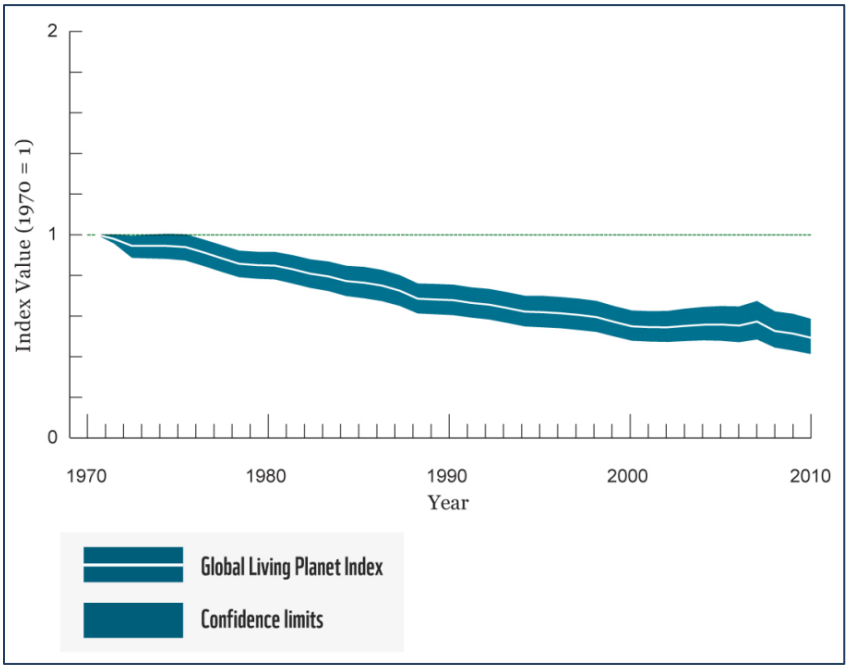


Figure 1: Global Living Planet Index (WWF, 2014)

In the same time span, the human population has nearly doubled, which contributed to the main threats to the world's biodiversity: habitat loss and degradation, fragmentation, hunting, climate change, invasive species/genes, pollution and diseases. Loss of biodiversity is also caused by degradation of agricultural land/soil and leads to major loss of natural capital (Collen *et al.,* 2014; TEEB, 2010). Human consumption puts increasingly greater pressure on natural ecosystems; humanity's demand has exceeded what the planet can replenish in at least the last 40 years. The ecological footprint measures the area (in hectares) required to provide the ecological goods and services used by humanity. The ecological footprint currently surpasses the biocapacity of the earth – the land that actually is available to deliver these goods and services. Biocapacity acts as an ecological benchmark against which the ecological footprint can be compared. Both are expressed in a common unit called a global hectare (gha) (WWF, 2014). Currently the regenerative capacity of 1.5 earths is needed to provide the ecological goods and services humanity uses each year. If continued in this way, at least two planets would be needed to meet the needs there are in 2030. There are utter differences between countries with different average levels of income when comparing their Living Planet Index trends (size of animal species populations; WWF, 2014). High-income countries show an increase in biodiversity (10%), middle-income countries show decline (18%), and low-

income countries show dramatic and marked decline (58%). These differences may reflect the way higher income countries import resources; effectively outsourcing biodiversity loss and its impacts to lower-income countries (Lenzen *et al.*, 2012).

While the origination of new, and the extinction of existing species is a natural process in evolution, at the moment the speed of extinction runs at least a hundred times as fast as it did in prehistory (MEA, 2005). The decline is the result of (too) intensive use of ecosystems, which have many functions to offer to human beings. This is a worrying development, as biodiversity is considered to be essential for human kind, now and in the future. Examples of 'ecosystem services' are food supply, climate regulation, water treatment and protection against natural disasters. At the same time, there are animal and plant species disappearing that are not yet discovered or researched, while they could be of high value, for example in medical science. Biodiversity also forms a genetic reservoir, as scientists and business use it for the creation of new plant varieties, natural pesticides, materials and resources (Taskforce, 2011; WWF, 2014; TEEB, 2010). Figure 2 shows the interdependencies of human actions, economical activities and biodiversity and ecosystems. Except for the utility of species for humans, biodiversity has its own value, the so called intrinsic value. Back in 1982, the United Nations therefore adopted the World Charter for Nature, in which the existence of all species is recognised, and human kind has the moral duty to respect and protect all plants and animals (IUCN, 2014).

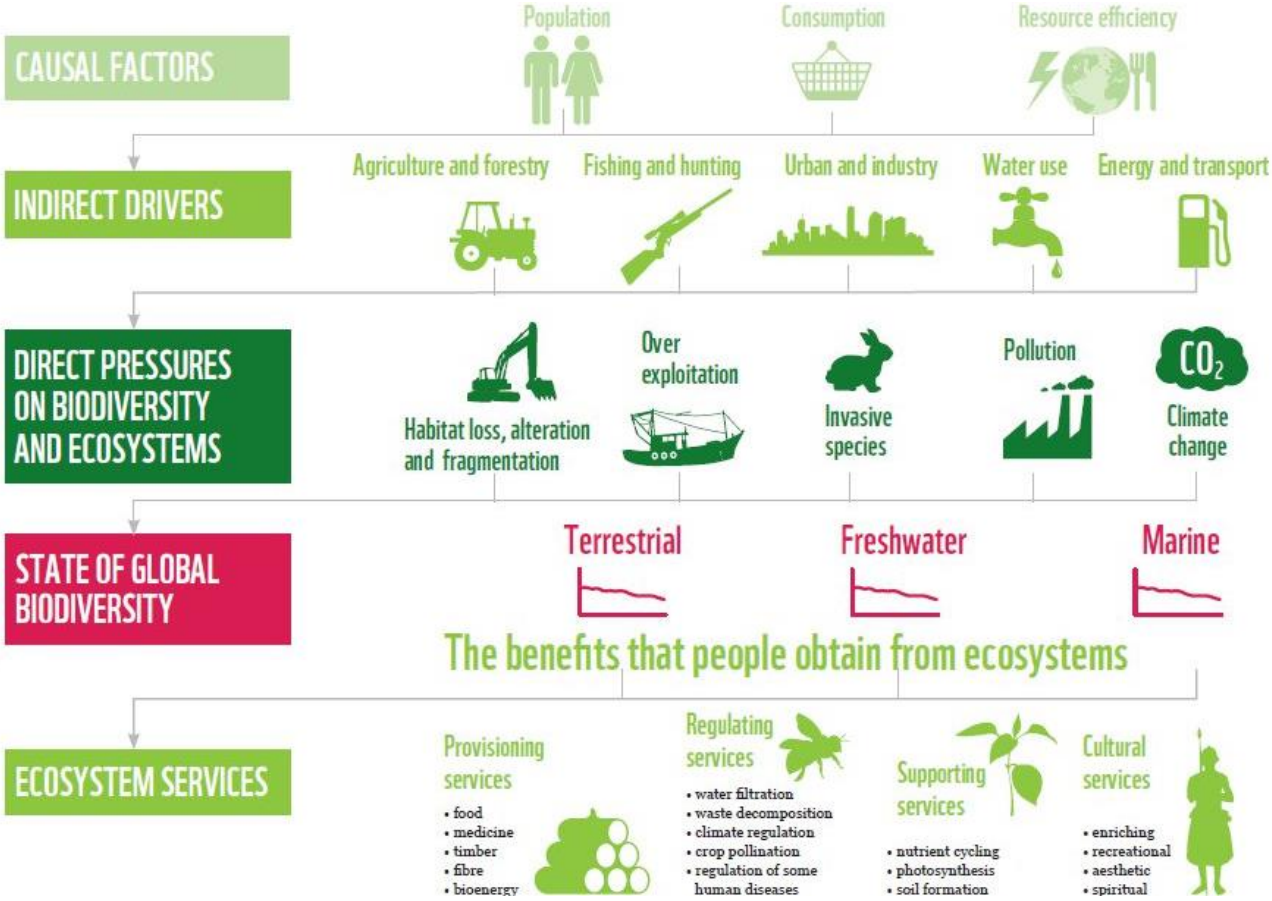


Figure 2: Interdependencies of humans, biodiversity, state of ecosystems and the possibility to keep delivering ecosystem services (WWF, 2012)

Considering the threats to something as important as biodiversity, it is not surprising that biodiversity has an important place on the international policy agenda. The European Union, for example, has set

the goal to stop biodiversity loss ('No Net Loss') and restore ecosystems by 2020, by signing the global Convention on Biological Diversity (PBL, 2014a). The Lisbon Strategy biodiversity is part of the goals that are set in the fields of environment, social and economic affairs by the European Commission and the United Nations proclaimed the year 2010 the International Year of Biodiversity (Bosman *et al*, 2013). Also the amount of smaller and more national/local policy initiatives focused on biodiversity is increasing gradually. These initiatives are government, civil or NGO-based projects, like for example the realisation of green roofs, a bees 'ribbon' through the city, butterfly gardens at health institutions and temporary nature at wastelands. This trend can be explained out of the increasing insight there is about the direct economic importance of ecosystems and biodiversity, and their influence on the quality of life (Taskforce, 2011; Bosman *et al*, 2013).

1.1.2 Business and biodiversity

Responsibility for biodiversity, however, not only lies on the policy level: every action has an impact on ecosystems and, hence, can influence biodiversity. This can be actions on the level of the individual, on household level, business level, governments level, etc., and on local, regional, national and international scale. The focus of this research is on the relation of businesses and biodiversity. The reason for this focus is that not much attention is paid to biodiversity within businesses, which makes it interesting to find out why. Whilst impact of businesses on biodiversity can be very large, for example through (over-)exploitation in the fisheries, forestry and agriculture sectors. The impacts of changing biodiversity levels can also be high for businesses as important raw materials are becoming scarce, producing waste is becoming more expensive and the re-use or recycling of resources can decrease costs (Taskforce, 2011). The level of impact depends much on the kind of sector the business is in (see also Table 1). Obviously, the extensive agricultural, horticultural and fisheries (food) sector have the strongest relationship with biodiversity. These and some other sectors like the mining sector, have consequently the highest risk of dependency and/or being a threat to biodiversity. Some sectors do acknowledge this risk consciously, like for example the cacao industry, in which The Netherlands plays a major role, has set the goal to be entirely sustainable by 2025. However, the intentions with regard to specifically biodiversity are unclear here (Taskforce, 2011).

High-Risk Sector Most businesses exposed to risks. Risks likely to be significant	**Medium-Risk Sector** Some businesses exposed to. Risks may be significant	**Lower-Risk Sector** Risk variable and significance unknown.
Construction & Building materials Electricity Food & Drug Retailers Food Producers & Processors Forestry & Paper Leisure & Hotels Mining Oil & Gas Utilities	Beverages Chemicals Financial Services General Retailers Household Goods & Textiles Personal Care & Household products Pharmaceuticals & Biotech Support Services Transport	Aerospace & Defence Automobiles & Parts Diversified Industrials Electronic & Electrical Equipment Engineering & Machinery health Information Technology hardware Media & Entertainment Software & Computer Services Steel & Other Metals Telecom Services

Table 1. Level of biodiversity risk by sector. Within each zone, sectors are presented in alphabetical order; the ordering does not reflect different levels of risk (Parr & Simmons, 2007)

Attention for specifically biodiversity has been lacking for a long time within businesses, and still is. Business developments have been mainly focused on the short term, which usually turns out not to be the most sustainable and green way (Taskforce, 2011). In the meantime, public awareness of biodiversity loss has been increasing, leading to changes in consumer preferences and purchasing decisions. The last few years, some initiatives have been raised to stimulate the attention to biodiversity. The Sustainable Trade Initiative (IDH) and Biobased Economy are examples of programmes initiated by the Dutch government to enable cooperation between research institutes, NGO's, governments and businesses about this issue. Furthermore, different certification systems have been designed for sustainable trade, like for example Rainforest Alliance, FSC (Forest Stewardship Council) and MSC (Marine Stewardship Council) (Taskforce, 2011). The International Round Tables for soy and palm oil are examples of partnerships between business and NGO's, and are multi-stakeholder mechanisms which are set up to move producers and traders toward responsible production that does not harm nature or people (Kamphuis *et al*, 2014; RTRS, 2010).

The McKinsey Global Survey 2010 showed the extent to which biodiversity and ecosystems are seen as relevant for the strategies of businesses. 27% of the respondents (businesses) finds this very important for the business activities, more than half of the respondents thinks biodiversity can be seen as a chance for the business (Taskforce, 2011). Attention for biodiversity fits within the frame of Corporate Social Responsibility (CSR), a term that became popular some decades ago, which reflects the responsibility of businesses towards society and environment. However, currently only a few, mainly big leading businesses have incorporated biodiversity as a part of their CSR or sustainability policies (Bergsma *et al*, 2014). That is not to say that businesses without an explicit biodiversity policy, cannot have a positive effect (or damage reducing activities) on biodiversity indirectly. Activities that businesses can undertake to reduce their impact on biodiversity indirectly, are for instance: participation in Round Tables or the Sustainable Trade Initiative (IDH), or they agree on cooperation or partnership with NGO's like WWF, IUCN and Stichting Natuur en Milieu (CLM/LNV, 2010). More direct activities such as setting demands towards suppliers, supporting local nature areas, and setting sustainability goals as well as reporting on these, are still rare (Overbeek *et al*, 2012a; Taskforce, 2011).

Currently, it is often simply unknown to what extent biodiversity plays a role in business activities. For example, the international retail group Ahold names the criterion biodiversity in their internal risk analysis of the AH-brand products, but in what way this is measured is not clear (Overbeek *et al*, 2012a). This lack of clarity raises more and more questions, consequently the group of consumers that wants to see more information about sustainable products, is growing (Ernst&Young, 2010). When a business has no results in making the production process more sustainable and green, it can't relate any trustworthy images and stories to its customers. A few brands and stores managed to position themselves as sustainable in the eyes of the consumer, like for example suppliers of sustainable 'green' energy such as Eneco, and car brands that introduced sustainable cars such as electric models. Sustainability is a broad subject in this sense, and can include attention for social, environment as well as nature, and both inside and outside the production process of businesses. Consumers associate particular brands with sustainability, while the actual approach of these brands towards sustainability doesn't have to be on the same level (Overbeek *et al.*, 2010b). Not just consumers, but also investors, society and governments are increasingly demanding that organisations are accountable to stakeholders, and be transparent about their activities (Abeysekera,

2013). Nevertheless, little is known about to what extend businesses are truly dedicated to biodiversity and the use of resources, nor about the way in which they do communicate their contributions to biodiversity (Overbeek *et al*, 2010b).

1.1.3 Business reporting on biodiversity

When businesses are dealing with biodiversity in an open and responsible way, this means they have to monitor and report about this topic. Therefore, measuring and reporting a business' use of natural capital and impacts on ecosystems and biodiversity is becoming increasingly important. Anchoring natural capital in business' non-financial reporting provides information and can influence the decisions made by financers and investors, and shift sectorial investment flows in a more biodiversity-friendly direction (PBL, 2014b). Businesses that do this will understand the risks and opportunities better and are more likely to build resilience into their business models. Assessing the benefits businesses receive from biodiversity systematically, including their economic dependence on such benefits is important for businesses. Under-assessment could lead to weak reporting in this issue, leading in turn to bad practices (PBL,2014b).

Monitoring and reporting is an important 'key step' for action on biodiversity for business, according to the report 'Business & Biodiversity' of IUCN in 2007. This report describes eight phases guiding in operating in decreasing business' impact on biodiversity, whereby step 7/8 is about 'Indicators, assurance and reporting': measure and evaluate regularly all steps of the action plan, to assure good progress (Parr & Simons, 2007). Reporting on biodiversity is a challenging task though, and not often done up until now. More general issues such as greenhouse gas emissions and mitigation efforts are reported by many businesses. Yet, biodiversity and ecosystems services are usually treated superficially in business reports, detailed information on biodiversity is only seldom found until now. PricewaterhouseCoopers (PwC) shows in a review (2008) of the annual reports of the 100 largest businesses in the world that only 18 businesses mentioned biodiversity or ecosystems. Six of these businesses denoted actions to reduce impacts on biodiversity and ecosystems, two businesses identified biodiversity as a key strategic issue. Of the same 100 businesses, 89 published a sustainability report, where 24 described actions to reduce impacts and 9 businesses identified biodiversity as a key sustainability issue. These outcomes are shown in the graphs of figure 3. A global survey of McKinsey shows similar results about business and biodiversity (McKinsey, 2010).

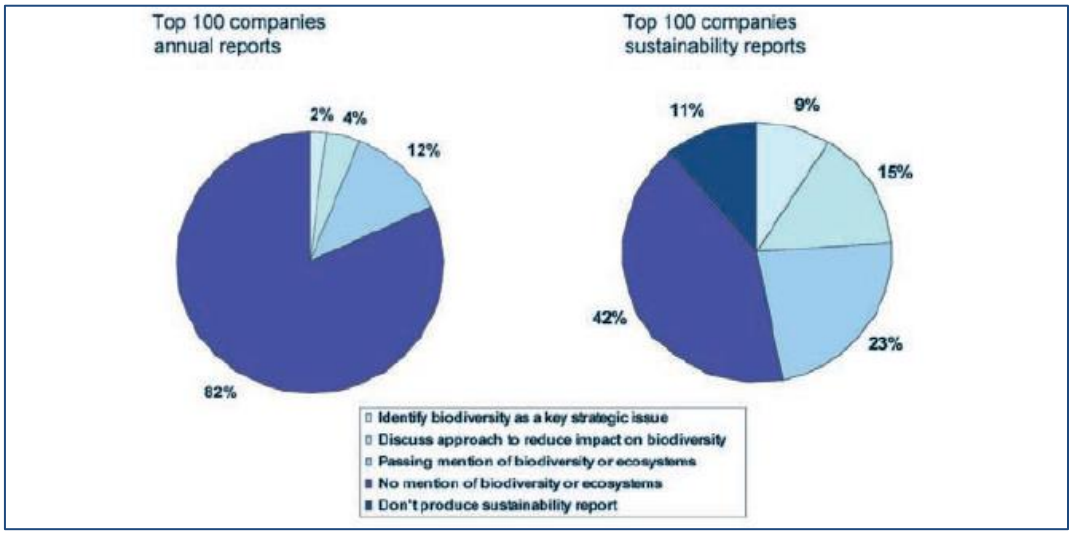


Figure 3: Reporting by business on biodiversity and ecosystems (TEEB, 2010)

This low level of biodiversity reporting could be linked to the fact that so far, there is no uniform approach to monitor and report on biodiversity (CLM/LNV, 2010). This might be caused by a lack of clarity on reporting standards and the low priority assigned by reporting organizations (Bergsma *et al*, 2014). However, some first steps are taken to improve this issue. The Global Reporting Initiative (GRI) provides guidance and some basic indicators to start with (TEEB, 2010). GRI is a reporting system that offers metrics and methods for measuring and reporting sustainability-related impacts and performance. The aim of the organization is to make sustainability reporting standard practice for all businesses and organizations (GRI, 2006). Figure 4 shows that GRI is an essential step of the action plan for business and biodiversity (Parr & Simons, 2007).

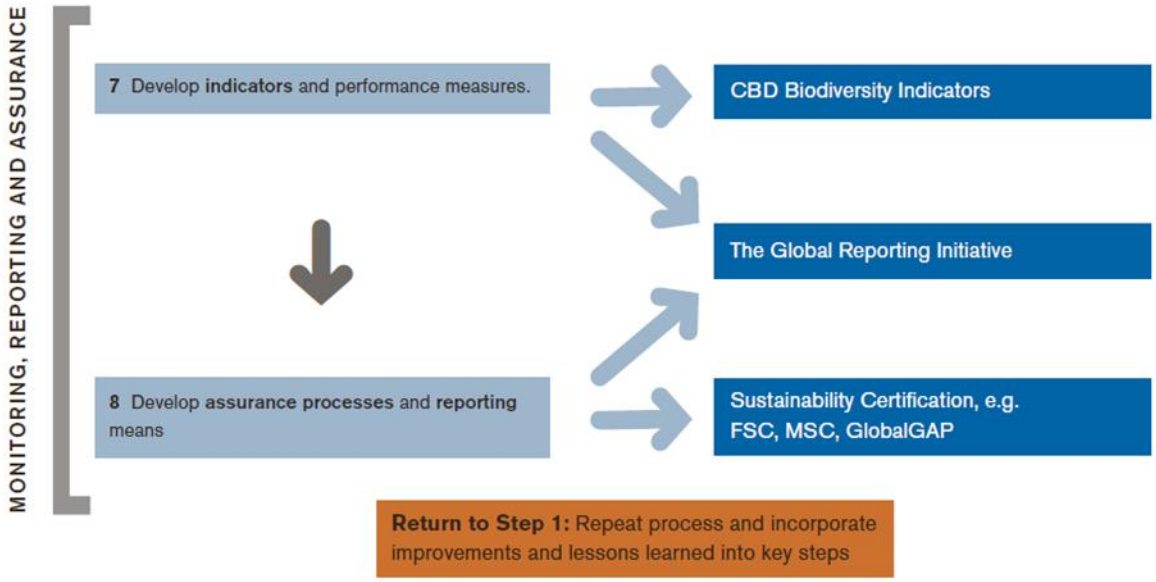


Figure 4: Last steps of the IUCN action plan for business and biodiversity (Parr & Simons, 2007)

An example of a business that does report about biodiversity, is the leading global mining and metals business Rio Tinto, whose headquarters are based in Australia and the United Kingdom. Minerals such as aluminium, diamond, gold, and iron ore are extracted by the business worldwide. Rio Tinto is one of the largest mining businesses in the world. Rio Tinto aims to have a net positive impact on biodiversity and reports in an extensive way about this. The report "Working towards Net Positive Impact" (2012) describes Rio Tinto's Biodiversity Strategy, the approach and toolkit used towards Net Positive Impact and Action Planning, exemplified with case studies and infographics, like for example 'The mitigation hierarchy' as displayed in figure 5. Rio Tinto explains the mitigation hierarchy as: "the process of avoiding and minimizing predicted impacts on biodiversity and ecosystem services until residual impacts can be managed through the remediative steps of restoration and offsetting" (Rio Tinto, 2012).

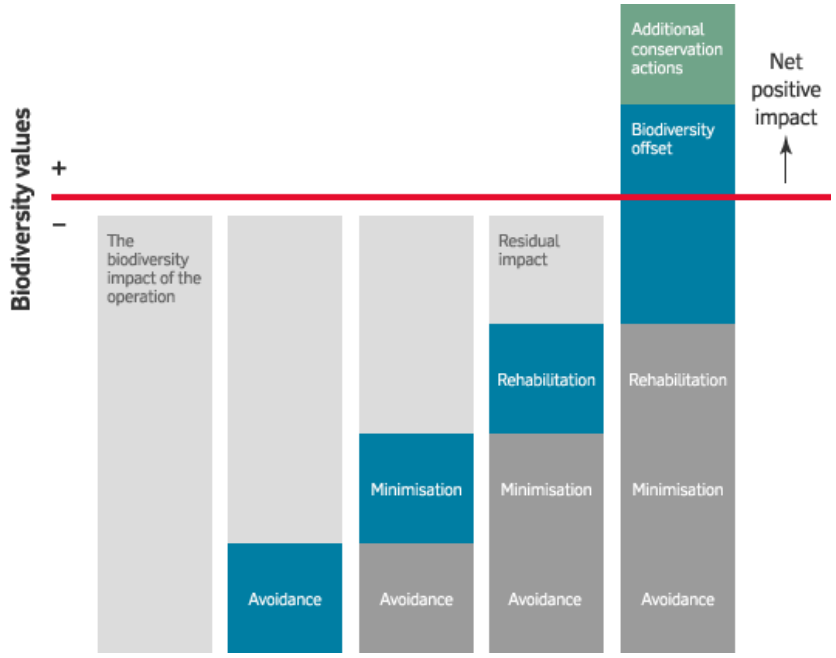


Figure 5: The Mitigation Hierarchy of business Rio Tinto (source: Rio Tinto, 2012)

Rio Tinto reports its sustainable development performance in line with the GRI guidelines. The Global Reporting Initiative (GRI) recently presented some indicators for biodiversity performance, relating to e.g. land use, habitat protection and restoration. Bergsma *et al.* (2014) state in their report that none of the 20 businesses active in the Netherlands, that were part of the research, used the biodiversity indicators of the GRI guidelines; nor other forms of indicators or guidelines. The reason why indicators for biodiversity aren't used, could be that there should be higher demands on reporting by the government, or a reporting obligation. Representatives of businesses see these kinds of regulations as a way to put biodiversity on the agenda (Bergsma *et al.,* 2014).

The GRI guidelines are seen as a good start for a set of reporting standards in 'integrated reporting' (Eccles & Saltzman, 2011). This new form of reporting is becoming more and more important, as proponents argue that traditional annual reports are no longer adequate (NBA, 2013). Integrated reporting is characterized by including key corporate responsibility (non-financial) information in the financial report of the organization. In 2010, the International Integrated Reporting Committee (IIRC) was established to achieve a globally accepted integrated reporting framework. Integrated reporting combines financial, environmental, social and governance information in a clear, concise, consistent and comparable format; all non-financial information should eventually be translated into relevant financial digits. KPMG states that if businesses truly want corporate responsibility to be integrated into the business strategy, it must be an integral component of annual reporting as well. Integrated reporting should make clear for every stakeholder how much value a business adds or removes. KPMG also finds that integrated reporting is still largely in an experimental stage. Businesses are currently more likely to limit their reporting on sustainability to a special section in the annual report, and less likely to integrate corporate responsibility information across the entire directors' report. One out of 15 businesses (globally) currently weaves social and environmental information into the directors report, to the extent that this information is effectively indistinguishable from other key business information (KPMG, 2011).

In The Netherlands, only a part of the businesses are reporting on biodiversity by using GRI biodiversity indicators or Integrated Reporting, or are applying these only partially. Moreover, although it belongs to one of the leading countries, the Netherlands is lagging behind some other European countries concerning the quality in communication and professionalism in corporate responsibility reporting, see figure 6. For example, only about 20% of reporting businesses undertake a supply chain analysis, and of these it is unclear how thorough their analysis is (KPMG, 2013). Taking into consideration that the entire supply chain would theoretically ensure that all aspects of relevance are taken into account. In this way an important factor would not be unnoted by the business, simply because it occurs further up or down the supply chain (PBL, 2014b). When a business does not go this far in its reporting, it will probably overlook ecosystem effects (GRI, 2011a). Differences in quality in biodiversity reporting are therefore not a desirable situation in respect to the issue of (worldwide) biodiversity decline.

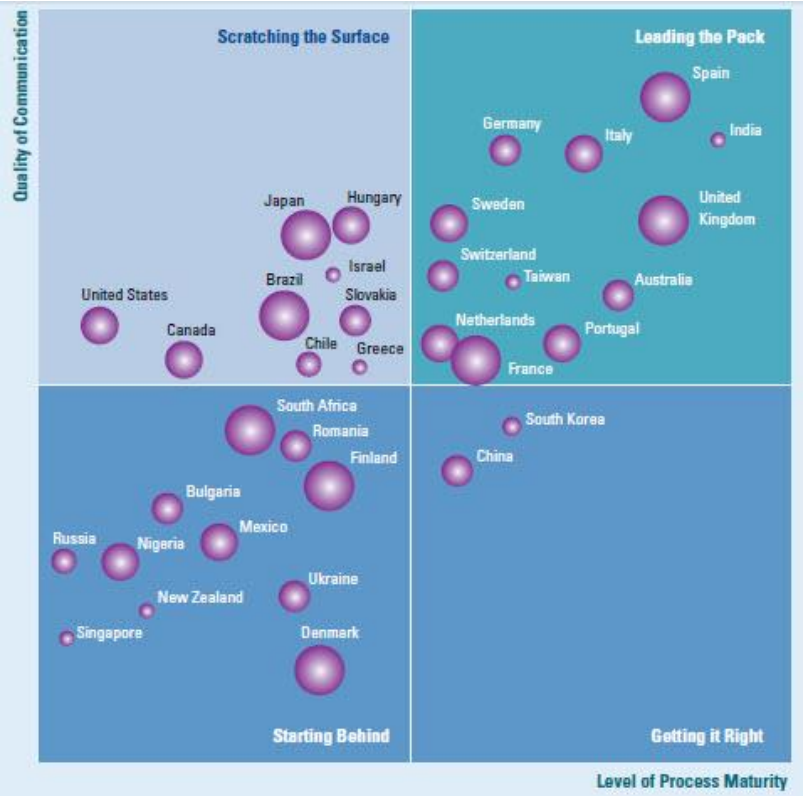


Figure 6: Corporate responsibility reporting of countries worldwide judged by quality of communications and level of process maturity (KPMG, 2011)

Thus, reporting on biodiversity in a systematic way is important for businesses, but currently it seems the quantity of biodiversity reporting is low and there isn't an unambiguous way of reporting in the Netherlands. Several factors may play a role here, such as that biodiversity reporting isn't obligatory, a lack of clarity on the issue biodiversity itself, biodiversity indicators or on reporting standards, or the low priority of the subject within the business. Overall, it is unclear what the exact extent of biodiversity reporting by Dutch businesses currently is, as well as what is causing the eventual differences (in quantity and/or quality).

1.2 Research objectives and research questions

The aim of this research is to gain insight into the motivation behind the way businesses now report on biodiversity. Why do or why don't businesses report on biodiversity and if they do, in what levels of quantity and quality and why. This will help to understand why there are so many differences in the application of biodiversity reporting and its eventual quality, and what should happen to change biodiversity reporting by Dutch businesses towards a more clear, concise, consistent and comparable proceeding. High quality standards for biodiversity reporting are required in order that businesses integrate the topic of biodiversity in their business strategy, which is in favour of stopping biodiversity decline.

The research will therefore focus on the main question:

What is the current situation of the reporting on biodiversity by Dutch businesses concerning the degree of application and differences in quality, and what is the motivation of businesses for their way of proceeding?

To support an answer to the main question, the following sub-questions are relevant:

Are businesses reporting on biodiversity?
1. If so:
a) How large is the population of businesses that reports? Are there changes over time, and differences between groups / sectors?
b) How much is being reported (quantity of categories)?
c) What is being reported (which categories)?
d) What are the reasons for (the way or method of) reporting?

2. If not:
d) Why do these businesses not report on biodiversity?
e) In what circumstances would businesses report on biodiversity? What should be changed or improved to start reporting?

1.3 Structure of the report

This thesis report consists of seven chapters. After this introductory chapter, which presents the motivation for this research and its objectives and research questions, the report continues with a description of the theoretical framework relevant for this study in chapter 2. Thereafter, chapter 3 introduces the research methodology used in this research by elaborating on the method of data collection and analysis. Chapter 4 then provides the results of the content analysis, followed by the results of the interviews in chapter 5. The report continues with a general discussion of these results in chapter 6. The last chapter (7) presents a number of conclusions and attempts to answer the central question of this research based on what was learned in the preceding chapters.

2. Theoretical framework

This chapter comprises the defining of the theoretical basis of this study. To understand the link between business and biodiversity, first the relation between business and society is explained and defined, where the concept of CSR is of importance (2.1); followed by an explanation of the concept of biodiversity and it's context with business (2.2); which leads to the concept of monitoring and reporting, where among others environmental reporting/accounting and indicators are discussed in part 2.3. Paragraph 2.4 elaborates on the motivations for businesses to report (or not) about biodiversity, and 2.5 then finalizes with a conclusion concerning all the themes discussed in this chapter.

2.1 Businesses and society

Customers of today are, in conjunction with improved education and sharply increased spending opportunities, increasingly more organized, more informed and more demanding than earlier generations of business managers encountered. More and more people believe that businesses have a responsibility towards the environment and society. This fact requires that the businesses' overall strategy should embrace and implement Corporate Social Responsibility (CSR) as a core business function (Isaksson *et al.,* 2014).

2.1.1 What is CSR?

Since the onset of CSR, it has known various manifestations, and further relates to a plurality of policy fields; however the main thread is the fact that businesses voluntarily contribute to the policy goals to achieve. Some are sceptical about giving a definition for CSR, as it is a varied and complex phenomenon and constantly on the move (NCW, 2000). There are several definitions for CSR used though, this research will hold on to the following description: "Consciously focusing the business activities to create value on the long term in three dimensions: not just financial and economic variables, such as profitability and market capitalization, but also in ecological and social sense. A business is therefore guided by the results on each of these dimensions, the Triple P bottom line: Profit, People, Planet" (SER, 2000, p. 13-14). CSR is thus characterized by the interaction of a business with its social environment. This environment is mainly formed by the so called stakeholders of the business. A stakeholder can be defined as: "any group or individual who can affect or is affected by the achievement of the firms' objective" (Freeman, 1984, p. 25).

2.1.2 Origins of CSR

The origins of CSR as we know it today, date from more than a century ago. In the United States, around the end of the 19th century, large scale charity arose out of the idea that the rich should take care of the poor of the society. First mainly rich, individual entrepreneurs took part in this charity, quickly they were joined by businesses. In Europe, charity has distributed less strong. With the emergence of large-scale industrialization, European businesses started to invest money to mitigate the fate of its employees and their families. In the Netherlands, some private initiatives from entrepreneurs at the end of the nineteenth century, are generally considered as the first form of corporate social responsibility (SER, 2000). These initiatives consisted out of social services like health insurance, a savings bank, widows and orphans fund, a pension and/or support fund for their own employees. In that time period, there were no regulations in the field of working conditions. The

entrepreneurs decided by themselves in what way they employed workers in their factories. Another existing problem was that networks like family, church and the community weren't capable enough to meet the demand for shelter, which arose because of the labour migration from the countryside to the city. Pressure on facilities like housing, drinking water and health care increased, which necessitated collective insurances. Businesses, trade unions and later also the state began to play an important role in the establishment of this. Social entrepreneurship at the end of the nineteenth century consisted of the establishment of various funds for workers, healthcare facilities and social housing. These efforts were more a result of pragmatic self-interest than charity or the broader 'social responsibility'. Noteworthy is that social entrepreneurs in that time were resisting against social legislation, because they were against a top-imposed obligation to do so. From this protest, the first general employers' organization in the Netherlands arose, and eventually social legislation has strongly risen at the beginning of the 20th century. It is this interaction between government pressure and 'voluntary' business activity which forms a common thread in the development of CSR. Around the beginning of the 20th century the foundation was laid for two principles of social responsibility: charity and stewardship of entrepreneurs, as advocates of broader interests than just those of shareholders (Kolk, 2003; 2004; Schrijvers, 2004; SER, 2000).

In the 1930's and 40's there was more attention for the social function of enterprises and the social role of managers, but economic crises and war predominated. After WWII, collective arrangements were made and the social security system was developed by the central governments. Mainly in the US, the discussion about social responsibility became broader from the 1950's. This resulted for example in the publication of the book 'The social responsibilities of the businessman'. What started out of charity and securing labour, is in the more modern era of CSR widened and deepened. However, it was a combination of own and social interest, with opposition to laws and regulations from above. Gradually attention shifted to individual well-being and development of workers, the production of safe and qualitative good products, and care for the wider social and natural environment of the organization. During the 1950's and 60's showing responsibility was seen as a very practical business interest: it could help prevent government intervention, improve the organizations' reputation with customers and employees, and optionally convert social problems into market opportunities. Later also ethical and moral aspects began to play a bigger role (Kolk, 2003; 2004; SER, 2000; Schrijvers, 2004).

In the course of the 1960's and 70's, attention within CSR altered from social facilities for workers towards human rights and fundamental labour standards. This was about working conditions of the own personnel as well as respecting human rights and labour standards in other countries, for example the economic boycott of the apartheid in South-Africa. The next important subject was, in the course of the 1970's, the care for the natural living environment. This came out of the consciousness that production, distribution and consumption affected the environment more and more. There emerged a call for codes of conduct in the seventies following controversies on investments of multinational businesses in low-wage countries, the establishment of polluting factories in developing countries and their role in dictatorial countries. In the 1980's, economic crises demanded all attention, large-scale withdrawal of the government began, markets were opened and trade barriers reduced. But while businesses were given more freedom, gradually concerns emerged again about possible side effects of their behaviour. Thus international organizations and NGOs began to renovate the previous codes of conduct in the 1990's, prepared new sample codes and

started putting pressure on governments to adopt legislation. Some businesses, in turn, felt responsible to come up with their own codes of conduct, or to do so within their sector collectively. This interaction has not led to legislation, but to a whole series of voluntary codes of businesses, trade associations, international organizations and NGOs. Like the codes of conduct, also the first attempts at social reporting have been made in the 1970's. And here too the interest in CSR reporting sharply decreased from the beginning of the 80's, within businesses themselves, where it was not institutionalized, but also with government and stakeholders. Only at the end of the 80's the first businesses started to publish an environmental report in response to public concern about specific environmental problems. This has greatly expanded in the 1990's. At the beginning of the 21st century, employers' organizations still resist against legislation on social reporting and CSR. The government supports this, because it believes that there is a strong possibility that, once CSR is required by law, the stimulus for initiatives from businesses will disappear and the dialogue with society will end (Kolk, 2003; 2004; SER, 2000; Schrijvers, 2004).

The current debate about CSR brings forward, next to the focus on the natural living environment which is still important, the globalization and liberation of economic relations. There is a global market, global production in different countries and investments of banks and investors in businesses in foreign countries where other regulations are used. Another important development is the internationalisation and globalization of stakeholder organisations (global civil society). Because of globalization of the economy, multinational businesses have become more important as actors in the world order, which has led to the discussion about their social and environmental role. Social corporate responsibility therefore aims at the role and position of businesses in a changing economic order. Although environmental aspects indeed are a part of the aforementioned responsibilities, from this thought the well-known 'People, Planet and Profit (Triple' P ') emerged in recent years, whereby organizations have responsibility for profit, people and the natural environment (SER, 2000; Kolk, 2004; Schrijvers, 2004).

2.1.3 Implementing CSR

The assumption within CSR is that it is carried out on a voluntary basis; it takes extra-legal arrangements to shape its social responsibility and involvement (CLM/LNV, 2010). A positive reason to implement CSR is economic benefit, a more negative approach is the prevention of reputational damage (Kolk, 2004). The implementation of CSR is dependent on environmental factors and institutional features. A distinction can be made between a process approach and a performance approach. The process approach is about putting things like publishing sustainability reports, memberships of MVO-organisations, certifications and positions on CSR-indexes into practice. The performance approach mainly aims to measure the results with CSR-tools. International businesses in the Netherlands mainly apply a process approach, which makes it unclear what the results of businesses are in their contribution to sustainability, as these are less present in their communication (Overbeek *et al.*, 2012b).

2.1.4 Critiques on CSR

Also some criticism may be appointed on CSR. Firstly, the wide variety of businesses, stakeholders and civil society environments and social objectives makes CSR a varied and complex phenomenon; hard to define and usually on one way or another linked to certain situations (SER, 2000). Another criticism is towards the notion that businesses have a social obligation to reduce global suffering, or

obliged to publish their efforts on environmental and social fields in a sustainability report. Criticized is that this imposes not only additional administrative efforts, it is also a waste of money and time, because such a report will only be read by a small group. The only social responsibility of businesses is making profits; then they assure the continuity of their businesses, and employment and income for their employees. By pursuing social and environmental objectives, firms may ultimately hurt shareholders by generating lower profits. Entrepreneurship is inherently social; when businesses want to go beyond that on a voluntary basis this should be supported, but an obligation to this end is objectionable (Blowfield & Frynas, 2005; Hoevenagel, 2004). Furthermore, CSR is criticized for the concern that many CSR initiatives amount to "greenwash", or attempts to camouflage what is essentially business-as-usual. Another argue is that current CSR practice is simply inadequate for the purpose of taking responsibility for the broader impacts of business activities. The planning and implementation of social programmes by firms would be deficient here, and state involvement and proper monitoring are absent. Evidence for this argument however is not entirely based on fair examples (Blowfield & Frynas, 2005).

Despite the critics against CSR, it remains to be an important topic. The citizen of today is more and more vocal and worried about social and environmental issues. In addition, there are several professional NGO's that are scanning more or less continuously the social and ecological impact of businesses in the Netherlands and abroad, to make information about businesses' actions on these topics available. However, businesses are making their own choices in how they are giving shape to their CSR policy, and so major differences exist between them. For example, where one business chooses to support the local soccer team, another might have set the goal to produce their goods 100% CO_2 neutral within 5 years. Biodiversity is one of the topics that can also play a role in making these choices. Currently this is only done by a few businesses, but the importance of biodiversity is increasingly recognized, since biodiversity is worldwide in rapid decline, and both consumers and NGO's are increasingly worried about this issue, as explained in Chapter 1.

2.2 Biodiversity and business

2.2.1 Biodiversity

The term biodiversity, a contraction of the words biological and diversity, can simply be described as "the variety of life on Earth" (Parr&Simons, 2007, p. 12). There are many different definitions for biodiversity formulated. For example, the European Commission describes biodiversity in the Biodiversity Strategy as "the extraordinary variety of ecosystems, species and genes that surround us" (EC, 2011, p. 1). The Convention on Biological Diversity (CBD) defines biodiversity in a more complex way: "the variability among living organisms (plants, animals, micro-organisms) from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they part. This includes diversity within species (genetic diversity), between species (species diversity) and of ecosystems (ecosystem or habitat diversity)" (CBD, 2010, p. 15). This study will hold on to the definition formulated by the CBD, as this is the most comprehensive and therefore most useful definition. Biodiversity includes all ecosystems: both human-managed as well as natural ecosystems. This means not only unmanaged ecosystems such as wildlands, nature preserves or national parks are relevant features of biodiversity, but also managed systems like croplands, plantations, farms, rangelands, or even urban parks have their own biodiversity. Biodiversity

therefore forms the foundation of ecosystem services, to which human well-being is closely linked (MEA, 2005). Biodiversity can be measured in several ways, yet no single metric is able to capture all its dimensions. Species richness (the number of species in a given area), relative abundance (how much is there of any one type), species composition (ecological characteristics of the abundant species) and interactions between these three are the most important aspects in measuring biodiversity. Estimates of the total number of species on Earth range from 5 million to 30 million. Regardless of actual global species richness, however, it is clear that the 1.7–2 million species that have been formally identified represent only a small portion of total species richness on Earth (Taskforce, 2011; MEA, 2005).

2.2.2 Relation between business and biodiversity

The focus of this study is, as described in chapter 1, on the relationship between businesses and biodiversity. One of the most complete descriptions of this relationship has been set up by the Global Reporting Initiative in their Biodiversity Reporting Resource document (GRI, 2007), and is displayed in figure 7. Businesses create negative and positive impacts on biodiversity through direct activities or indirectly through secondary effects. Changes in biodiversity as a result of the activities and operations of businesses, cause in their turn changes in associated ecosystem services. The services that ecosystems offer, provide economic value for businesses. They form the direct and indirect benefits of ecosystems, and therefore of biodiversity. In cases where the income of organizations is derived from the use of genetic resources, one of the key CBD objectives is to support the fair and equitable sharing of benefits deriving from genetic resources. There are four types of ecosystem services that can be distinguished (KPMG, 2012; MEA, 2005):

- Provisioning services provide all sorts of products like fish, crops, wood and fibre, clean water and medical plants;
- Regulating services provide the regulation of processes in ecosystems, for example clearing of contaminated water through 'wetlands', climate regulation by CO_2 fixation, flood and disaster regulation;
- Cultural services like possibilities for recreation and tourism, aesthetic enjoyment and spiritual fulfilment;
- Supporting services, such as nutrient cycling, soil formation and conservation of biodiversity, are the basis for rather all other ecosystem services.

When changes in ecosystem services occur, alterations in potential of direct use of resources take place. Subsequently, this may impact the business' own activities and simultaneously affect stakeholders active in or involved with the intervention area. The CBD objectives are therefore to ensure the sustainable use and conservation of biodiversity. Both direct and indirect impacts are significant for biodiversity itself and the ecosystem services upon which humanity depends. Stakeholders therefore expect organizations to be aware of their impacts on biodiversity and to manage potential impacts properly (GRI, 2007).

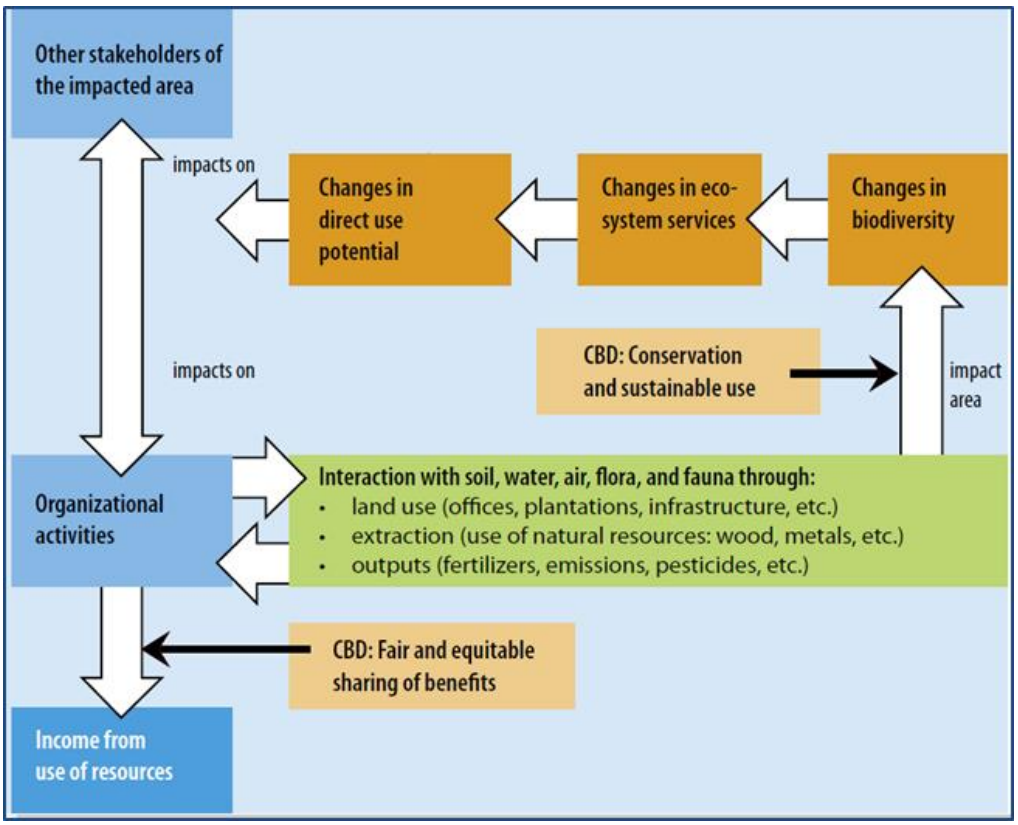


Figure 7: Interrelations between organizations and biodiversity (source: *Biodiversity – A GRI Reporting Resource*; Global Reporting Initiative, 2007)

To measure the impact and/or dependency on biodiversity, and to manage this, an understanding of how an organization is related to biodiversity is needed. Direct adjustments to positively influence biodiversity that can be made by businesses, can be divided into a number of categories:

• Within the business (internal), for example at business buildings and business areas, or grounds related to business activities (water extraction areas);

• Within the chain, for example the cultivation of crops for a food manufacturer;

• Outside the business and the chain (external), for example compensation and sponsoring.

Once it is clear what risks and impacts a business has on biodiversity and in what category/categories, a strategy with applicable measures can be developed in order to manage these risks and impacts towards positive impact (CLM/LNV, 2010; Parr & Simons, 2007).

2.2.3 Business perspective on biodiversity

The perspectives of businesses on biodiversity are highly dependent on the kind of sector of the business, and therefore what relationship there is with biodiversity. The stronger the dependency of a business on natural resources and ecosystem services, the bigger the risks and the more it is likely to want to secure the business's activities for the future (KPMG, 2012). Consequently, the interest for biodiversity from businesses can be approached from two different angles. On the one side the risks of the direct and indirect dependency of (vulnerable) ecosystems for businesses are outlined. On the other hand the opportunities for businesses in biodiversity can be emphasized (TEEB, 2010).

Research shows that the relationships that businesses see between themselves and biodiversity, are mainly (Overbeek *et al.,* 2012a):

1. Dependence on natural raw materials like wood, fish and agricultural crops;
2. Dependence on natural resources like clean water and fertile soil;

3. Establishment in vulnerable (nature)area's or the creating of a natural area for production;
4. Importance of the public opinion to consumer, government and NGO's.
5. Production of certified / natural products by third parties.

These relations are linked to the description of the relationship between organizations and biodiversity displayed in Figure 7 on the previous page. The relations that businesses define themselves are about land use, extraction, the area of impact, stakeholders and sustainable use of biodiversity.

2.2.3 Responsibility of businesses

Increasing public awareness of the role that businesses play in environmental change has attracted the attention of a range of stakeholders. Many businesses have been criticized for causing problems like waste production, climate change, depletion of natural resources and lagging corporate environmental responsibility. What is fundamental here, is the view that organisations are stewards for the assets they control, whether these assets are financial or non-financial. Businesses are accountable for their stewardship of the environment towards society and stakeholders. Businesses should account for the environment because of this stewardship, but also because of self-interest. There is a direct and obvious accountability towards shareholders, yet a broader socially-legitimised responsibility exists to stakeholders and society. For example, it is seen as morally irresponsible to make profits by unnecessarily depleting natural resources or by polluting the environment (Arena *et al,* 2015). Businesses should therefore manage their resources in a socially responsible way, maintaining a constant stock of natural assets and they have an obligation to pass on the assets to future generations. The imperative is to leave the next generation at least as well off as the present generation. Businesses must not only act as good environmental citizens, but also report this good citizenship to their stakeholders. A good environmental record will be used to judge a business' overall performance (Hammond *et al*, 1995; Jones, 2003).

2.3 Monitoring and reporting

2.3.1 Concept of environmental reporting/accounting

Growing concern over environmental issues in recent decades drives the need for more comprehensive and reliable environmental information. Businesses are increasingly expected to publish information on environmental performance in corporate or sustainability reports, especially since the Earth Summit at Rio de Janeiro in 1992 and the Kyoto Protocol on global warming in 1997 (Jones and Solomon, 2013). Environmental accounting adjusts national economic accounts to reflect pollution costs and the depletion of natural resources. The basic concept of environmental accounting is that the depletion of natural resources has real costs to society and should be treated in national accounts in the same way as the depletion of economic capital assets (Hammond *et al*, 1995). A variety of voluntary disclosures of information on environmental topics are made in environmental reports, such as energy and water consumption, greenhouse gas emissions and waste production. In broad terms, environmental reporting is the production of narrative and numerical information on an organisation's environmental impact or 'footprint' for the accounting period under review. In most cases, narrative information can be used to convey objectives, explanations, reviewing previous years' targets, addressing specific stakeholder concerns, etc. Numerical disclosure can be used to report on those measures that can usefully and meaningfully be conveyed in that way, such as emission or pollution amounts (tonnes or cubic metres), resources consumed (kWh,

tonnes, litres), land use (hectares, square metres) and similar. Environmental reporting may be used as a communication strategy to change the perception of the public, rather than disclosing actual corporate environmental performance. This raises concerns about a potential lack of accountability and responsibility towards care for the environment. In reaction to public concerns relating to a potential lack of transparency, there is an increasing tendency for businesses to independently assure their environmental reports (Braam *et al,* 2016).

2.3.2 Environmental Profit & Loss Account

An emerging theme of interest within environmental reporting is the Environmental Profit and Loss account (EP&LA). The EP&LA has been introduced for the first time in the late 1990's as an instrument to report the environmental and economic performance of a business in combination, relying on emerging methodologies to calculate the economic impact of the business' operations on the environment. In practical terms, a business should report the cost associated with the impacts that its activities have on the environment alongside with traditional items of current expenditures (Bebbington *et al*, 2007). The EP&LA provides a view of economic and environmental performance, translating the environmental results into monetary terms (Sabeti, 2011). This representation of the economic and environmental performance has a potential of increasing decision-makers' awareness about the environmental consequences of their choices, whereas the environmental impacts are here translated in the same form and language that is used by managers in daily activities (Arena *et al*, 2015).

2.3.3 Business reporting on biodiversity

Reporting by businesses about the relationship (dependency and impacts) with biodiversity can be an important tool for communicating with stakeholders, particularly NGOs and potential investors. Awareness of the self-interest of businesses to evolve biodiversity conservation and recovery activities is still limited, but businesses do pay attention to the assessment of external evaluating organisations about their sustainability performance. Bringing out a sustainability report forms a step to monitoring, where interconnection with the financial annual report is expected (NBA, 2011). By measuring its performance against targets, relevant standards and stakeholder expectations, a business can evaluate if corrective action is needed and where future targets should be set or revised. Business actions must be transparent, through environmental reports or in any other way. It is of interest for other parties that measures that a business takes to minimize impact on biodiversity is insightful (SER, 2000). Data should therefore be collected from across the business using compatible methods. Many businesses follow the guidelines of the Global Reporting Initiative (GRI) for this purpose; what is important here with regard to biodiversity is illustrated in 2.3.5. The other used form of reporting guidelines format is the International Integrated Reporting Framework (IIRC), which further on will be explained in 2.3.4.

2.3.4 Integrated Reporting

Another, new and increasingly important form of reporting on biodiversity, is 'integrated reporting'. This method combines financial, environmental, social and governance information into one report. The International Integrated Reporting Framework has been developed by The International Integrated Reporting Council (IIRC); a global coalition that strives for communication about value creation as the next step in the evolution of corporate reporting. The long term vision of the IIRC is that integrated thinking is embedded within mainstream business practice in the public and private

sectors, facilitated by Integrated reporting (IR) as the corporate reporting norm. This cycle of integrated thinking and reporting should then result in efficient and productive capital allocation, and act as a force for financial stability and sustainability (IIRC, 2013). Also the earlier mentioned GRI guidelines can be used as reporting standards within integrated reporting (NBA, 2013). There are several levels of reporting perceptible: incorporating sustainability into the directors' report, a separate section in the annual report, or both (KPMG, 2011).

2.3.5 Indicators

Although information can provide an improved basis for decision-making and gauging progress, accountability is possible only if goals and measures of progress are explicit. Appropriately formulated indicators can provide such measures. Indicators that can capture complex environmental data in an easy-to-communicate form can heighten public awareness and inspire policy action (Jones and Solomon, 2013). Indicators provide information in a more simple and readily understood way than complex statistics or other forms of economic or scientific data; they imply a model or set of assumptions that relates the indicator to more complex phenomena. The goal of environmental indicators is to simplify, and thus to improve, communication on information about environmental problems and the effectiveness of related current policies. Therefore, changes over a period of time concerning the problem must be reflected by an indicator, in a reliable and reproducible way, calibrated in the same terms as the policy goals or targets linked to it (Hammond *et al*, 1995).

A growing number of businesses are reporting publicly on their social and environmental performance, mainly by following the protocols and indicators of the GRI (Parr & Simons, 2007). The Guidelines of GRI contain two categories of Performance Indicators: Core (relevant to most reporting organizations) and Additional (of interest to most stakeholders). The relevance and interest of these categories of indicators for organizations and stakeholders may overlap. Performance Indicators are structured according to a hierarchy of Category, Aspect and Indicator. One of the Aspects in the Environmental category is Biodiversity. The GRI Core and Additional Biodiversity Performance Indicators for the aspect Biodiversity are formulated as follows (EN*xx* refers to 'Environmental Indicator number *xx*'):

- EN11: Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas (Core).
- EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas (Core).
- EN13 Habitats protected or restored (Add).
- EN14 Strategies, current actions, and future plans for managing impacts on biodiversity (Add).
- EN15 Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level (Add) (GRI, 2011b).

The largest part of these indicators can only be measured and monitored qualitatively, because simple tools that 'just' collect biodiversity data do not exist. There are only a few aspects of biodiversity that can be measured quantitatively, which include: trends in species variety and abundance; level of genetic variety of biodiversity resources used in the supply chain; and the number of hectares in areas with a high biodiversity value located within or adjacent to production sites (GRI, 2007).

Fundamental to these indicators are the objectives of the CBD (Convention on Biological Diversity), signed by 150 government leaders at the 1992 Rio Earth Summit. These objectives are: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Other GRI Environmental Performance Indicators, like the Aspects Water; Emissions, effluents, and waste; Energy; Transport; and Products and services, may be as relevant for organization's biodiversity performance as the GRI indicators that are actually labelled "biodiversity" (GRI, 2007).

2.3.6 Benchmark

Sustainability reports can be evaluated externally by international consultancy bureaus in order to attain a higher GRI status and better reputation. In the Dow Jones Sustainability Index, the evaluation serves as a benchmark where a business has to score better than its section- and sector colleagues. Nature and biodiversity can be an important part of the evaluation criteria, but this opportunity isn't fully used yet by businesses in general (Overbeek *et al.,* 2012b).

2.3.7 Standardization in reporting

In order to make it possible to compare performances within biodiversity reporting of different businesses (in benchmarks), standardization through a reporting framework is important (Eccles & Saltzman, 2011). Standardization implicates the codification of information, all relevant parties within the industry or organization adhere to a framework of agreements, to ensure that all processes are performed within set guidelines. This is to ensure that the end product has consistent quality, and that any conclusions made are comparable with all other equivalent items in the same class. Standardization offers businesses the opportunity to communicate with their customers, suppliers, governments and other stakeholders (Parr & Simons, 2007). The GRI Reporting Framework and the integrated reporting framework by the IIRC are developed to ensure the highest degree of technical quality, credibility and relevance (GRI, 2007; KPMG, 2011). However, current sustainability (and thus biodiversity) reporting methods are neither universal nor standardized, since existing frameworks are not or only partially applied in business reports (Christofi *et al.,* 2012). This is for example the case in Denmark, as is apparent from the research by Van Liempd and Busch (2013): 'very little is reported about actual data or targets, costs or other quantitative data, even though various guidelines and tools have been developed to help address biodiversity. Also, businesses in Denmark do not seem to utilize models that are available, or the indicator protocols developed by the GRI'.

2.4 Motivations for reporting

Biodiversity is still a rather new theme within CSR/sustainability, policy for working with it is often lacking, let alone reporting about it. Except for a few big leading businesses which currently are reporting about biodiversity (Overbeek *et al.,* 2012b). The requirements for biodiversity reporting are not mandatory for businesses in the Netherlands. Consequently, biodiversity reporting is mainly voluntary. Other reasons for businesses not to report on biodiversity mainly include (Jones and Solomon, 2013; Wentzel *et al.*, 2010):

- The difficulties involved in counting highly mobile fauna
- The time and costs of counting wildlife
- The scope of species to be included / excluded
- The inability of accounting value for wildlife to add value

- The time and costs of reporting itself
- It is too complicated
- There is no demand from stakeholders
- It is not a priority / material issue
- There is a lack of clear guidelines / methods for biodiversity reporting.

However, a variety of possibilities for added value of biodiversity, and therefore reasons for businesses to have a policy for biodiversity and to report about it, are (CLM/LNV, 2010; KPMG, 2012; Overbeek *et al.*, 2012a; TEEB, 2010):

- Decreasing business risks
- Cost savings through improved efficiency
- Product innovation, penetrating new markets
- Creation of First mover advantage
- Securing 'license to operate'
- Publicity reasons
- Attracting new costumers
- Anticipating to social expectations; a just, responsible image/reputation
- (Expected) laws and regulations
- Interests of stakeholders
- Being prepared for future social developments like scarcity of resources
- Benchmarking; the wish to score better than branch- and sector colleagues, for example in the Dow Jones Sustainability Index (frontrunner)
- Positive influence on value of the business location
- Improvement of human capital (health and attraction for employees)
- The preference to be an intrinsically sustainable business.

Some critics argue that businesses may use environmental information like biodiversity to promote a perception of environmental friendliness; a form of spin called greenwashing (Newton & Harte, 1997). Other criticisms comprise the assumption that disclosed information about biodiversity in business reports is biased, and focuses on PR-friendly positive examples, partnerships, eco-programmes and suchlike. And thereby the actual measuring and reporting of any negative impacts of the business on ecosystems and biodiversity are ignored (Van Liempd and Busch, 2013).

2.5 Conclusion

In conclusion, biodiversity is becoming an increasingly important part of CSR, which is expected by stakeholders to be implemented by businesses. Businesses have an impact on biodiversity and ecosystems either directly or indirectly. It is usually in the business' own interest, if not that of its stakeholders, to manage these impacts and to report about the business' performances concerning biodiversity. To make biodiversity reporting a clear, concise, consistent and comparable proceeding, the use of standardized reporting frameworks is important. However, differences in degree of application and quality within current biodiversity reporting by Dutch businesses are large, and it is unclear what causes these differences; why do businesses report about biodiversity in the way they do? The explanation of the concepts within this theoretical framework are relevant as this will help to understand more of the creation, operation and motivation behind biodiversity reporting by businesses. Ultimately, this will contribute to find an answer to the main research question of this study.

3. Methodology

This chapter will give a description of the methodological approach that is applied in this research. The research approach is explained first (3.1), then the case study and sample are described (3.2), and finally the collection and analysis of the data will be described (3.3).

3.1 Research approach

This study is an explorative research, which is characterized by the objective to develop hypotheses, rather than testing them (Kothari, 2004). In explorative research, data is collected and analysed in a systematic way to find possible new relations or new facts. An exploratory study is usually applied to explore those situations in which the intervention being evaluated has no clear, single set of outcomes (Yin, 2003), as is the case with the topic of biodiversity reporting by Dutch businesses. So far, no overview exists of biodiversity reporting by businesses across the Netherlands, let alone of why they do or don't report. To explore the current state of biodiversity reporting, this study makes use of a case study approach. Case studies help to understand complex social phenomena, in this matter to gather knowledge of the organizational processes in Dutch businesses. A case study allows the investigator to focus on a "case" and obtain a holistic and real-world perspective. Using case studies as a method makes it therefore possible in this study to explain "how" or "why" some social phenomenon works, and to provide an extensive and "in-depth" description of the social phenomenon (Yin, 2014).

Study designs distinguish between quantitative and qualitative study designs. Quantitative studies are well-structured, use surveys and experiments as inquiry strategies, use standards for validity and reliability and statistical procedures. Quantitative methods are characterized by numeric data, predetermined approaches and closed-ended questions. Qualitative studies on the other hand, use inquiry strategies as phenomenology, grounded theory, ethnography, and narrative. Characteristic for qualitative approaches are a specific in-depth focus and open-ended questions through interviews, validation of the accuracy of findings, emerging approaches, and text or image data (Creswell, 2003). This research tends to explore and analyse the current state of biodiversity reporting by Dutch businesses, which requires the use of a quantitative approach. Besides that, also the motivation behind this way of biodiversity reporting is explored, where a qualitative approach is applicable. Therefore, the use of a mixed methods study design is the most appropriate for this study: a combination of both quantitative and qualitative methods. By integrating qualitative and quantitative data, data is connected through the use of one type of data analysis to inform the collection of a second type of data at a subsequent time point (Creswell *et al.*, 2011). In this way, the collected data are analysed using methods appropriate to the type of data collected. This methodological plurality of two types of results can provide a more complete understanding of the phenomenon under investigation, than either approach could on their own (Landrum & Garza, 2015). In this research, the quantitative approach will be useful for the part of analysing the physical reports for their content; quantities are collected and analysed with statistical tests. The qualitative approach subsequently has the benefit of gaining in-depth knowledge and aims for detecting underlying motives, and is applied for the interview part. Qualitative approaches are considered to be particularly applicable when exploratory research is carried out (Kothari, 2004).

3.2 Case study

In this research, The Netherlands is chosen as case to focus on; specifically on Dutch businesses (or businesses with a headquarter based in The Netherlands). As shown in figure 6 earlier in this report, there is still a lot of room for improvement in corporate responsibility reporting in the Netherlands compared to some other European countries with similar economies. Businesses based in The Netherlands are therefore considered to be an interesting case in this study, for exploring their way of biodiversity reporting and their motivation behind it. Accordingly, biodiversity reporting is examined for the largest (top 50) Dutch businesses. These are chosen, since one can expect these businesses to have the largest impact on biodiversity both inside as outside the country, and thus the greatest need for accountability to various stakeholders. Business operations are factors that affect ecosystems and biodiversity on both national and international level. These factors are associated with major drivers of biodiversity loss as set out in the Millennium Ecosystem Assessment; climate change, land use and emissions that have a toxic, acidifying or eutrophying effect (MEA, 2005). The impact on biodiversity by Dutch businesses is mainly caused by import, agriculture and energy supply, and varies by business, by product and by industry. Land use, coupled with operations in the Netherlands and import, is approximately equal to seven times the surface area of the Netherlands. The land area of the Netherlands (excluding water) is 33,883 km^2. Whenever emissions are included, the impact of land usage for built environment (in Europe) is equivalent to some 400,000 km^2 (Bergsma *et al.*, 2014). Because of this extensive impact Dutch businesses have on biodiversity (worldwide), this case is considered significant and it is of great importance to investigate and analyse how these businesses deal with reporting about this issue.

3.3 Data collection and analysis

This paragraph illustrates how the data for this research is collected and analysed; the first part explains globally the methods that are used for data collection and analysis (3.3.1), the next part discusses the procedure of the content analysis (3.3.2) and the third part describes everything of interest about the interviews (3.3.3).

3.3.1 Methods used

Different methods for collecting data have been selected on their ability of answering the research questions as described in chapter 1.3. The answering of these questions requires data from different sources. This study makes use of a combination of desk research and field research. This combination of research methods are a form of triangulation. The concept of triangulation can be defined as "the use of more than one method for gathering data" (Denzin, 1970). Triangulation is used to enhance confidence in research' ensuing findings. Webb *et al.* (1966) state that when an assertion has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is highly reduced. Triangulation gives a more detailed and balanced picture of the situation (Altrichter *et al.,* 2008). The first three sub-research questions of this study (questions 1a, b, c; see chapter 1.3) can mainly be answered by applying desk research, and the last sub-questions (1d and 2a, b, c) mostly requires field research. However, all used methods will have overlap and are applicable to all research questions.

3.3.2 Desk research – content analysis

In the desk research, content analysis of documents will take place. Content analysis is used as a technique for analysing data, and involves codifying qualitative and quantitative information into

pre-defined categories in order to divert patterns in the presentation and reporting of information. Content analysis aims to analyse published information systematically, objectively and reliably (Guthrie *et al.,* 2004).

Sample

The sample consists of the first 50 large Dutch businesses listed on the Elsevier Top 500 in the year 2014 (see appendix C). The content analysis has been carried out over time, in order to determine whether the quantity of biodiversity disclosure had changed in this period. Therefore five years of annual or sustainability reports (2010 to 2014) were analysed for all of the 50 businesses. Campbell (2000) stated that annual reports can be seen as an adequate barometer of a business's attitude towards social reporting. One reason for this is that the business has complete editorial control over the document (except the audited financials section). Besides that, it is usually the most widely distributed public document produced by the business. In many jurisdictions, annual reports are required by legislation and are produced on a regular basis by all businesses. This makes access to these documents relatively easy (Campbell, 2000).

This sample of 50 businesses is a purposive sample, also known as selective sampling, which has the advantage of obtaining a relatively complete picture of the whole population in the investigation of a relatively small part of the population (Bryman, 2008). This is in consistency with the use of a case study methodology in this study, which is characterized by being selective, strategically sampling a small number of research objects, and exploring depth more than breadth. The purpose of the research is to develop theory, not to test it, therefore theoretical (not random or stratified) sampling is appropriate. In theoretical sampling cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs (Eisenhardt and Graebner, 2007). In this purposive sample, consisting of all large businesses based on their overall turnover, the attempt was to deliberately analyse businesses of the widest variety of sectors possible. Moreover, the content analysis was applied over time, by analysing reports from each business over a period of five years. This provides, in addition to the variety of business types, qualitative results about each business. The diversity of the sample in combination with the quality of analysis prepares for an understanding of what is at stake within the whole population.

Categories

The categories that are used in a content analysis can be determined inductively, deductively, or a combination of both. Inductive analysis refers to approaches that primarily use detailed readings of raw data to derive concepts, themes, or a model through interpretations made from the raw data by an evaluator or researcher. In a deductive approach, some categorical scheme suggested by a theoretical perspective is used, and the documents provide a means for assessing the hypothesis (Krippendorff, 1990; Thomas, 2006). In this study, a qualitative deductive content analysis was applied, in view of the fact that categories are used to analyse the data. First, the business reports are examined for the presence of the key terms associated with genetic and eco-systemic biodiversity. This is to determine whether a business reports about biodiversity or not, and if the report contains enough relevant content to be examined. The key-terms that every report was screened for, are: “biodiversity”, “habitat”, “eco-system”, “conservation”, “species”, “flora”, “fauna”, “wildlife,” “marine life” and “maritime life”. This was done by typing each of the terms in the search function within the document. If the report does include one or more of these key terms and thus reports on biodiversity, it was further analysed in more detail to determine the quality of

biodiversity reporting. To accomplish this, the coding for biodiversity themes in accounting reports, derived from existing literature and GRI indicators developed by Grabsch *et al.* (2011) will be used. The coding is divided into seven categories, which are displayed in Table 2. All documents are manually coded based on the variables from this model, again by using the search function within the document. The 18 different 'elements' within the categories then form the specific research units.

Category	Element	Defining
Scene-setting	***Definition***	Whether business reports a definition of biodiversity
	Mission statement	Reporting of any biodiversity-related mission statement or general aim relating to biodiversity
Species related	***Site-specific***	Reporting of biodiversity information relating to specific sites, including biodiversity case studies
	Specific species	Mention of specific species
	Surveys	Reporting of biodiversity surveys conducted
	IUCN Redlist	Mention of the IUCN Redlist
Social Engagement	***Partnerships***	Organisations (NGOs, universities, governments)with which the business has partnerships on biodiversity
	Awards	Awards/prizes gained by the business in relation to biodiversity
	Stakeholder engagement	Reporting relating to any form of engagement by the business with stakeholder groups on biodiversity issues, such as engagement with local communities and schools, employee training and away days, feedback from stakeholders on biodiversity issues within the business
Performance Evaluation	***Targets performance***	Discussion of biodiversity-related performance, achievement of targets
	Costs	Reporting of costs relating specifically to biodiversity as a result of rehabilitation, closure, or specific initiatives
Risk	***Risk***	Reporting and assessment of biodiversity risk
	Risk management	Any information relating to systems/processes developed to manage or mitigate biodiversity risk
	Incidents	Reporting of specific incidents/accidents which impacted (or did not impact) on biodiversity
	Materiality	Indication that biodiversity is considered to be a material risk for the business
Internal Management	***BAP***	Information relating to biodiversity actions plans (BAP)
	BD Officer	Whether the business reports that they have a specific officer with responsibility for biodiversity (BD)
External Reports	***GRI***	Reference to GRI reporting indicators

Table 2: Coding for content analysis of business reports (Source: Grabsch *et al.*, 2011)

Thereafter, information about every business related to their reporting was collected and put in a table. This information, which can be found in Table I (Appendix B) includes consecutively:

- First, all the 50 businesses were distributed into 5 main 'super sectors': Consumer goods, Financial services, Raw material extraction, Industry, and Trade, transport and commercial services (containing respectively 9, 12, 8, 9 and 12 businesses). This was done in order to investigate possible differences in degree of biodiversity reporting between sectors. Noted should be though, that this study does not assume that the results concerning these five formed super sectors, can represent the actual full sectors within the whole country.
- Subsequently, the concerning businesses were classified into the corresponding biodiversity risk zone, dependent on their sector. This was carried out by making use of the information from Table 1, page 6. In this latter table, business sectors are ranked based on the relationship between businesses and biodiversity which are most likely to lead to material risks. Sectors are assigned to one of the three biodiversity risk levels: red, amber or green. The classification system is as follows:
  (1) Red-zone sectors: *most* businesses are likely to be exposed to biodiversity risks and risks are *likely* to be significant;
  (2) Amber-zone sectors: *some* businesses are likely to be exposed to biodiversity risks and risks *may* be significant; and
  (3) Green-zone sectors: *fewer* businesses are likely to be exposed to biodiversity risks and it is harder to identify how risks may affect the businesses.
  This classification was applied to investigate whether businesses in a given zone report more or more often than businesses in the other zones. This is because it is likely to expect that those business in the higher risk zone (red zone) report more about biodiversity.
- Then, the rank of the business in the top 50 list of Dutch businesses that has been used for this study, can be read in the next column of the table.
- Next, the table distinguishes the different reporting forms in which businesses can report to their stakeholders. In succession, the reporting varieties relevant for this study are: Comprehensive annual report, Separate CSR report, UN Global Compact Progress Reports, or on the business website. The table shows for which years these reporting disclosures are applicable for each business (except for website, this was only possible to check at the year of research ; 2015). The classification 'Comprehensive annual report' was given when biodiversity is mentioned at least once in the business' financial report, or integrated report when applicable. The table also shows if the business had filled in the GRI Index, and if so in what year(s). The GRI index may be absent for some businesses in some years, while they conform to reporting one or more of the GRI indicators in the report. The GRI-index therefore stands often apart from the report.
- Lastly, the table shows for all of the five identified 'super sectors' (which are listed in the very first column of the table), how many businesses mention biodiversity either in their report, GRI-index or on the website, and what percentage this is from the total super sector.

Defining biodiversity reporting quality

The next step was to investigate and map the actual quality of the biodiversity reporting, by analysing which of the coding categories (as explained in Table 2, page 27) is applied in the business reports. This was investigated for all the 50 businesses and their reports from the last five years: 2010 to 2014. Therefore, the texts about biodiversity and related information written in the sustainability, financial or integrated reports, were analysed for containing information that conforms to the coding categories. This data is displayed in the comprehensive table number II that

can be consulted in Appendix B, the chapter Results (4.1) hereafter will present a summary of the data.

Elaboration

The results of the content analysis are processed into tables and graphs. To test the differences in the number of biodiversity disclosures in total by all businesses between the years 2010 to 2014, and the percentage of the businesses in total that were investigated that is reporting about biodiversity, statistical analysis is applied by using statistics programme SPSS. There has been chosen for One-way Anova tests with significance interval $\alpha = 0{,}05$. Ultimately, the outcomes of the categorization and coding of the data helped the researcher to report the findings for this study and later helped in discussing these findings in relation to the research objectives and research questions.

Validity and reliability

Three types of reliability for content analysis are identified by Krippendorff (1990); stability, reproducibility and accuracy. Methods to increase the reliability in recording and analysing data can be accomplished by selecting disclosure categories from well-grounded relevant literature, and clearly defining them. Furthermore, by establishing a reliable coding instrument with well-specified decision categories and decision rules (Guthrie *et al.*, 2004). The criteria of selection applied in content analysis must be adequately profound to account for each variation of message content, and should be practiced strict and consistently. That is to ensure that other researchers or readers, looking at the same messages, would acquire the same or comparable results. This may be considered a manner of reliability, and a validation of eventual findings (Krippendorff, 1990). To identify any possible difficulties the coding scheme in this study is first piloted. Therefore consistency between the researcher and another reader is tested to determine the reliability of coding. This incident is called inter-coder reliability (Bryman, 2012).

3.3.3 Field research - interviews

In order to understand the way of, and motivation for (not) reporting about biodiversity, interviews were conducted. The field research therefore consisted out of semi-structured personal interviews. Such interviews can provide insight into the intentions behind reporting. Distinctive for semi-structured interviews is a qualitative methodology, in-depth interview character and the use of a topic or theme list with generally open-ended questions (Jennings, 2001). This gives the respondent the chance to come up with his or her own answer, without being influenced by (the way of) questioning. Compared to an unstructured approach, the semi-structured approach has the benefit of being more structured, whereby the interviewer can keep track of the conversation and keep an overview of what is said. In comparison to structured interviewing, semi-structured interviews are open-ended and have the advantage that it is possible to explore and expand the given information. Because of the chance to miss important information in structured interviews, there is chosen for the semi-structured approach in this study.

The disadvantage of semi-structured approach of interviews, can be the insecurity about the reliability and validity of the data collection, because this style is closer to unstructured than structured interviewing. This problem is easily solved by recording and making transcripts afterwards of all interviews. This enables a systematic analysis of the data (Berg&Lune, 2012; Baxter&Babbie, 2003).

The interviews are structured in such a way that becomes clear *why* the business reports in the way it does about biodiversity (concerning sub-research question 1.d: What are the reasons that lie behind the choices of the businesses for their way of reporting?). To get to know this, it is important to obtain information about how the businesses see reporting on biodiversity; what do they think that should be reported on, and in what way (standards, quantity and choice of categories)? These questions are related to the first three sub-research questions (chapter 1.3). The list of open-ended questions that are used for the interviews can be found in Appendix A. This list contains the questions translated into English, the original interview questions are in Dutch.

Selecting respondents
The interviews were conducted with representatives (responsible or knowledgeable about the business reporting) of several Dutch (inter)national businesses, from the 50 large businesses as used in the content analysis (Appendix C). All 50 were contacted by e-mail or phone with the request for an interview, in total 10 interviews were conducted, see Table 3 for the list of respondents. Moreover, in total 33 businesses replied to the request, of which 9 were prepared to give an interview. Appendix D provides business descriptions of these 9 businesses. 17 businesses didn't reply or were not reachable. There were different reasons given by the businesses that didn't want or weren't able to give an interview. Often mentioned was that biodiversity is not a material issue for the business, and/or the impact of the business on biodiversity is minimal because biodiversity is not closely related to their business activities, for example because they don't produce the products their selves. Others, mainly insurers, explained their CSR policy is aimed at social aspects (people) rather than environmental aspects (planet), and therefore biodiversity is not part of their core business. A few businesses argued that their reporting on this theme was still in progress at that moment, which questioned them of being able to provide answers in an interview about biodiversity reporting. Lastly there were several businesses that rejected the request for an interview due to lack of capacity (in time and/or personnel) to handle the large number of requests they receive from students and other stakeholders.

Before contacting businesses with the request for an interview, an orientating interview was conducted with an expert of the organisation IUCN. This was in order to retrieve information about the current issues, findings and questions around biodiversity reporting. This interview was helpful in order to formulate relevant interview questions.

In first instance, the focus is intended on both businesses that report on a high quality level, as well as businesses that hardly or do not report on biodiversity at all. This composition provides an overview of the motivations that lie behind the different levels of quality in biodiversity reporting. It will be interesting to find out if there can be found any differences and what conclusions can be derived from this.

The semi-structured, open-ended interviews are recorded and thereafter transcribed. The transcripts are analysed and used to draw conclusions on the motivations behind the way of reporting by businesses. This is done by eliminating information that is not relevant for answering the research questions, and subsequently by elaborating the interpretations in a number of subjects.

Organization	Name interviewee	Function
Achmea	Menno van Lieshout	Senior advisor MVO
Ahold	Andrea Bolhuis Harm-Jan Pietersen	Specialist Product Sustainability - Product Integrity Department Project Manager Responsible Retailing
AkzoNobel	Alistair Reid	Manager Innovation, Partnerships & Biobased Materials
BAM	William van Niekerk	CSR Director
DSM	Patrick Van Bael	Sustainability Manager at Corporate Operations & Responsible Care
Eneco	Silvan de Boer	Senior Sustainability Officer
IUCN	Bette Harms (*independent expert*)	Advisor Business & Biodiversity, Coordinator of the Leaders for Nature Academy
SABIC	Bert Bosman	Technical Manager Energy Energy & Climate Services
Technische Unie	Robert Brouwer	Project manager MVO
VION	Bert Urlings	Corporate Director Quality Assurance

Table 3: List of interviewed persons, their functions and corresponding organizations

4. Results – analysis of the business reports

This chapter presents the results of the content analysis that was applied on the business reports of the sample of 50 Dutch businesses. The reporting practices concerning biodiversity of the investigated businesses will be outlined by the use of tables, graphs and statistical tests in 4.1. What the main conclusions of these outcomes are, will be described in 4.2.

4.1 Reporting practices: outcomes content analysis

4.1.1 Super sectors

Table 4 provides a general overview of the number and percentage of businesses per super sector that have applied biodiversity disclosure over a five-year period (2010-2014), and to which biodiversity risk zone each business belongs. This table is a summary of the comprehensive Table I which is included in Appendix B. In total, 35 out of the 50 businesses (70%) has mentioned 'biodiversity' at least once in (one or more of) their published reports in the investigated period. This leaves 30%, or 15 businesses that did not mention biodiversity (or related keywords) at all. This result seems rather positive, as can be concluded that the majority of businesses reports about biodiversity. However, the extent to which biodiversity is addressed in the reports is quite different. It varies from just mentioning the word biodiversity (in just one annual report), to the description on how the business handles in relation to multiple of the investigated categories (as displayed in Table 2, page 27). This can be different for each business, and also per year. Some businesses are reporting increasingly about biodiversity over the years, others decreasingly and sometimes the quantity stays practically equal. These changes over time are visualized for each of the defined super sectors in Graphs 1 to 5, later in this section. Moreover, 23 (46%) of the businesses mentioned biodiversity on their website at the time of research. 59% of businesses within the red zone has biodiversity related content on their website, within the amber zone this is 37%, and within the green zone 33%. Table I in Appendix B shows which businesses these are.

Super sector	NL Business	Biodiversity risk zone	NL sample businesses mentioning biodiversity (2010-2014)	
			n	*%*
Consumer goods	*Unilever*	Red	8 (out of 9)	89
	Ahold	Red		
	IKEA	Amber		
	Heineken	Red		
	Friesland Campina	Red		
	VION Food Group	Red		
	Jumbo Groep	Red		
	Philips	Green		
	Samsung	Green		
Financial services	*Aegon*	Amber	7 (out of 12)	58
	NN	Amber		
	ASR	Amber		
	Delta Lloyd	Amber		
	Achmea	Amber		
	VGZ	Amber		
	CZ	Amber		

	Menzis	Amber		
	ING	Amber		
	Rabobank	Amber		
	ABN AMRO	Amber		
	SNS REAAL	Amber		
Raw material extraction	*Shell*	Red	6 (out of 8)	75
	Vitol	Red		
	Gasterra	Red		
	Argos Energies	Red		
	Esso NL[c]	Red		
	BP NL	Red		
	Cargill NL	Red		
	Tata Steel (Global)	Green		
Industry	*SABIC*	Amber	8 (out of 9)	89
	AkzoNobel	Amber		
	DSM	Amber		
	ASML	Green		
	Technische Unie	Amber		
	Cisco Systems	Green		
	BAM	Red		
	Essent	Red		
	Eneco	Red		
Trade, transport and commercial services	*Nidera*	Red	6 (out of 12)	50
	Glencore Grain	Red		
	Cefetra	Red		
	SHV	Green		
	Randstad	Green		
	BCD Travel	Red		
	KLM Royal Dutch Airlines	Red		
	TNT Express	Amber		
	Pon Holdings	Amber		
	KPN	Green		
	CRH	Red		
	LeasePlan Corporation	Green		

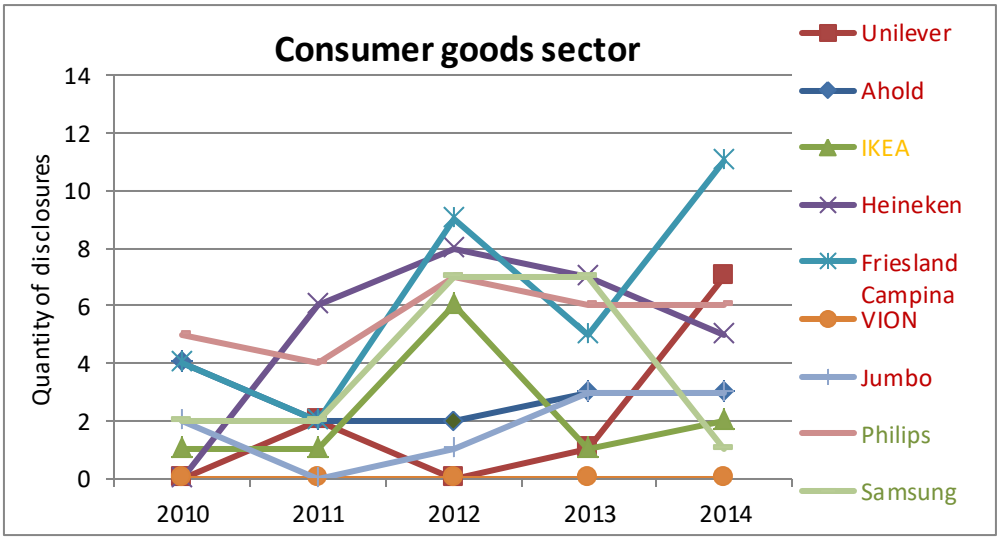
Table 4: Overview of biodiversity disclosure by super sector

Table 4 shows that both the super sectors Consumer goods as well as Industry have the highest percentage of business that report about biodiversity; both 89%. For the Consumer goods sector this is to be expected, as the majority of the businesses within this sector are classified in the red biodiversity risk zone. For businesses in the red zone the importance to take biodiversity and related risks into account is highest. In the Industry super sector, less businesses are within the red biodiversity risk zone, but still the majority belongs to either the amber or red zone. Therefore, for the Industry sector it is also expected that a high percentage of businesses report on biodiversity. Within the Raw material extraction sector, 75% of the business did mention biodiversity in (one of) their reports. Except for one business, all members of this sector are in the red biodiversity risk zone. The percentage of business reporting on biodiversity is therefore lower than would be expected. For

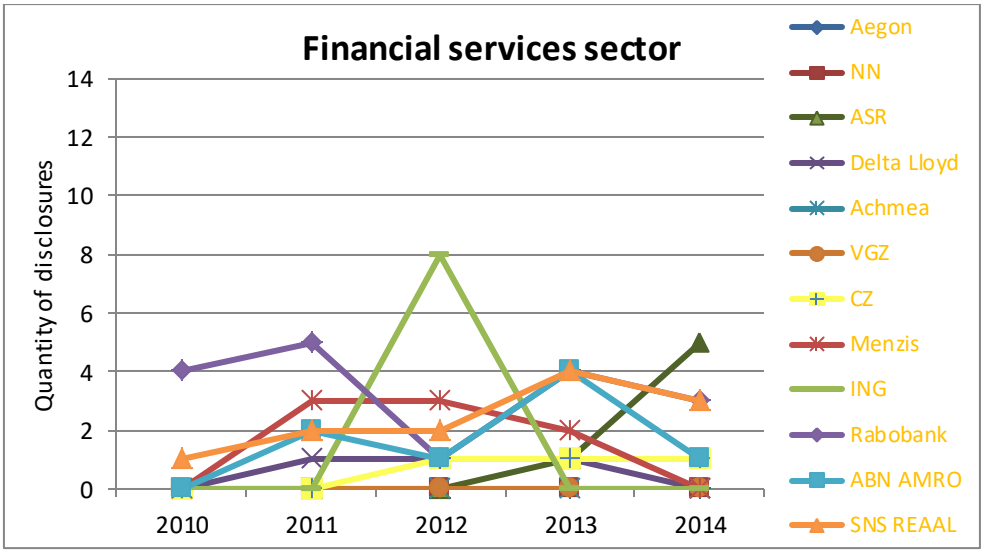
the Financial services sector the percentage of biodiversity reporting businesses is only 58%, and the Trade, transport and commercial services sector scores lowest with 50% of the business reporting about biodiversity. All the businesses in the Financial services sector are within the amber biodiversity risk zone, whereby a higher percentage would be expected. Probably because of the indirect relationship these businesses have with biodiversity, their reporting quantities are generally low. The Trade, transport and commercial services sector is mixed regarding the biodiversity risk zones, still the majority of the business here are either in the red or in the amber zone. The percentage of businesses reporting about biodiversity in this sector, which is only half of the total, also is much lower than expected.

The distribution of businesses that did not report on biodiversity at all over the years 2010 to 2014 over the biodiversity risk zones, is 6 businesses in the red zone, 6 businesses in the amber zone and 3 businesses in the green zone. From the total group of investigated businesses, the percentages of these numbers are respectively 27%, 32% and 33% within the red, amber and green zone. Relatively speaking, there are approximately equal numbers of businesses in each zone which do not report at all on the subject of biodiversity.

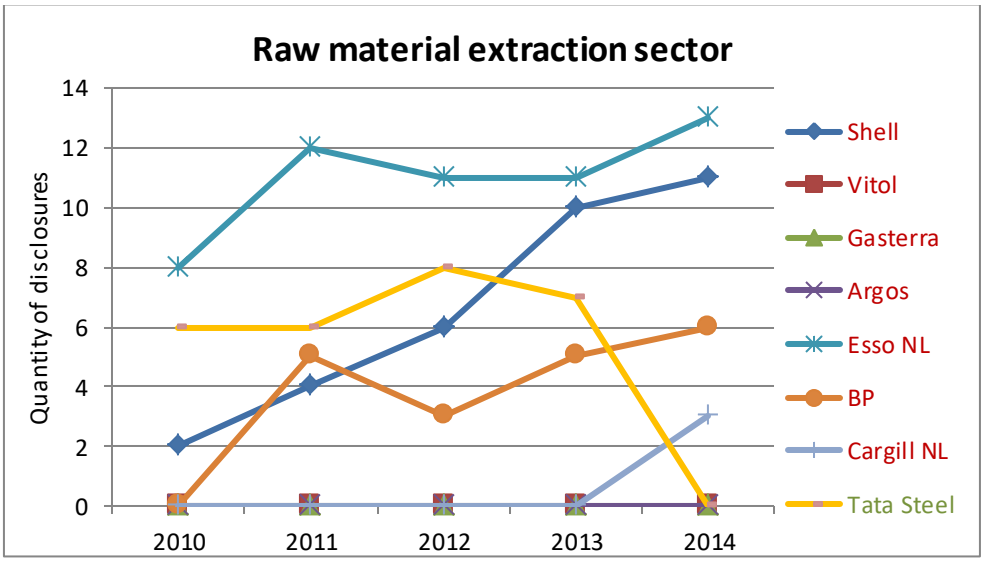
Graphs 1 to 5 show the progress of reporting of all the businesses distributed over the five different super sectors, from year 2010 to year 2014. The vertical axis represents the total number of biodiversity categories that were disclosed by the business in one year. The names of the businesses are displayed in the colour of the biodiversity risk zone they are associated to. When comparing the various sectors, it is instantly noticeable that the Financial services sector (Graph 2) has the lowest numbers of biodiversity category disclosures. Furthermore, the Raw material extractions sector (Graph 3) shows the highest numbers of disclosed biodiversity categories. In Graph 1, the Consumer goods sector, it is well visible that almost every business in this sector is reporting in some form about biodiversity; the same holds for Graph 4, the Industry sector. In Graph 5, the Trade, transport and commercial services sector, it is clear only half of the businesses in this sector report on biodiversity. But for the latter sector, the amount of biodiversity categories in the disclosures of those businesses that do report, seems to remain the most equal.



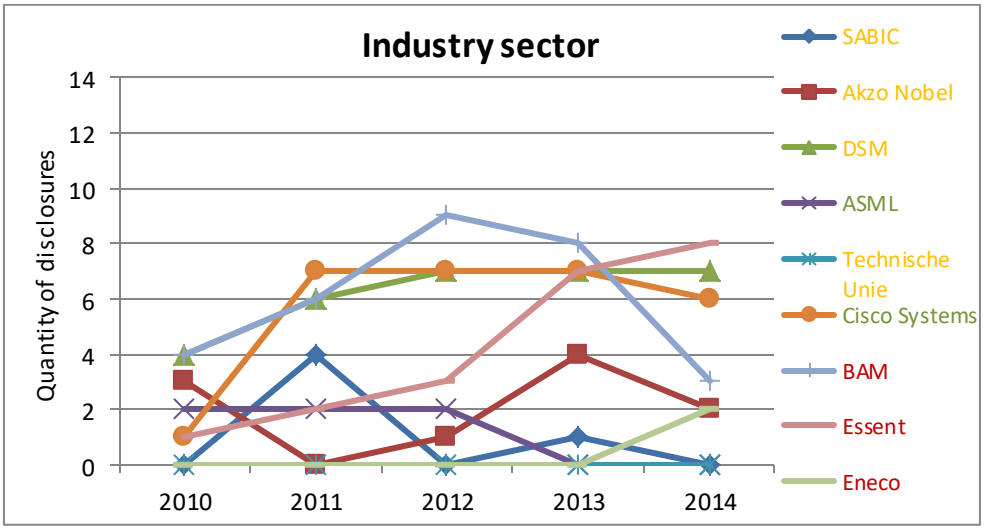
Graph 1: Amount of biodiversity categories disclosed by businesses in the Consumer goods sector



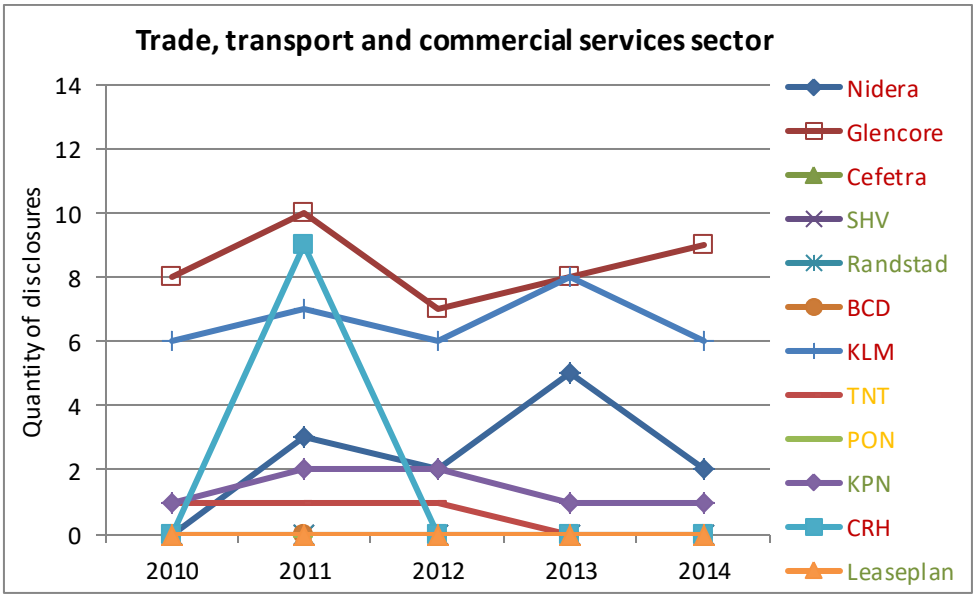
Graph 2: Amount of biodiversity categories disclosed by businesses in the Financial services sector



Graph 3: Amount of biodiversity categories disclosed by businesses in the Raw material extraction sector



Graph 4: Amount of biodiversity categories disclosed by businesses in the Industry sector



Graph 5: Amount of biodiversity categories disclosed by businesses in the Trade, transport and commercial services sector

Conclusion

In total, 35 of the 50 businesses (70%) has mentioned 'biodiversity' at least once in one of their published reports in the investigated period. For 46% of the businesses there was biodiversity related content found on their websites. There are noticeable differences between the five super sectors regarding their reporting about biodiversity: in some sectors only about 50% of the business reported at least once about biodiversity in the years 2010 to 2014. While other sectors score up to having 89% of the businesses applying biodiversity disclosures. The Financial services sector has the lowest number of biodiversity category disclosures; the Raw material extractions sector shows the highest numbers of these disclosures. In sectors like the Consumer goods sector and the Raw materials extraction sector, the amount of reporting about biodiversity (total number of biodiversity categories disclosed) seems higher when the concentration of businesses within the red biodiversity risk zone is high.

4.1.2 Coding categories for biodiversity

Table 5 is about the scores that were given for the coding categories for biodiversity reporting. The first line (Total number of biodiversity disclosures), shows how many times in total the investigated reports contain information concerning one or more of the categories (total number of category elements present, as illustrated in Table 2, page 27). These numbers show that the application of category elements has increased up to almost the double in business reports over the years 2010 to 2013, and then slightly decreased in 2014.

The second line (Total number of businesses reporting biodiversity) then displays the exact amount of businesses reporting about biodiversity in that year. So, in 2010, category elements have been reported for 69 times in total, by 21 businesses, which is 42% of the total of 50 businesses investigated. The amount of reporting businesses increased from 2010 to 2013, and then slightly decreased in 2013 and again in 2014. On average, a little more than 50% of the investigated businesses reports about biodiversity (at least once) in the years 2010 to 2014.

Subsequently, lines 3 to 5 show the distribution of the number of reporting businesses over the biodiversity risk zones red, amber and green, and what percentage of these groups is reporting about

biodiversity in each year. Remarkable is that only in the red zone the number of businesses that is reporting about biodiversity, has been constantly increasing over time. In the amber zone there has also been an increase, but the number drops from 2013 to 2014. The number of reporting businesses in the green zone stayed equal from 2010 to 2012, and then drops in 2013 and again in 2014.
Line 6 of table 5 indicates the category element that is applied the most per year, with the number of times it was applied in total. The highest scoring element was 'GRI' in 2012, applied in 20 reports. The last line shows which business(es) applies/apply the most categories in their report, how many categories that are, and therefore has the highest score in that year of all investigated businesses. In the 2014 report from Esso 13 category elements were found, the highest score found in this study. The same business scored the most elements for every investigated year, with a shared place in 2010 with Glencore Grain.

Disclosures	2010	2011	2012	2013	2014
Total number of biodiversity disclosures	69	118	132	138	130
Total number of businesses reporting biodiversity (from the 50 investigated)	21 *(42%)*	26 *(52%)*	29 *(58%)*	28 *(56%)*	27 *(54%)*
Red zone (22 businesses)	9 *(40%)*	13 *(59%)*	12 *(55%)*	12 *(55%)*	15 *(68%)*
Amber zone (19 businesses)	6 *(32%)*	7 *(37%)*	11 *(58%)*	11 *(58%)*	8 *(42%)*
Green zone (9 businesses)	6 *(67%)*	6 *(67%)*	6 *(67%)*	5 *(56%)*	4 *(44%)*
Highest scoring category	Mission statement (12)	GRI (19)	GRI (20)	Partnerships (17)	Partnerships (16)
Highest score by business	Glencore Grain + Esso[a] (8)	Esso[a] (12)	Esso[a] (11)	Esso[a] (11)	Esso[a] (13)

Table 5: Summary of results biodiversity disclosure analysis [a]= ExxonMobil Corporation; overarching business

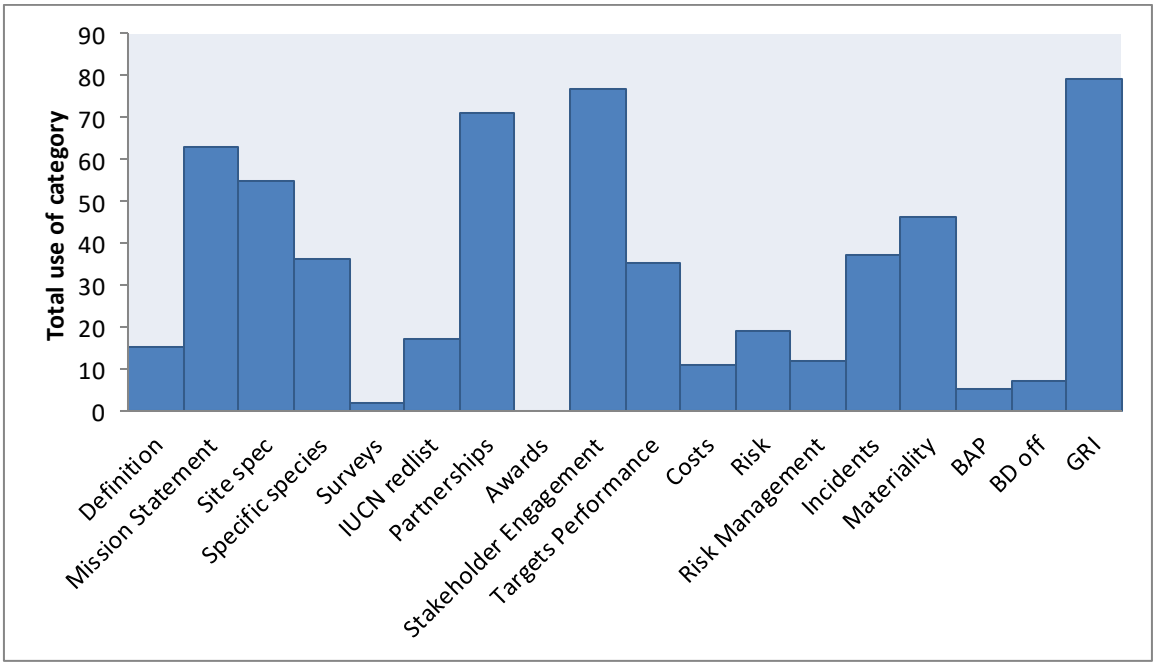
In table 6 it becomes clear that the total of 69 disclosures in 2010 (as shown in Table 5), is the sum of the scores for each category element in 2010. In 2010, 3 reports met the category element 'Definition', 12 did for 'Mission statement', and so on. Table 6 also shows the total for each category element over five years, and what percentage this is of the total. These numbers show that the category element 'Awards' is not covered in a single report at all, in none of the investigated years, and therefore is the lowest scoring element and covers 0% of the total. In addition, the category element 'GRI' is applied most of all, with 79 times in total over the five years, which is 13,5% of the total number of 587 applications of all categories.

Year	**Definition**	**Mission State-ment**	**Site spec**	**Specific species**	**Survey s**	**IUCN redlist**	**Partner ships**	**Awards**	**Stakehold-er Enga-gement**	
2010	3	12	6	2	0	1	9	0	10	
2011	2	11	13	9	0	3	12	0	17	
2012	3	10	13	8	1	4	17	0	19	
2013	3	15	13	8	0	3	17	0	16	
2014	4	15	10	9	1	6	16	0	15	
Total	*15*	*63*	*55*	*36*	*2*	*17*	*71*	*0*	*77*	
%	*(2,6%)*	*(10,7%)*	*(9,4%)*	*(6,1%)*	*(0,3%)*	*(2,9%)*	*(12,1%)*	*(0%)*	*(13,1%)*	

Year	Targets Perform-ance	Costs	Risk	Risk Manage ment	Inci-dents	Mate-riality	BAP	BD off	GRI	TOTAL
2010	2	2	1	1	3	6	0	0	11	**69**
2011	6	1	4	1	8	10	0	2	19	**118**
2012	9	2	2	0	11	9	1	3	20	**132**
2013	8	3	7	4	9	13	2	1	16	**138**
2014	10	3	5	6	6	8	2	1	13	**130**
Total	*35*	*11*	*19*	*12*	*37*	*46*	*5*	*7*	*79*	*587*
%	*(6%)*	*(1,9%)*	*(3,2%)*	*(2%)*	*(6,3%)*	*(7,8%)*	*(0,9%)*	*(1,2%)*	*(13,5%)*	*(100%)*

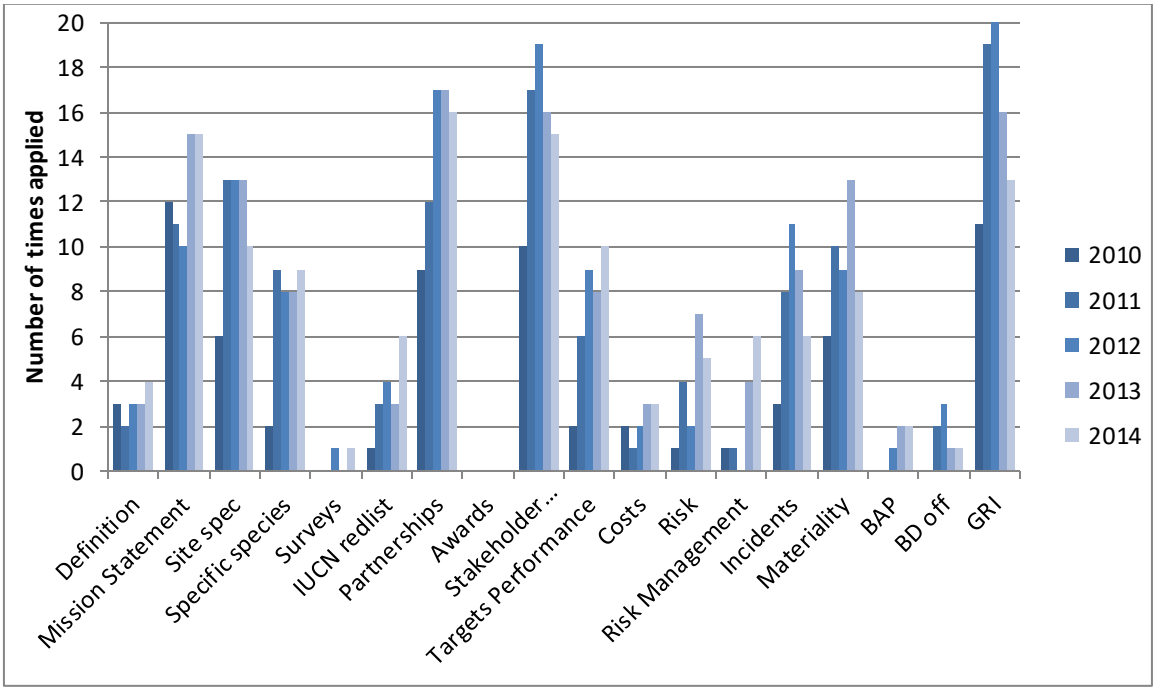
Table 6: Scores per year for biodiversity coding categories in business reports

Graph 6 (based on Table 6) then provides an overview of the use of the coding category elements for biodiversity reporting, for all business reports of all years of investigation. It evidently shows that two elements are applied the most, namely 'Stakeholder engagement' and 'GRI', directly followed by 'Partnerships'. Noteworthy is also that the element 'Awards' has never been used, 'BAP' (Biodiversity Action Plans), 'Surveys' and 'Biodiversity Officer' are neither popular. The rest of the elements follow each other gradually in number of application. Concluding it can be said that the elements 'Stakeholder engagement' and 'GRI' are the most easy to report about for businesses, and therefore are the most reported categories. Also 'Partnerships' in relation to biodiversity are common and therefore easily reported about. Noted should be though, that the overall biodiversity related information in the investigated reports, are still of superficial nature. Therefore, many texts have been given the benefit of the doubt when analysing them for meeting to the categories. This is because most reports only mentioned some category related information, without any further details or let alone explaining action plans and the like. There are of course a few exceptions, and it differs a lot per category.



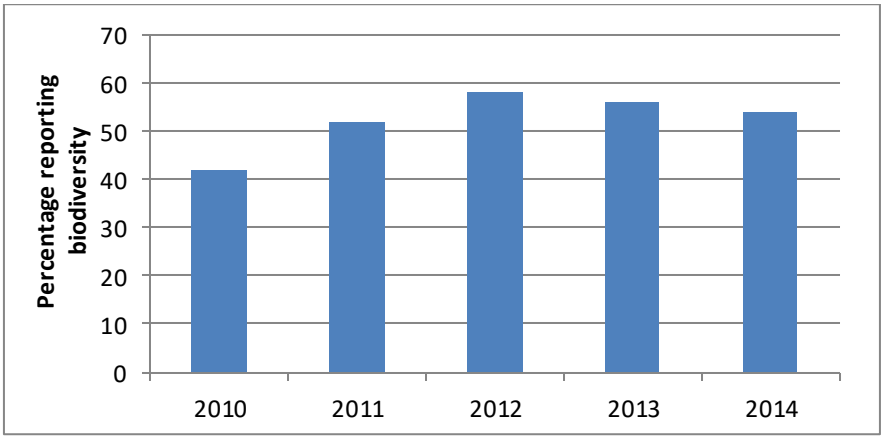
Graph 6: Total use of biodiversity coding categories in business reports from 2010 to 2014

Graph 7 shows the same information as Graph 6, but then distinguishes for every category element the differences in use for every single year of investigation. Herewith, the gradient of the application of each category element over the years becomes visible. The data is based on the information of Table 6. What stands out is that almost every category increases in use after 2010, and that for 8 categories this changes after year 2012 in a decrease. Seven other categories are showing an increase in use from 2010 to 2014, and the other 3 categories stayed the same or decreased in use. The element 'GRI' in particular shows a large decline, this is unexpected when assuming the GRI indicators are often the inducement or starting point of biodiversity reporting.



Graph 7: Differences in use of the biodiversity coding category elements from 2010 to 2014

Graph 8 illustrates what percentage of the 50 businesses that were researched, reported about biodiversity in each year. Like previously displayed in Table 5, the amount of businesses that reports about biodiversity increased from 42% in 2010 to 58% in 2013, and then slightly decreased to 54% in 2014. So despite a growth of 12% in five years, still only slightly more than half of the businesses in this research are reporting about biodiversity in 2014. On average, a little more than 50% of the investigated businesses reports about biodiversity in the years 2010 to 2014.



Graph 8: Percentage of businesses reporting on biodiversity per year

Conclusion

Reporting about biodiversity by the investigated businesses has increased from 2010 to 2014; both in number of category elements applied, as in number of business. Though, a small decrease is found in both from 2013 to 2014. The decrease in number of businesses reporting about biodiversity can be found in the part of businesses that is in the green biodiversity risk zone, also the amber zone decreases in the last year. Only in the red zone there is an increase in the number of businesses reporting about biodiversity from 2010 to 2014. On average, a little more than 50% of the investigated businesses report about biodiversity (a least once) in the years 2010 to 2014. The category element 'Awards' has not been applied by any of the businesses, in any year. The biodiversity category elements that are applied most in business reports are 'GRI', 'Partnerships' and 'Mission statement'. In total, the element 'GRI' is with 79 applications the most often applied element. This is 13,5% out of the total of 587 applied elements in all reports over the five-year period. One specific business has the highest scoring report (most category elements applied) in every of the investigated years; Esso.

4.1.3 Reporting numbers

Table 7 shows how many businesses have applied a certain amount of biodiversity category elements in their reports, for each of the years 2010 to 2014 separately. And in the last line this is showed for the total of all years together (for example, 15 businesses did not report a single element in any of these years, and one business reported about 14 different elements in total during the five years).

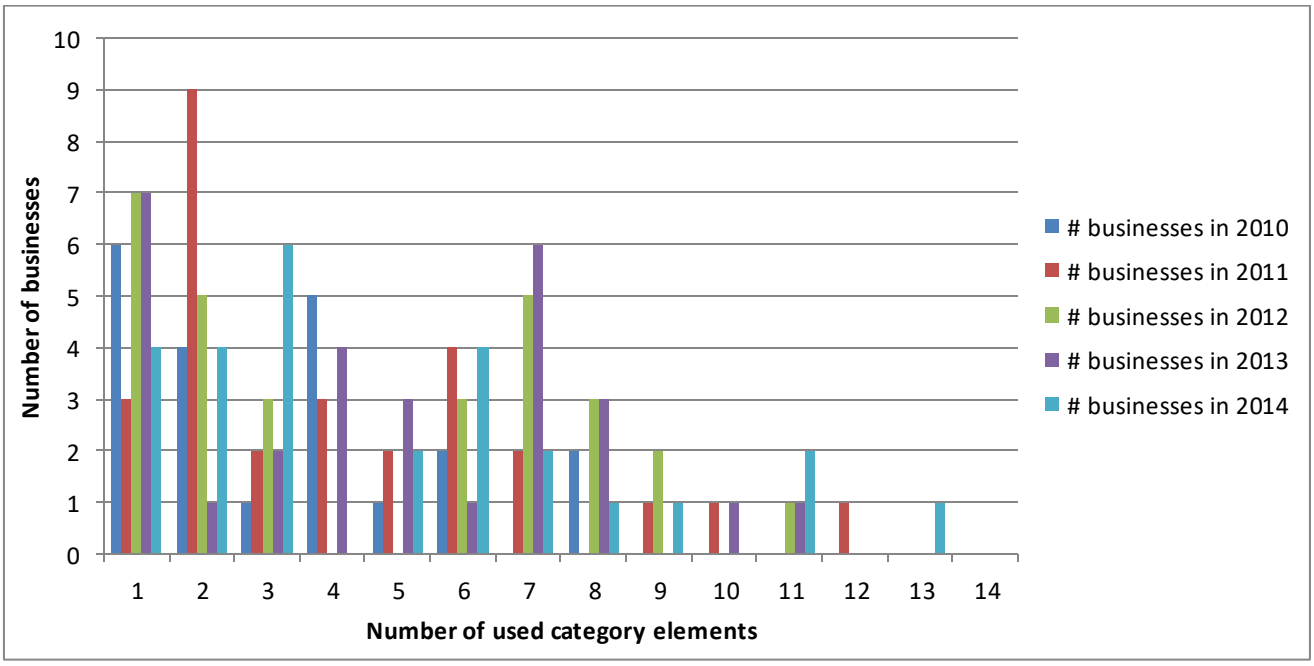
# used categories	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
# businesses in 2010	29	6	4	1	5	1	2	0	2	0	0	0	0	0	0
#businesses in 2011	22	3	9	2	3	2	4	2	0	1	1	0	1	0	0
# businesses in 2012	21	7	5	3	0	0	3	5	3	2	0	1	0	0	0
# businesses in 2013	21	7	1	2	4	3	1	6	3	0	1	1	0	0	0
# businesses in 2014	23	4	4	6	0	2	4	2	1	1	0	2	0	1	0
# businesses overall (all years)	15	3	3	2	4	3	1	3	4	3	1	4	2	1	1

Table 7: Number of businesses that apply a certain amount of biodiversity coding category elements in their reports in the years 2010 to 2014, and in total for all years (see also Appendix B, Table II)

These numbers prove that there have been changes over the years in which businesses are reporting and which are not. Focused on the number of businesses in total that doesn't report biodiversity at all, this is only 15 in general for all years together. When looking at this number at each year separately, then 21 to 29 businesses are not reporting at all. This means that every year, there are different businesses that are not reporting about biodiversity, resulting in a lower total of businesses not reporting at all over the five years together. One year that a business starts reporting, another business doesn't report, while the next year it can be the other way around. It can therefore be considered that some businesses are not consequent in their reporting about biodiversity. The number of businesses not reporting about biodiversity decreased from 2010 to 2013, but increased a

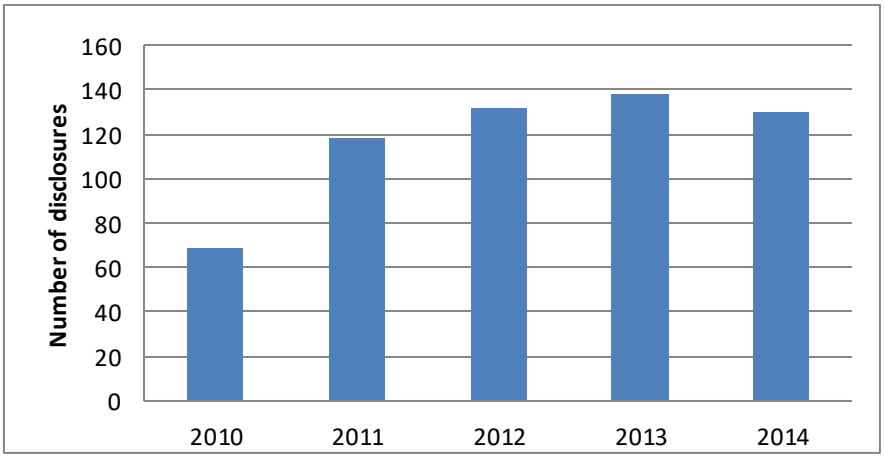
little in 2014. This corresponds with the findings of Table 5 where it became clear that the number of businesses that do report biodiversity, slightly decreased in 2014.

The use of a certain number of category elements, is very widespread, varying from 1 to 14 category elements per report. There is for example only one business that in total reports about 14 different elements. This was not in one report of one specific year, but spread over multiple reports, of several years. 84% of the total use of elements in the years 2010 to 2014 is within the appliance of 1 to 7 elements, 16% is within the appliance of 8 to 14 elements. What is further to notice about the numbers of used elements, is that businesses that did not report in 2010, probably started to report by the use of one or two elements in 2011. These numbers are quite high as can be seen in Graph 9, some of the red bars are clearly higher than the dark blue bars. Furthermore, the number of businesses that applied more than one or two elements seems to increase from 2012 onwards, as these numbers are getting higher over these years. For example, a lot more businesses then applied 7 or 8 elements, which is clearly visible in Graph 9.



Graph 9: The number of times a certain amount of category elements is applied by reporting businesses, per year

Graph 10 shows the differences in the number of biodiversity disclosures (Total number of category elements) in total by all businesses between the years 2010 to 2014. As previously visible in Table 5, this graph shows that the application of category elements in total has almost doubled in business reports over the years 2010 to 2013, and then slightly decreased in 2014.

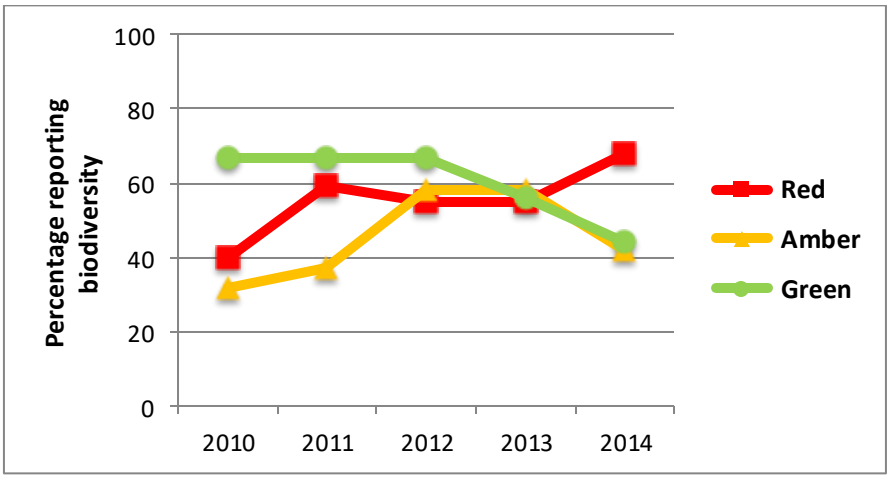


Graph 10: Total number of biodiversity disclosures (category elements) per year

With the use of a one-way Anova statistical test, the differences of the total number of biodiversity disclosures between the years 2010 to 2014 (as seen in Graph 10) were tested. There was no significant difference found in the number of biodiversity disclosures between the years 2010 to 2014, $F(4, 85)=1{,}366$, $p > .05$.

The differences between the total number of biodiversity disclosures per year appear not to be significant, which indicates that despite the doubling of the amount of disclosures from year 2010 to 2013, this difference tends to be coincidental.

In Graph 11 the percentage of businesses in all three different biodiversity risk zones, that are reporting about biodiversity in the different years 2010 to 2014, is represented. This data comes from Table 5, and it is clear that only in the red zone the percentage of businesses that is reporting about biodiversity, has increased during the five year period. This percentage for the red zone is growing from 40% in 2010 to 68% in 2014. In the amber zone there has also been an increase, but the percentage of reporting businesses drops from 58% in 2013 to 42% in 2014. The number of reporting businesses in the green zone stayed equal with 67% from 2010 to 2013, and then drops to 56% in 2013 and again to 44% in 2014.



Graph 11: Percentage of businesses reporting on biodiversity per biodiversity risk zone, per year

By using a one-way Anova statistical test, the differences in percentages of businesses that are reporting about biodiversity from 2010 to 2014 between the three biodiversity risk zones (red, amber, green, as seen in Graph 11), were tested. There was no significant difference found in the percentages between the red, amber and green zone, $F(2, 12)=2{,}431$, $p > .05$.

The differences between the percentages of the reporting biodiversity risk zones appear not to be significant, which indicates that over these five years the three different zones do not differ so much from each other concerning biodiversity reporting. The probability that there would be an increase in the amount of reporting for instance in the amber zone, is the same as in the red zone, even though in the current situation the reporting is increasing in the red zone and in the amber zone it isn't. It seems a logical consequence though, that the amount of reporting businesses in just the red zone is increasing, as these businesses are at higher risk and therefore it is expected they will report about biodiversity more than the other zones. If older reports (from before 2010) were also taken into account, the sample size would have been larger which rather would have led to a significant difference between the zones. However, the coming years will tell whether (larger) differences between the three zones are going to exist.

Conclusion

A part of the investigated businesses are not consequent in their reporting on biodiversity, as there are differences per year in which of the businesses reports and in which they don't. In the years 2010 to 2013 the number of businesses that doesn't report about biodiversity decreased, but slightly increased in 2014. In total, 15 businesses reported 0 category elements. Concerning the 35 businesses that did report, in 84% of the cases there are 1 to 7 category elements applied in reports in the years 2010 to 2014. In the other 16%, 8 to 14 elements are applied in reports. Despite the considerable growth, there was no significant difference found in the number of biodiversity disclosures between the years 2010 to 2014. Also there was no significant difference found in the percentages between reporting businesses in the red, amber and green zone. Although the statistics currently don't show, a logical consequence would be that the number of reporting businesses in the red zone continues to grow more than in, or in contrast to, the other two zones.

4.2 Conclusions content analysis

In total, 35 of the 50 businesses (70%) has mentioned 'biodiversity' at least once in one of their published reports in the investigated period. This outcome gives a positive image about the reporting on biodiversity by businesses. Meanwhile, the overall biodiversity related information in the investigated reports, is still of superficial nature. Many texts in reports have been given the benefit of the doubt when analysing them for meeting to the category elements. This is because most reports only mentioned some category related information, without any further details or let alone explaining action plans and the like. The figures in this study may therefore not always properly reflect the quality of the concerning biodiversity disclosures.

When comparing the five formed super sectors, the percentages of businesses that are reporting on biodiversity within a sector, range from 50% to 89%. When focussing at the number of biodiversity category disclosures applied, the Financial services sector scores the lowest and the Raw material extractions sector the highest numbers. It is plausible that the percentage of reporting about biodiversity within a sector might be higher when the concentration of businesses within the red

biodiversity risk zone is high. This is because for businesses in the red zone it is the most important to take biodiversity and related risks into account.

In the period 2010 to 2012, both the number of businesses reporting on biodiversity as well as the number of category elements applied, has increased. From 2013 to 2014 there is a small decrease in both. In more detail, the part of reporting businesses within the red biodiversity risk zone increased during the five year period, the part of the amber and green zone show a decline at last. The decrease of the latter is greater than the growth of the red zone, therefore the total number of reporting businesses decreased in 2014. On average, a little more than 50% of the investigated businesses reports about biodiversity (at least once) in the years 2010 to 2014. The total number of biodiversity disclosures per year, increases from 69 in 2010, to 138 in 2013, where after it decreases a little to 130 in 2014. This number thus almost doubled within three to four years. In total, all investigated reports count 587 applied biodiversity category elements. For the 35 businesses that reported at least once, this is on average 3 applied category elements per business per year or report. The elements that are applied most in business reports are 'GRI', 'Partnerships' and 'Mission statement'. The element 'Awards' has not been applied by any of the businesses, in any year.

Those businesses in the sample that are reporting on biodiversity, are not all consequent in doing so. It differs per year which of the businesses report and which don't. In the years 2010 to 2013 the number of businesses that doesn't report about biodiversity decreased, but slightly increased in 2014. In 84% of the cases, reports contain 1 to 7 category elements. 16% of the reports contain 8 to 14 different elements within the period 2010 to 2014. Despite the considerable growth, there was no significant difference found in the number of biodiversity disclosures between the years 2010 to 2014. Also, no significant difference was found in the percentages between reporting businesses in the red, amber and green zone. A logical consequence would be though, that the number of reporting businesses in the red zone continues to grow more than in, or in contrast to, the other two zones.

5. Results – interviews

This chapter presents the results of the interviews that were conducted for the purpose of this study. First, the preparatory interview with an independent expert is elaborated on in 5.1. The second part (5.2) describes the businesses that were interviewed. Then parts 5.3 to 5.5 investigate the motivations of these businesses for their way of reporting, by making use of the interpretations of the transcripts. Moreover, 5.3 deals with information on the relationships of businesses with biodiversity, 5.4 is about reporting by businesses and 5.5 is about the motivations of the businesses regarding biodiversity reporting. An overall final conclusion will be drawn in the last part, 5.6.

5.1 Expert interview IUCN

IUCN is an organisation that is committed to nature conservation and the sustainable use of natural resources. In 2005, IUCN NL took the initiative to involve businesses with biodiversity, which leaded to collaborations with several businesses and start of the Platform Business and Biodiversity. Because of this fact, the findings of this organisation on the theme of biodiversity reporting were discussed with an expert of IUCN. The information retrieved from this interview has contributed to the formulation of relevant questions for the purpose of the business interviews. In what way, will be described next in paragraphs 5.1.1 to 5.1.3.

5.1.1 Reporting about biodiversity

There are some reporting indicators where businesses have to give insight to, that can only be filled in when they are referred to certain knowledge products of IUCN. These are for example the IUCN Red List for Endangered Species, or the database of protected areas.

- It is therefore interesting to ask the businesses if they are familiar with biodiversity reporting indicators (GRI) and if these are clear for the business to use.
- Subsequently, if the business is familiar with the organization IUCN and/or the knowledge products, and if so if the business has had contact with IUCN.

Initial Public Offering businesses want to comply to the legislation of the country it is operating in, but the Dutch government only has a facilitating role in subjects like biodiversity. There is no obligation for businesses to report on biodiversity, the government actually wants to reduce the regulatory pressure on businesses.

- A useful question towards the businesses is if they are aware of any policy goals or regulations around biodiversity.

5.1.2 Issues around reporting

A research IUCN had carried out two years ago about biodiversity reporting, showed that there is indistinctness and a lot of difference in the way businesses reported about biodiversity. This is reflected in the reports themselves, but also in the questions IUCN received from businesses through the years. For some businesses the theme of biodiversity is still too unclear. Some businesses are reporting only superficially on biodiversity, explaining in word which social or environmental projects have been conducted for example in their CSR report. Some additionally use (partly) the GRI indicators, others go further and apply integrated reporting. Currently there are several methods and initiatives for integrated reporting which makes it hard for businesses to choose the appropriate method. IUCN is working towards a framework for this together with some international organisations.

- It is interesting to ask the businesses if they report about biodiversity, and if so, how was this established?
- In what level do they report, are they familiar with Integrated reporting?
- And, what do they think should be reported in relation to biodiversity? Does the business have a biodiversity strategy?
- The question what the reason for the business' way of reporting is, and if they are satisfied with this method, can provide useful information.

5.1.3 Differences in reporting

This difference in reporting varies greatly from business to business, and does not just depend on the type of sector it is in for instance. A business with a very complicated chain, a retail business with several products for example, which means it is very complex to obtain and understand information, can have the ambition to have a positive impact. While a business in mining with a few sites, can obtain information about their impact and how to reduce this much more easy, might not be interested in doing this. But knowing the impact on a site is different from analysing the impact within the whole supply-chain. This asks for a lot of knowledge and information from their suppliers, which is difficult because often the origin of resources is unknown and it is unclear what to ask their suppliers. Some businesses just want to meet the requirements of the reporting, others really want to understand what they report and what this means about their impact. Their motivation is therefore an important factor.

- A relevant question here is if the business sees biodiversity as a risk or as an opportunity.
- Also, does the business know what impact it's activities have on biodiversity, and to what extent (local / global, the phase of the chain).
- And does the business have goals related to biodiversity, and if so where are these based on and why are they chosen?
- Is reporting used for benchmarking? Does the business read the reports of competitors?
- Does the business regard reporting as a tool to increase transparency and accountability?
- And more questions related to the motivation of businesses to report about biodiversity, like the role of stakeholders, social acceptance/license to operate and limitations the business is facing.

5.2 Business facts

The information in Table 8 presents the names of the 9 businesses that were interviewed. Next, the distribution of these businesses over the biodiversity risk zones can be read. About half of the businesses is within the red zone and the other half in the amber zone. There are no businesses of the green zone interviewed. The opportunity to be able to interview a business in this group was reduced since this group was the smallest (9 out of 50). In addition, the table shows what kind of report each business uses to communicate its information. This is very different within this group of 9 businesses. 3 businesses have published integrated reports in all of the investigated years, 2 other businesses did this after publishing separate sustainability reports for a few years first. One business published so called separate CSR-reports, another business only a financial report, and the last business only a social report. Lastly, if and with how many categories each business reports about biodiversity is mentioned in the rightmost column. This shows that 3 businesses did not report about biodiversity in any year from 2010 to 2014. Three other businesses reported in all years, with 4, 5 and 10 different category elements. The remaining three businesses reported respectively in just 1, 2 or 4

different years with respectively 2, 5 and 5 category elements. There are no differences in the degree of reporting between the groups of businesses in the red and amber risk zones, it varies by business.

Business	Risk zone	Report	Biodiversity reporting
Ahold	Red	CSR report	In 2010 to 2014, with 4 category elements
VION	Red	Only financial report	None
BAM	Red	Sustainability report 2010-2013, integrated report 2014	In 2010 to 2014, with 10 category elements
Eneco	Red	Integrated report	Only in 2014, with 2 category elements.
Technische Unie (TU)	Amber	Only social report 2013	None
AkzoNobel	Amber	Integrated report	In 2010, '12, '13 and '14, with 5 category elements
Achmea	Amber	Sustainability report 2010-2012, integrated report 2013 and 2014	None
SABIC	Amber	Sustainability report	In 2011 and 2013, with 5 category elements
DSM	Amber	Integrated report	From 2010 to 2014, amount fluctuates over the years. Total of 9 category elements.

Table 8: Facts on risk zones and reports of the interviewed businesses

The next paragraphs will explore the motivations of these 9 businesses for their way of reporting, on the basis of the answers the businesses gave to the questions during the interviews.

5.3 Business interviews

The results of the interviews with the businesses are presented in this part. The transcripts of the interviews are interpreted and the interpretation is elaborated in a number of subjects. The first part (5.3) explores the relation of the interviewed businesses with, handling of and attitude towards biodiversity. Thereafter, 5.4 elaborates on how the businesses are facing reporting (about biodiversity). Part 5.5 ends with the results from the interviews concerning the motivations of businesses for their way of reporting.

5.3.1 Relationship of businesses with biodiversity

The businesses were asked to describe the relationship of their business with biodiversity. There were many different answers to this question, which was to be expected since it are all different types of businesses. Five businesses state that their relation with biodiversity is mainly through the products that they buy and/or sell, as reflected in the following statements:

- **Ahold:** *"It is a difficult issue, because we have such a broad spectrum of products. But relevant because of the many agricultural products we work with. Here are mainly pesticides important in relation to food safety, this also relates to biodiversity."*
- **TU:** *"Since recently we adopted green roofs in our assortment, our first living product."*
- **VION:** *"For biodiversity we look at our primary producer, so the farmers that deliver to us. We set some criteria to them, but also towards the animal feed producers, of which we expect that they take some responsibility themselves."*
- **DSM:** *"Our focus on sustainability is expressed in several ways, on the one side at product*

development, and on the other side at the production of products. In this we try to find ways that have the least possible impact."

- **AkzoNobel:** *"We are paying attention to the sourcing of our resources to reduce our reliance on fossil materials, and because we are aware that things like soy and palm oil are growing in biodiversity sensitive areas."*

Three of the same businesses also see a relationship with biodiversity through the certifications they work with, one adds to this that biodiversity is only one aspect within the whole sustainability theme:

- **Ahold:** *"We also work with several sustainability certifications which have criteria for biodiversity."*
- **TU:** *"It's an important issue, but not a very relevant one in our business. We work with sustainability certifications though, where there's attention for energy use, the source of the products, and does the building fit in the natural surroundings."*
- **VION:** *"Above all, we see biodiversity not as a single-issue, but as one of the issues within GAP like animal welfare and environment. By looking at all important aspects, we try to make the whole system sustainable, we work towards continuity this way."*

Two businesses see biodiversity as an opportunity for product innovation / development and to be a leading business, as they state:

- **SABIC:** *"We are looking at our whole supply chain, at resources that might not be available in the future, and at our products how they can help to make things more sustainable or better for the environment."*
- **DSM:** *"In the production of products we try to find ways that have the least possible impact. Or, a little better than what is currently obvious within the industry, in such a way that we can enjoy the frontrunner effect."*

Another business also treats biodiversity as a chance, as they state that it is important for the business' future:

- **BAM**: *"Biodiversity is one of our main goals in our sustainability programme. It is focussed on conserving biodiversity, because we believe that environmental values then can be remained and enlarged, and will give us the possibility to sustain our work in the future."*

For one of the interviewees the relationship with biodiversity is less obvious because of the type of business:

- **Achmea:** *"There is only an indirect relationship between our core business and biodiversity since we are a financial institution. We can have some influence on biodiversity via the investments we choose."*

The remaining business is currently investigating what relationship it exactly has with biodiversity by analysing the impact of the business activities:

- **Eneco:** *"With several projects we try to put biodiversity on the agenda of our business. By using quick scans we explored what the impact is of the construction and operation of a wind park and a biomass centre. With that information, together with WWF we will work out a strategy on how biodiversity can be integrated within Eneco."*

5.3.2 Impact on biodiversity through business activities

Subsequently, it was interesting to analyse to what extent the businesses know where, and to what size their impact on biodiversity is situated. Only when this information is clear, reporting about biodiversity is possible. Most businesses (6) indicate that they are aware that their activities have a global impact, and that this starts at the beginning of the chain. Yet, it appears to be not so easy to take action to reduce this impact, as the businesses comment as follows:

- **Ahold:** *"Our (resources for) mainly agricultural products come from all over the world. Our soy for instance, comes from Brazil and North America, which are huge monocultures. But it is impossible and unwanted to impose all kind of interventions constantly to all these suppliers. We have all kind of suppliers, a lot of farmers, and we think they know very well themselves what is good for their land, how to deal with the climate and the soil. Besides that, we apply a yearly risk analysis for our product groups, where biodiversity is one of the indicators. So besides social issues, land and water use, and animal welfare we look at biodiversity, to see what is a point of attention in that issue. Like the case of honey, the bee mortality, where the discussion prevails whether it is caused by pesticides or monoculture. In our risk analysis we examine what the situation is."*
- **AkzoNobel:** *"To improve our sustainability policy and to reduce our reliance on fossil materials, we are looking to the use of biobased materials and bio chemicals. We are aware that the soy and palm oil derivatives are known to be growing in areas of sensitivity for biodiversity. Although we are not direct buyers, we do set some steps down the value chain."*
- **SABIC: "***We try to change our impact by examining our whole supply chain, starting with the resources we use for the end product we make. We look for opportunities that for example might make society less dependent on oil, or decrease greenhouse gas emissions. In addition, an important part in the chain is recycling, we want to reduce waste and look for opportunities to retrieve our materials to re-use them in our products. These factors are part of our sustainability policy and might have relations to our impact on biodiversity."*
- **DSM:** *"It seems that biodiversity is some kind of umbrella term for all issues. Because all impact that a business has, will have an impact on biodiversity. In any way or another there will be an effect on flora and fauna decreasing or increasing, or an ecosystem losing its equilibrium. So all measurements related to environmental parameters can be associated with biodiversity."*
- **Eneco: "***We are currently mapping our impact and developing a strategy. We have impact on international level as we purchase gas and biomass from around the world. "*

For this business biodiversity is on the one side one of their main goals, but on the other side it turns out to be less important than other issues (in terms of costs / finance):

- **BAM:** *"We made a calculation for our future profit and loss account for the use of natural capital, the cost of the use of raw materials in particular. Thereby, natural capital turned out not to be strongly important. For example, the cost of energy production versus the cost of the energy used is much more dominant. The costs of biodiversity loss to society, turn out to be much lower than the costs of threats such as from climate change. Apparently there is not really a high price on nature"*

Some businesses, however, lay the responsibility for the impact on biodiversity (partly) on the side of their suppliers:

- **VION:** *"Our impact is mainly through our fodder suppliers. We expect the fodder businesses that deliver us, to take some of the responsibility, as most of them are large businesses. Biodiversity is one of several aspects where minimal standards should be developed for within the whole supply chain.*

We want to deal with all the aspects together, the whole package, to make steps towards a sustainable system in total. All issues should have continuity, and be communicated as a sustainable message towards the consumer. Supermarkets play a big role in this."

- **Technische Unie:** *"We actually do not produce anything. Of course we have certain processes that we use energy for, but mainly the products of the suppliers do have impact. So I can imagine that the environmental impact of such businesses is larger and that these kind of questions should be asked towards the suppliers."*

One business says to have only local impact through the building where it hold its' office:

- **Achmea:** "*Our only direct impact would be through the construction of a new business building, at a new location. A few years ago, the building in Apeldoorn was renewed, which was done in a sustainable and responsible way. For instance, a bee hive was given to the municipality of Apeldoorn as a gift. That is basically all you can do in respect to the impact on biodiversity, being a large business like ours."*

5.3.3 Collection of ecological information

To find out what the businesses actually do in order to retrieve information about their impact on biodiversity, they were asked how ecological information for the reporting is collected. Here it turned out that this is difficult for some businesses, because of, as these three comment, biodiversity is hard to measure, and the large number and / or the distance of their suppliers:

- **Ahold:** *"Species abundance and land use are difficult to collect data on for all our products, which are many. These data are difficult to measure and map, and checking requirements would also be very costly and difficult. Besides that they are not always necessary or relevant, they don't always result in higher biodiversity. It is for example easier to control for child labour than for biodiversity. But when it is possible we prefer to collect data on subjects like biodiversity. We do measure quality or productivity of products by standards like kilogram yield per hectare, our measurements are about total input and output."*
- **VION:** "*Our business has impact on resources trough the fodder companies that supply us. These are outside the limits of our control, as these are ten thousands of famers that are supplying. We have to work together to develop measures for all the different issues within the GAP, it's not possible to push this through all at once."*
- **DSM: "***It is very hard to quantify biodiversity, and the question is what exactly should be quantified then. There is currently no clear method available to measure our impact on biodiversity."*

The following two businesses are managing to gain information about their impact on biodiversity, either by collecting data themselves or through the use of other parties with the necessary knowledge:

- **BAM:** *"We do measure biodiversity, in some cases we count ourselves, by counting tracks or species, sometimes we even work with camera's. In other cases other parties are measuring for us. We do this to monitor our projects. For the use of FSC wood we check the whole chain, chain of custody, to check our suppliers for following the rules. If they don't meet the requirements we stop working together with these suppliers."*
- **Eneco:** *"Using quick scans we looked at the impact of the construction and operation of a wind*

park and a biomass centre. With that information, together with the WWF we will work out a strategy on how biodiversity can be integrated within Eneco."

Two other businesses say they request information about biodiversity from its suppliers, or are thinking about setting demands towards suppliers regarding transparency including about biodiversity:

- **AkzoNobel:** *"We ask our suppliers of some resources where they are derived, to see if it concerns biodiversity sensitive sites and if the sourcing is sustainably managed. We only buy from certified palm producers, even if there is a certification process in place, we are walking up the value chain and asking those kinds of questions. To see if the sourcing is sustainable, how is it managed and trying to stay ahead of the schemes."*
- **TU: "***We are currently in the process of setting targets and defining and naming KPI's, that's not very concrete yet. About responsibility with suppliers, it is still often the case that we don't exactly know. We don't get enough information about subjects like biodiversity, until now this is just accepted the way it is. That is beginning to change slowly now, and that is why we want to be transparent towards our customers. We are thinking about setting requirements towards our suppliers right now. We have stated in our CSR policy though that suppliers who present themselves well in terms of sustainability, will be positively promoted to our customers. That is leading to a stage where we are going to establish a code of conduct."*

These two businesses indicate that they make use of certain parameters, certifications or so called engagements related to biodiversity. They don't really make clear where the ecological information is collected, but state that the resources or the business must meet the requirements or conditions, in order to protect biodiversity:

- **SABIC: "***The raw materials we buy, have to meet to 8 parameters we use. Biodiversity is one of them, next to child labour and fair wages for example. In this way, the resources can be positively or negatively judged according to the parameters. So if the resource comes from a site where there is solely monoculture, we don't buy it."*
- **Achmea: "***We conduct so called engagements with the businesses in which we invest. This means we engage in a dialogue with the business. One of the key issues here is nature, which connects to biodiversity. In enhanced engagements we go a step further, in a 3-year dialogue we agree in engagement goals which can be about biodiversity for example. After three years, for example 3 out of 7 goals have to be realized."*

5.3.4 The opportunities and threats of biodiversity

It is interesting to know if businesses see biodiversity as a risk for their business, or more as an opportunity to improve things. When considered an opportunity, business are more likely to report about biodiversity when opportunities are actually exploited. But even if it is seen as a threat, this just may be a reason to report about biodiversity, by indicating how the threats can be avoided. Almost all businesses do see something positive, an opportunity. Simultaneously, they often also see the potential threats. These 8 businesses appoint the opportunities because of the improvement, development and emergence of products and / or projects. The potential risks mentioned by the first three businesses, are about the origin, sustainability and quality of resources, reputational risk, and extra costs:

- **Ahold: "***Both a risk and a chance. We see possibilities for improving products by solving problems*

around issues like biodiversity, through certification for example. There is a risk for the quality and sustainability of our products and a reputational risk."

- **Eneco:** "*It provides us the opportunity to deal in REDD+ credits, projects for forest conservation. At the same time the compensating of our impact in projects will cost extra money."*
- **DSM:** "*Biodiversity provides opportunities to develop new products. For instance products that have a positive impact in a location, or that prove to have a minimal impact on the environment. The risk is in not knowing where resources come from, where in the chain the impact lies."*
- **TU: "***We see opportunities in offering our clients products with sustainable solutions and/or materials."*
- **AkzoNobel:** "*We see it as a new opportunity, as for instance we are looking at new materials to use for our products."*
- **VION: "***We don't see it as a problem or threat but as a chance. There is an opportunity whenever something can deposit added value to our products and we can put this on the market as the first. Adaptation is very important for the survival of our business."*
- **BAM**: *"We see it as a chance, as we see that the area in and around housing projects has more potential buyers when it is shaped with lots of green and water. Subsequently the challenge is to shape it in such a way that it is in favour of biodiversity as well. We've noticed that when it is well shaped, biodiversity is maintained, and that mono-arrangements will lose their value."*
- **SABIC**: *"We try to see opportunities in products that are now regarded as waste, by doing something useful with those goods which are at the end of the chain."*

The last business is always looking at risks, since this is in the nature of the business. Therefore it also sees biodiversity as a risk:

- **Achmea: "***We expect that in the coming years it will be more and more important to take into account issues like biodiversity. Because when we are assuring a business that is performing very poorly in terms of durability and / or biodiversity, then we as insuring business are also at risk when that business will soon have no license to operate anymore. So in that way, risks related to biodiversity could indirectly also affect an insurer like us."*

5.3.5 Incorporation of biodiversity in strategic management

The next question to the businesses concerned to learn about to what extent CSR, including biodiversity, is integrated into the operations of the various businesses. the more biodiversity is taken into account in the business management, the more likely that the business will report about it. Four businesses indicate that biodiversity is mentioned in their business strategy or policy:

- **Achmea: "***Our CSR policy is divided into five core issues, that are related to our health care organisation, and are key for our responsible investment policy. Nature, including biodiversity is one of these five core issues. This is because we think health is very important. As we are the largest health care organisation in The Netherlands, and we carry out engagement on this with businesses like the pharmaceutics we invest in. Nature and biodiversity are important for health care because of the production of medicines, which makes use of a lot of resources from for example tropical rainforests. Biodiversity is also represented in our participation in the community of practice of natural capital and biodiversity, and the engagements we conduct on this theme with businesses."*
- **BAM:** *"In our entrepreneurial principles, the preservation of biodiversity is one of the cornerstones of our sustainability policy. The true price calculation we have had, showed that natural capital doesn't emerge very strongly though. Despite that we want to be distinctive by profiling*

ourselves and being recognised as a sustainable construction business. The recognition of sustainability is dependent on those who are judging though. An assessment on sustainability is mainly focussed on measures concerning climate, safety, and resources than on specifically biodiversity, so in that sense biodiversity gets less weight."

- **Eneco: "***Biodiversity is an important issue and a part of the One Planet strategy, which means that with our value chains and our customers we want to stay within the carrying capacity of the earth. But since we cannot measure biodiversity properly yet, no KPI's or objectives are set. We also see that it provides an opportunity to present ourselves as sustainable energy business."*
- **VION:** *"Biodiversity is one of the issues we deal with through the Good Agricultural Practices (GAP) we apply, to manage it within the supply chain."*

These other four businesses indicate that biodiversity is mainly important for the products which they work with, and that the customers are demanding sustainable products. Therefore biodiversity has more an indirect influence on the strategies of these businesses:

- **DSM: "***Our business aims to find solutions for the big issues and themes that society is dealing with, this includes providing sustainable products for the end users. This can include biodiversity, but is not necessarily always the case."*
- **SABIC: "***Biodiversity can mean for us to develop a product or material, something a customer asks for or something we can bring in our product portfolio. Such developments and innovations are important to our business continuity, to meet customer demand and to run the competition with other businesses."*
- **TU:** *"Our business tries to be an example for how our products can contribute to more sustainable solutions for our clients, by informing them in the best ways we can. Currently we are being as transparent about our products as possible, in the future we might expand this towards setting demands on suppliers about their responsibility. In this way we hope to enforce suppliers to produce more sustainable products."*
- **AkzoNobel: "***Biodiversity is becoming increasingly important for our business in the way we are using biobased materials, of which we are trying to grow in amount in a sustainable way."*

This business has intertwined biodiversity to some extent in its business, but points out that also responsibility of other parties in the chain is expected:

- **Ahold:** "*Because we don't produce our products ourselves biodiversity is not part of our strategy. For the most important commodities we are mapping the effects in the supply chain though. But not yet for all products, this is going to happen more and more in the future. Our CSR policy is also just aimed at products of our own brands, not those of A-brands. We have responsibility for our own brands and much more influence than over A-brands. We assume that the A-brands take their own responsibility, which often is the case.*"

5.3.6 Specific business targets focused on biodiversity

When a business integrated biodiversity in its management, it would be expected to have specific goals that are being purchased, related to the subject of biodiversity. The businesses were therefore asked whether they do have targets for biodiversity in particular. Four businesses indicate they don't have specific goals on biodiversity, other than those covered in the certifications or larger projects:

- **Ahold: "***We don't have goals specifically on biodiversity, other than of the 6 critical commodities,*

at least none we communicate externally. For the 6 critical commodities of which we know what issues are involved, we do have strict policies."

- **VION:** *"Biodiversity is covered within a number of global private standards our suppliers have to meet. The subject is also related to the Round Table for Responsible Soy we participate in."*
- **BAM:** *"We don't have specific goals on biodiversity other than those on FSC certified wood. Goals are mainly project based. We try to widen projects, widen the spatial boundaries, to enlarge biodiversity ultimately. Even within the costs of the project, that is a desirable approach to achieve positive impact."*

AkzoNobel: *"Biodiversity is covered within the Round Tables for sustainable soy and palm oil, where we are observers"*

These two businesses are thinking about setting targets focused on biodiversity in the future:

- **Eneco:** *"We want to start with biodiversity action plans on a project basis, our ultimate goal is to have a No Net Loss situation."*
- **Achmea:** *"Our impact on biodiversity is only indirect, currently we don't have explicit goals but the next step could be to make demands to businesses about biodiversity in engagements."*

The other three businesses don't have specific goals on biodiversity, but more on sustainability in general:

- **TU:** *"We are currently in the middle of setting goals and defining KPI's. But these will probably elaborate more on sustainability in general, and not specifically on biodiversity."*
- **SABIC**: *"SABIC has set very clear objectives on energy use in the long term, but not specifically for biodiversity."*
- **DSM**: *"We do not have targets for biodiversity. We do have a policy that says we want to avoid additional impact, so that we have less impact. This is not as explicitly communicated like a water reduction or CO_2 reduction. We don't have explicit goals like these for biodiversity."*

5.4 Reporting about biodiversity

This part is focused on the outcomes of questions that were asked to the businesses concerning reporting about biodiversity. The intention here was mainly to find out how familiar the businesses are with the various reporting forms, what can be reported in relation to biodiversity and what influences their choices.

5.4.1 Most important issues in CSR report

To find out if the businesses themselves regard biodiversity as one of the main issues within CSR to report about, they were asked to appoint the most important issues that are discussed in their report. The answers show that reporting is still primarily about sustainability in general. First, two of the businesses turn out to not publish CSR reports or reports about sustainability at all. One of them is considering to start doing this in the future, while the other business is not planning to do so:

- **TU:** *"We are not obligated to bring out reports because we are a private business, but because we are quite active on CSR, we are considering to set up a sustainability report."*
- **VION:** *"We bring out an annual financial report which is under supervision of the Dutch government, and available on our website. On sustainability issues there also is a lot of supervision, but reporting about sustainability is not in our prospect for the time being."*

These five businesses are reporting about sustainability, but mainly on other issues than biodiversity. The main reason for this is that according to them, this is not yet possible or still too difficult:

- **BAM:** *"The No Net Loss approach used in some projects is very interesting, this could be of value for better decision making in projects. But for reporting there are not yet well enough standardised methods for biodiversity, so reporting remains difficult."*
- **SABIC:** *"We write an annual report about our global sustainability programme, which is mainly about energy use and carbon emissions. Concerning sustainability reporting, we have still a long way to go compared to our competitive businesses."*
- **Eneco:** *"Currently we don't have enough to report about, but we want to report about biodiversity in the future."*
- **Achmea:** *"For us it is only reasonable to report about the responsible investments and enhanced engagements we carry out."*
- **DSM: "***Our policy has always primarily been focused on reducing emissions, later it shifted to sustainability in general. Which is now more and more integrated in our business strategy. We try to follow the GRI guidelines for reporting, including for biodiversity. But this is difficult and complicated to follow. Moreover, it is more easy to set explicit goals for issues like water or CO_2 reducing than for biodiversity."*

The last two businesses are amongst other issues reporting about biodiversity, although more in an indirect way:

- **AkzoNobel:** *"Our reporting about the issue biodiversity is mainly related to partnerships and projects about bio-based materials."*
- **Ahold**: *"We are reporting about biodiversity more in an indirect way. We have a strict policy for the 6 critical commodities, palm oil and soy are related to deforestation and so have an obvious link to biodiversity. And cacao, tea and coffee are link to pesticide use. For the rest, our reporting is more about sustainability in general."*

5.4.2 GRI guidelines for reporting

To figure out whether the following of the GRI guidelines can be a motive to report on biodiversity, the businesses were asked if they are familiar with this reporting system. Seven businesses are following the GRI guidelines currently, some already for several years. One of them noted that GRI is too extensive in some ways:

- **Ahold:** *"The GRI guidelines are useful because it provides guidance in reporting, but is very extensive and is still expanding. This makes them often too generalised, while we want to focus on relevant sustainability hotspots."*

Two other businesses are not reporting according to the GRI guidelines. **Technische Unie** isn't because it is currently considering to start reporting about sustainability, and the GRI guidelines therefore were not applicable up to now. **VION** does not follow GRI because the business is not planning to start reporting about CSR anyway, the system is therefore not applicable for this business.

5.4.3 Integrated reporting

Integrated reporting is becoming increasingly important, and its application is significant to the extent to which a business integrates CSR (including biodiversity) into its strategy. Therefore the businesses were asked if they are familiar with integrated reporting and are applying it to their report. Here it became clear that three businesses (**DSM, Eneco, AkzoNobel**) are applying integrated reporting for at least 5 years already, and two others (**Achmea, BAM**) started with this in 2013 or 2014. The other four businesses are not applying integrated reporting, because they are not ready for this yet, or because they simply are not interested in reporting about CSR/sustainability:

- **Ahold:** *"Integrated reporting is not applied, as it is difficult to combine the financial report with the more storytelling sustainability report. In the future the two parts will probably be combined. Sustainability reporting will become so important that investors are going to want to have one document. At this moment there are separate documents because it's grown that way, currently our business is content with this as it is a way to distinct ourselves in this way."*
- **TU: "***We are currently considering to set up a sustainability report, so integrated reporting is a step too far now."*
- **SABIC: "***We are not that far with reporting yet, that we are going to apply integrated reporting."*
- **VION: "***Reporting about sustainability is not in our prospect for the time being, integrated reporting is therefore certainly not a question."*

5.4.4 Contact with organisations like IUCN / NGO's

It is interesting to know whether the businesses are familiar with organisations like IUCN, which can help to understand reporting indicators, and risks and opportunities of biodiversity. When a business is in contact with such an organization, this means the business wants to go further than just meet the reporting units, and wants to understand the business' impact on biodiversity and how to change /reduce this. After asking this question to the businesses, it appears that three businesses are cooperating with IUCN in the Leaders for Nature project or within a Green Deal (sustainability initiative supported by the government):

- **DSM: "***We started working together with IUCN in the Leaders for Nature project to exchange knowledge and ideas, and find solutions for the problems there exist together."*
- **AkzoNobel:** "*Our membership of the (IUCN), and the Leaders for Nature project in which we participate, is in place since 2006. This business engagement network increases awareness and inspiration for AkzoNobel employees.*"
- **BAM:** *"We are working together with IUCN and other businesses within a Green Deal, which is about natural capital."*

Four other businesses are having a partnership with the organisation WWF, or are regularly in conversation with such NGO's or commissions:

- **Ahold:** *"We have a formal partnership with WWF, and are always interested in working together with other organisations to explore how we can strengthen each other."*
- **Eneco: "***We have a partnership with WWF since 3 years. At their insistence, biodiversity is now becoming a theme in our contract with them, and that a strategy will be developed for a project in the next 3 years."*
- **VION:** *"We are regularly in conversation with NGO's like WWF within the organisation of GlobalGap. All NGO's that want to join us have an open invitation for that."*
- **SABIC: "***We often ask the input and opinion of NGO's, mainly through commissions. They can*

evaluate the sustainability of raw materials we use on the basis of their conditions. In that way we want to conform to sustainability parameters which include biodiversity, like land use change, to obtain certifications. We only want to use the exactly right sustainability claim on our products, as we want to retain our good name."

For the last two businesses, having contact with an organisation like IUCN is less relevant. For **Technische Unie** because this business is not yet that active with CSR and reporting about this. It could become relevant for this business in the future though, due to its (indirect) impact on biodiversity. **Achmea** also doesn't have contact with IUCN because the business has an indirect impact on biodiversity. The business more collaborates with other organisations like ASN Bank, on fields related to their financial services.

5.4.5 Choice for way/method of reporting on biodiversity

To understand the choice for a certain way or method of reporting on biodiversity by the businesses, the businesses were asked if they can explain what underlies their way of reporting. For four businesses it applies that their stakeholders play an important role in their way of reporting. These stakeholders are either asking for more information on biodiversity, or hardly ask anything at all about this subject:

- **Ahold:** *"According to some stakeholders you can't go far enough in reporting, out of the standpoint of transparency. They think we should be more specific because we report about the 6 commodity's, but why not about others."*
- **BAM: "***Our stakeholders determine the content of the report, and declare biodiversity isn't a material issue. Therefore it is not reported extensively."*
- **DSM: "***The methods that are currently available for reporting on biodiversity explicitly are not useable. They are too complex to be of interest for our stakeholders. It is not possible to make a simplified decision, or make a simplified visual representation out of the methods that are available at this moment."*
- **AkzoNobel:** "*The amount of biobased fuels we use is growing, and our stakeholders want us to use certified sustainable biomass so biodiversity isn't damaged. Reporting about that is an important part of it."*

This business considers that next to meet stakeholder demands, it is important to improve itself in the area of reporting about sustainability subjects:

- **SABIC:** *"Out of our own long-term vision, and to meet customer demands, but also from the viewpoint of social acceptance we want to work on sustainability. But as for reporting, there are businesses that have much better reporting than we do. You have to set yourself ambitious goals, which is still very far away for SABIC. But we want to improve every year."*

One of the businesses is not reporting extensively about biodiversity because it is a less relevant theme for them, with a too indirect impact:

- **Achmea:** *"It is not so relevant. In our Integrated report, we report about our responsible investment, and the enhanced engagements, which is what we can report in respect to biodiversity. We take biodiversity into account indirectly in our investments, but biodiversity is of course of indirect impact on the core business of a financial institution, an insurer like us."*

For three other businesses reporting about biodiversity is inapplicable, because they are either currently developing policy on biodiversity and related reporting (**TU, Eneco**), or not interested in reporting about biodiversity (**VION**).

5.4.6 Reporting and benchmarking

Businesses could be interested in reporting about sustainability issues to participate in benchmarks. These benchmarks show how well the business is doing with regard to these issues, compared with its competitors. It is interesting to know if the businesses are using their reporting for benchmarks, as this could be a reason to report about biodiversity. The replies show that all businesses, except for the two (**TU, VION**) that are not reporting about sustainability (yet), are participating in a benchmark in some way. Three businesses remark that biodiversity is not represented well in the benchmarks that exist currently:

- **DSM:** *"We are compared more and more by Dow Jones and such, mainly because of fossil resources and fuels. But specifically biodiversity is not well represented in these benchmarks. Environmentalists should lobby more at these kind of rating agencies to scale in biodiversity better."*
- **BAM:** *"There is a benchmark for the quality of sustainability reporting, the transparency benchmark. In our sector, we have been on the top of that benchmark for years now. But I don't think there is anything specific about biodiversity in that benchmark."*
- **AkzoNobel:** *"We are for example in the Transparency benchmark, but this is not quite specifically aimed at biodiversity."*

These two businesses indicate that the benchmark showed that they lag behind their competitors, and that this leads to the wish to improve, in order to finish higher in the benchmark:

- **Eneco:** *"We participated in a benchmark for sustainability in the energy sector. It showed that we are falling behind in the field of sustainability currently, compared to other businesses. We acknowledge we should take action, because we don't want to fall behind."*
- **SABIC**: *"There are benchmarks for sustainability, like the Dow Jones Index. But other chemical businesses score much higher on these benchmarks, we can still learn a lot from them."*

One business explains it sees its internal competitor analysis as a kind of benchmark:

- **Ahold:** *"We carry out an annual competitor analysis, in which we compare our targets on sustainability with those of our competitors. We do this to see what we can learn from them."*

Finally, this business refers to the costs of benchmarks as a disadvantage:

- **Achmea:** *"But overall all parts of CSR cost more than they bring, also joining benchmarks from NGO's, it all costs money. But we participate because the society expects us to do that, our licence to operate for investing in a responsible way."*

5.5 Motivation for biodiversity reporting

This section discusses different matters that can be of importance for businesses in their motivation whether to report or not about biodiversity. The objective is to find out what is of affect to their reporting behaviour, according to the businesses themselves.

5.5.1 Reason for biodiversity reporting

It is useful to understand if a certain occasion or opinion caused that a business currently is or isn't reporting about biodiversity. Therefore the businesses were asked why they (don't) report about biodiversity, and if there is something that has led to make the decision for this. For four businesses it is currently not yet clear if they are going to report (more extensively) about biodiversity in the future. Several motives to report on biodiversity are mentioned by these four businesses; continuity, anticipating to risks, social responsibility, reputation, licence to operate, meeting customer demands and staying ahead of competitors:

- **TU:** *"Continuity is important for our business and because we are a demand and trade driven organisation, we see a lot of opportunities in sustainable products. So currently we are developing a sustainability policy with KPI's and goals that we can report about. Whether this will be with regard to biodiversity, we do not know yet."*
- **Achmea:** *"Biodiversity risks for businesses can indirectly affect financial institutions, therefore it becomes increasingly important to deal with these risks. Besides that, society expects us to handle in a responsible way and we don't want to have a negative reputation, to maintain our licence to operate."*
- **BAM:** *"We don't report extensively about biodiversity, but the attention for the issue itself is because some clients are asking for biodiversity positive solutions, out our own personal interest and the conformation that taking into account nature can work successfully."*
- **SABIC:** *"We still want to be able to produce products in 30 years from now, so we are searching for alternatives for our resources to prevent exhaustion of fossil fuels. This will reduce environmental impact, clients are asking for these kind of products as well. This could lead to interesting new innovative products for our portfolio, allowing us to take the lead on our competitors."*

Then two businesses indicate that they currently are not reporting about (specifically) biodiversity, but this will possibly be extended or implemented in the future. For one business this is a matter of materiality, for the other business it is more seen as part of the strategy the business chooses. The latter also mentions that a method for the measurability of biodiversity is still lacking, which makes that the business is not yet reporting:

- **Ahold:** *"We have too many products to report on specifically biodiversity externally, so this is only done internally. For the future the level of reporting depends on the outcome of our materiality index. If turns out biodiversity gets a high result, we know we really have to take action. Then it will not be an option to have no policy on this issue. So on the base of this matrix the priority of biodiversity could become higher, but at the moment there are no plans for it."*
- **Eneco:** *"Biodiversity is an important theme within our business, but because it is still difficult to measure biodiversity, we don't have KPI's or goals for it yet. Biodiversity is part of the One Planet strategy (WWF), in which we aim to stay within the carrying capacity of the earth with our value chains and clients. Seen the coming bio-economy and European regulations, reporting about biodiversity seems a logical consequence as part of dealing with sustainability."*

One of the business is pretty sure that it will apply reporting about biodiversity even more in the future. The business is aware of the impact it has on biodiversity through the use of raw materials and wants to pursue transparency:

AkzoNobel: *"Reporting on biodiversity is becoming increasingly important for us as a business. Because the raw materials we use, the amount of bio-based materials, is growing. And that affects biodiversity, and we want to be as transparent as possible about this."*

Two businesses are deliberately not reporting (in an extensive way) about biodiversity. This is because the business thinks that there are other ways of communicating information, and it is also too labour-intensive to report about these kind of issues. The other business isn't reporting (extensively) because stakeholders are not asking for it, biodiversity is hard to quantify and has no priority:

- **VION:** *"We are not reporting on sustainability issues in special, separate reports because all the information is already public on our website and via Skal. There are other ways to provide insight in things. Besides that we are not capable to make a separate report for all the different issues there are, like food security, environment, biodiversity, animal welfare, it's too much work."*
- **DSM:** *"We try to follow the GRI guidelines for the part of biodiversity, although it is hard to follow exactly, mainly the land use part. None of our stakeholders is asking for this kind of information, therefore it is not elaborated in our report. At the same time clients are increasingly preferring sustainable products, but within their budget. Biodiversity is hard to quantify and won't make money. Therefore it has no priority to put targets on and report about it."*

5.5.2 Governmental policies, laws and/or regulations

In order to identify if certain laws or regulations can be a motive for the businesses to report on biodiversity, the businesses were asked if they are aware of any policies, laws and/or regulations that might be of influence. The first two businesses noted that they especially notice the differences in legislation between different countries and in particular continents, although more in general than specifically concerning biodiversity. One business says that the Dutch and EU laws are more advanced than the laws outside the EU, the other business' opinion is that the Dutch government is not capable of keeping regulations under control:

- **Ahold:** *"What makes it difficult for us, is that NL and EU laws and regulations has much higher standards than for example in the US. Certain things that are very common in the US, may already be prohibited by law in NL. For our policy this means we ask a separate requirement in our business in the US, while this is no longer necessary in NL because everyone already meets the requirements, as the government already has committed it by law. NL and EU are much more advanced in regulations."*
- **VION:** *"Foreign products that are imported are under supervision of both the Dutch legislation as well as that of the other country. It is complex because the consumer wants that there is dealt well with the regulations, but the government doesn't have the capacity to actually control everything. Thereby political programmes and priorities change quickly, policies disappear sometimes and this could happen to biodiversity too. That is why our business chooses to work towards organising things in private standards, to ensure the quality of standards."*

Two other businesses are convinced legislation relating to biodiversity is coming, and want to be prepared for this:

- **AkzoNobel:** *"There is no specific legislation on biodiversity yet, but we are trying to stay ahead of it, preparing for that it will come."*
- **Eneco**: *"We want to anticipate to coming legislation in respect to biodiversity, for instance a*

reporting obligation. Our goal is to be leading in this rather than have to follow."

For this business, regulations around sustainable materials, like wood, are important. The business indicates that despite the EU law for sustainable certified wood, it is still allowed to import non-sustainable wood in The Netherlands. This legislation therefore is contradictory:

- **BAM**: "*The general demand of society is to buy and use sustainable wood, but it is still legal to import non-sustainable wood. Dutch commissioners are buying sustainable products more because of compliance of the EU law, than choosing for it voluntary. The government shows it is not an important issue for them by purchasing only 50% of the wood sustainably. Our business is working with 100% sustainable certified wood."*

Legislation is important for this businesses because of the risk it carries for the businesses it invests in, these businesses can lose their licence to operate when they do not meet the requirements of the law. Therefore it affects this business indirectly:

- **Achmea:** *"In the coming years it may turn out that we insure a business which is performing bad in terms of sustainability or biodiversity. Then as an insurance business we have the risk that we invest in a business that later has no longer a license to operate, because of legislation it cannot fully implement its business operations. So indirectly legislation can affect us as an insurer."*

This business indicates that it has little to do with legislation in areas like biodiversity, the business is more a link between supplier and customer. Legislation is therefore less relevant for this business:

- **TU:** *"We are a link between the producing supplier to the end customer, and we try to be an optimal link in that. But we are also very much dependent on what our suppliers have to offer us and what our customers ask us."*

Another business indicates that the legislation on which they have to comply with is directed to climate measures:

- **SABIC:** *"The overarching legislation comes from the EU, the climate goals it has set itself. We have to meet these regulations, that's basically what gives our activities direction. If we would not do anything, that would just cost more money. We need to invest in technologies to emit less CO2, or buy rights on the market. The rights are expensive and therefore are in fact an incentive to emit less."*

According to this business legislation is not conclusive, because businesses then only apply the minimum demands and don't take initiatives themselves:

- **DSM:** *"Legislation is a short term solution. It drives a number of businesses in the right direction. But it can also mean that businesses end up in trouble, because the competition is still there. Then they only meet legislation because they have to, rather than wanting to make a difference themselves."*

5.5.3 Extra value of biodiversity and the role of stakeholders

Reporting on issues like biodiversity can provide additional value to a business, but also stakeholders can play a role in the choice to report on this issue. The businesses were asked whether this is applicable to them. For these three businesses, NGO's are the most important stakeholders, with whom they decide together in what way biodiversity can provide extra value:

- **Ahold:** *"Mainly the stakeholder group of NGO's committed us to have targets on biodiversity*

issues. We are reporting on these targets, and investors start asking questions on why targets are not reached. "

- **VION:** *"Within GlobalGAP we regularly consult with various NGOs in the field of environment and animal welfare. We discuss the standards, with all those NGOs that are relevant there. We are very transparent about it and make it visible, and anyone can join."*
- **SABIC:** *"We seek the opinion of NGOs and committees on certain developments. We also have green deals with the government. Certifications are also important to show that we take with respect to environmental matters."*

For these two businesses stakeholders are important to involve in all kinds of cases, and reporting forms a means to do this:

- **AkzoNobel:** *"Our business follows best practice and is constantly working to improve its reporting. We engage stakeholders in our sustainability activities and reporting and truly value their feedback and input."*
- **Achmea:** "*Reporting is an important way of strengthening ties with our stakeholders: our customers, employees, (business) partners and shareholders. The aim of our report is to provide a comprehensive overview of our organization, to demonstrate the links between our strategy, governance and the social and economic context in which we operate."*

Most customers of this business are not interested in the theme of biodiversity, attention for this comes more from the business itself:

- **BAM:** *"Only few of our commissioners do care about issues like biodiversity, our yearly stakeholder dialogue shows that the interest of our stakeholders (clients, suppliers, NGO's, social representations, employees) in biodiversity is very low. Biodiversity is included in our business principles, we are putting more weight to the issue than our stakeholders do. Thereby it is harder to 'sell' biodiversity than generally known aspects like green and water."*

This business knows that its activities on CSR are appreciated by stakeholders, but that there is also room for improvement:

- **TU:** *"The activities we do for CSR are appreciated by our stakeholders, that is our image. We can definitely score better, but considering our level of impact and type of branch we are doing quite well. The main impact is within the products and their chain of our suppliers, so we have only limited influence."*

This business believes that the theme of biodiversity can help to create added value by positioning itself with it:

- **Eneco:** *"The theme biodiversity provides us a chance to profile ourselves in that area, as sustainable energy company."*

This business is focused on keeping all factors of CSR balanced, in order to create an optimum way of adding extra value:

- **DSM:** *"We are constantly in search of themes that are of relevance for our business, that keep the aspects People, Planet and Profit in balance. When you care for planet, there should be attention for profit also. So we keep asking ourselves what provides our business extra value."*

5.5.4 Limitations and opportunities for improvement with regard to biodiversity reporting

As a final question, the businesses were asked what they think would help to improve the quality of biodiversity reporting, and what limitations they now see in that light. Each business has a different answer to this question, they will be discussed one by one here. Moreover, most businesses are talking more about the integration of biodiversity into the business in general than about the reporting of it.

According to Ahold, are the costs that the issue of biodiversity brings with it, seen as the biggest constraint now. It is not yet clear enough what it may bring when biodiversity is taken into account in the business strategy. Also for the customer the concept is too vague; biodiversity is difficult to translate into products. The government could eventually play a role by setting regulations, because within the sector there is too much competition to really tackle this kind of problem:

- **Ahold:** *"If it would be possible to show people and let them feel what kind of positive impact it has to take biodiversity into account, that would really help to arouse interest. The question is should the government take a role, or should businesses take the responsibility themselves. When things do get economically viable, it gets a lot more interesting for another part of the business to incorporate biodiversity. Right now biodiversity is in the theme of sustainability, and is seen as additional cost item, as certain certificates or suppliers are needed. Who should pay these extra costs, the business or the client. If the financial, commercial part of the business can be convinced that having a good management on biodiversity is profitable or gaining a new group of customers, it could work. It may be better to decide as supermarkets together, to not sell a product any longer because it damages the environment in the country of origin. Or even better, to increase the price of those products that have a negative impact over those that have a neutral or positive impact. But unfortunately that is not how it currently works, there is too much competition amongst supermarkets. The government might have a bigger role in this eventually, but this isn't always wanted by businesses either. "*

In addition, Ahold indicates that they might benefit from new technologies such as apps targeting the product level, allowing the business to reach a different and wider audience:
"What is interesting are all apps there are available on product level, like Questionmark for instance, this provides a lot of information on product level. These apps are very useful because they are on call basis, easy to use, clear by not showing too much information, but much more information than we can put into a report. It also reaches a whole other kind of public, apps are used more by the customers, while our sustainability report is mainly used by investors and other stakeholders."

The business VION is mainly looking for ways to deal with all sustainability issues in a right way at the same time, and therefore aims to implement complete systems that are most appropriate:

- **VION:** *"What works right for us is well functioning systems, which make the difference, are transparent for everybody, understandable for everybody and explainable everywhere. Things that cannot be explained, shouldn't be conducted any longer."*

Because there is still very little known about the whole concept of biodiversity, according to BAM, the pricing of biodiversity is not a good solution. The business believes that there is more interest for the use of the No Net Loss principle on a project base. Protocols to be able to report about biodiversity have to be developed:

- **BAM:** *"The difficulty with biodiversity is within the diversity. There still is no complete knowledge*

about the functioning of food chains, and it is very complicated to determine the cause and result of the threat to a chain by the loss of a species. Pricing, or expressing the value of biodiversity in money, is therefore probably not the best way to protect biodiversity. There is more to expect from handling the No Net Loss principle on a project base, to have a positive impact on biodiversity. Businesses have to deal with other important issues as well, so are considering which to give priority. Also aspects like waste and CO_2 emissions are more easy to communicate than biodiversity is. For biodiversity there are no convenient protocols available yet, which makes it difficult to report about it."

SABIC clearly indicates that it can use the help of NGO's in making workable objectives relating to biodiversity:

- **SABIC:** *"We are open to discuss themes like biodiversity with NGO's, to consider together with them which steps could be taken in our business on the way to a sustainable future. It would be useful to formulate achievable targets, and we need clear definitions to make it understandable for everyone."*

According to DSM, there should be even greater priority for biodiversity within NGOs. Also good, workable methods are needed to be able to measure and report biodiversity, as existing indicators are too complicated:

- **DSM:** *"Environmental NGO's should lobby more at rating bureau's to prioritize biodiversity more. Because the importance of biodiversity should be demonstrated more. Besides that, we need a proper method for reporting on biodiversity, a method to measure these kind of data is needed. The key-elements have to be translated to a concept with tools that are useful for the industry to start working with. Because existing indicators, like Mean Species Abundance for instance, are much too complicated, they are incomprehensible and unexplainable."*

Akzo Nobel is a business in the top level regarding to reporting, and say in that respect there is not much to improve:

- **AkzoNobel:** *"We are leading in integrated reporting, and are continuously in development with the aim of achieving the highest level."*

The three businesses **Eneco, TU** and **Achmea** are currently considering if and possibly how they want to report on biodiversity in the future. Therefore they could not answer this question yet. However, **Eneco** has indicated that the measurability of biodiversity constitutes a restriction.

5.6 Conclusions business interviews

The general conclusions that can be drawn from the results of the interviews will be elaborated in this part. This is done for the head parts Biodiversity, Reporting and Motivation. At the end of this section, the most important information per business is summarized in Table 9. Noted should be though that this group of businesses cannot represent the total of all businesses in The Netherlands, therefore this sample is too small.

5.6.1 Biodiversity

Relationship

The businesses state that their relation with biodiversity is mainly based on their products and certifications, innovation and development / frontrunner and continuity. For a few businesses the

indirect relation with biodiversity due to the type of business, or currently being in investigation of what this relationship is, are reasons for not being able to describe the relationship.

Impact
The majority of the businesses indicates that their business activities do have a global impact, which starts at the beginning of the chain. Other issues appear to be just as important or are regarded as more important, which makes it less a priority and more difficult to reduce impact. Some businesses think the responsibility is (partly) on the side of their suppliers.

Ecological information
Ecological information about the impact on biodiversity is for some businesses difficult to collect, because of the fact that biodiversity is hard to measure and the large number of suppliers and/or the distance to the suppliers. A few are collecting data themselves or make use of other parties to retrieve the needed data. Others request the information from suppliers, or might set demands towards suppliers concerning transparency about biodiversity. Some businesses make use of certain parameters, certifications or so called engagements related to biodiversity.

Opportunities and threats
The majority of the businesses see biodiversity as an opportunity, because of the improvement, development and emergence of products and / or projects. Potential risks that are mentioned are about the origin, sustainability and quality of resources, reputational risk, and extra costs.

Strategic management
Almost half of the businesses indicates that biodiversity is mentioned in their business strategy or policy. For the other half biodiversity has a more indirect influence on their businesses strategies. Biodiversity is important for their products, as customers are demanding sustainable products. The responsibilities of other parties in the product chain are also mentioned.

Business targets
The majority of the businesses doesn't have specific targets focused on biodiversity, goals are more aimed at sustainability in general or are covered within certifications or larger projects. A few businesses are considering to set targets focused on biodiversity in the future.

5.6.2 Reporting

CSR report
CSR reporting is for the majority of the businesses mainly about sustainability in general, rather than specifically on topics such as biodiversity. A single business doesn't report about CSR and isn't planning to, another one doesn't report currently either but is considering to start reporting about CSR in the future. A large part of the businesses does report on CSR issues, but not specifically biodiversity because this is not possible yet or too difficult. Those businesses that do report about biodiversity do this in an indirect way.

GRI guidelines
The majority of the businesses are following the GRI guidelines for reporting, sometimes for several years already. Mentioned by one of them is that GRI is too extensive to be able to use it properly.

The businesses that are not using GRI are either not reporting about CSR or are currently considering this.

Integrated reporting
About half of the businesses are applying integrated reporting. The other businesses aren't because they are not yet ready for this, or because they are not interested in reporting about CSR anyway.

IUCN / NGO's
Three of the businesses are cooperating with the organisation IUCN. Four other businesses have either a partnership with the organisation WWF, or are regularly in conversation with NGO's and commissions. For two businesses it is according to them less relevant to be in contact with one of these organisations, because the business is not active in CSR yet or their indirect relation with biodiversity.

Way of reporting
For almost half of the businesses, their stakeholders play an important role in the way of reporting. Stakeholders either ask for more information about biodiversity, or hardly ask anything at all about this subject. One business states that wanting to improve itself including business reporting, is an important incentive for their way of reporting. For the other three businesses reporting about biodiversity is less relevant or inapplicable, because of their indirect relationship with biodiversity or disinterest in CSR reporting.

Benchmarking
All businesses, except for the two that are not reporting about sustainability (yet), are participating in a benchmark in some way. Three businesses remark that biodiversity is not represented well in the benchmarks that currently exist. Two businesses note that the benchmark showed that they lag behind their competitors, and that this leads to the wish to improve. One business sees its internal competitor analysis as a kind of benchmark. The costs of benchmarks are seen as a disadvantage.

5.6.3 Motivation

Reason for biodiversity reporting
For four businesses it is currently not yet clear if they are going to report (more extensively) about biodiversity in the future. Their motives to report on biodiversity are: continuity, anticipating to risks, social responsibility, reputation, licence to operate, meeting customer demands and staying ahead of competitors. Two others don't report about (specifically) biodiversity, but this will possibly be extended or implemented in the future. This is either a matter of materiality, or it is more seen as part of the strategy the business chooses. Also mentioned is that a method for the measurability of biodiversity is still lacking. One business will increasingly apply reporting about biodiversity in the future. The business is aware of the impact it has on biodiversity and wants to pursue transparency. Two businesses that are deliberately not reporting about biodiversity because the business thinks that there are other ways of communicating information, and it is also too labour-intensive. Other reasons are because stakeholders are not asking for it, biodiversity is hard to quantify and has no priority.

Legislation

Two businesses notice the differences in legislation between different countries and in particular continents, although more in general than specifically concerning biodiversity. They say the Dutch and EU laws are more advanced than outside these areas, but also that the Dutch government is not capable of keeping regulations under control. This business chooses to work towards organising things in private standards. Two other businesses are convinced legislation relating to biodiversity is coming, and want to be prepared for this. One business argues that Dutch legislation around sustainable or biodiversity related products can be contradictory. For the other businesses legislation is less relevant or affects it indirectly, or is directed to climate measures. One business states legislation is not conclusive, because businesses then only apply the minimum demands and don't take initiatives themselves.

Extra value and stakeholders

For three businesses, NGO's are the most important stakeholders, with whom they decide together in what way biodiversity can provide extra value. For two businesses stakeholders are important to involve in all kinds of cases, and reporting forms a means to do this. One business states customers are not interested in the theme of biodiversity, attention for this comes more from the business itself. Another business states its activities on CSR are appreciated by stakeholders, but that there is also room for improvement. One business believes that the theme of biodiversity can help to create added value by positioning itself with the theme. Another business is focused on keeping all factors of CSR balanced, in order to create an optimal way of adding extra value.

Limitations and improvements

One business argues that the costs that the issue of biodiversity brings with it, are seen as the biggest constraint. It is not clear enough yet what advantages biodiversity can bring for the business. Also for the customer the concept is too vague; biodiversity is difficult to translate into products. The government could eventually play a role by setting regulations, because within the sector there is too much competition to really tackle this kind of problem. The business indicates that they might benefit from new technologies such as apps targeting the product level, allowing the business to reach a different and wider audience. Another business is mainly looking for ways to deal with all sustainability issues in a right way at the same time, and therefore aims to implement complete systems that are most appropriate. According to one business, there is still very little known about the whole concept of biodiversity, therefore the pricing of biodiversity is not a good solution. The business believes that there is more interest for the use of the No Net Loss principle on a project base. Also, protocols to be able to report about biodiversity have to be developed. Another business indicates that it can use the help of NGO's in making workable objectives relating to biodiversity. One of the business states there should be even greater priority for biodiversity within NGOs. Also good, workable methods are needed to be able to measure and report biodiversity, as existing indicators are too complicated. Another business also argues that the measurability of biodiversity constitutes a restriction. Moreover, most businesses are talking more about the integration of biodiversity into the business in general than about the reporting of it. This indicates that the concept of biodiversity isn't very much alive yet in most businesses, and without concrete goals on biodiversity to start with, it's not possible to report properly about it either.

Business	Risk zone	Re-ports ?	Why (not) reporting biodiversity:	Relation	Impact	Stake-holders of influence	IR	GRI	Limitations	Improvements
Ahold	Red	Yes, but decre ased dra-ma-tically	Low in materiality index. Too many different products	Products	Indirect	NGO's	No	Yes but are seen as com-plex	Costs. Collecting ecological data	Make biodiversity profitable or gaining new costumers
TU	Amber	No	Not obliged to bring out reports	Products	Indirect	Costumers	No	No	CSR policy not yet suitable to report	Transparency, set demands on suppliers
Akzo Nobel	Amber	Yes	Stay ahead of future legislation	Raw materials	Indirect	Costumers	Yes	Yes	Reliance on fossil materials	Frontrunner
Achmea	Amber	No	Indirect relationship	choice of invest-ments	Indirect	Society	Yes	Yes	Reporting not relevant because of indirect relationship	Take into account biodiversity risks for license to operate
VION	Red	No	Not capable (time+ money) to make a separate CSR report	fodder suppliers	Indirect	NGO's	No	No	Many different occurring issues, many suppliers. Governmental regulations	Setting minimal standards for all issues within whole supply chain; private standards
BAM	Red	Yes	Interested clients, own interest of BAM, taking into account nature can indeed work successfully	Materials and building environ-ment	Both indirect and direct	Costumers	Yes	Yes	Stakeholders declare it's not an important or material issue. Calculation methods for biodiversity.	No Net Loss principle on project base
SABIC	Amber	Yes (de-crea-sing)	Reporting driven from international organization , national projects not visible	Raw materials	Both indirect and direct	NGO's, costumers	No	Yes	Aimed at making products more sustainable, than at having specific targets on biodiversity	Taking into account whole supply chain. Collaboration with NGO's to determine impact on biodiversity
Eneco	Red	No	Currently investigating impact on biodiversity	Raw materials and environ-ment	Both indirect and direct	NGO's, costumers	Yes	Yes	Biodiversity cannot be measured well enough yet	Implement biodiversity action plans, eventually achieve No Net Loss situation
DSM	Red	Yes	Participation IUCN LfN project, following GRI guidelines	Raw materials	Direct and indirect	NGO's, costumers, society	Yes	Yes	Stakeholders not interested due to complex measuring methods	Benchmarks that represent biodiversity well. Proper method for measuring + reporting biodiversity

Table 9: Summary of most important interview results per business

6 Discussion

This chapter consists of three parts. The first part (6.1) reflects on the findings of the research while relating them to current literature. Then, in 6.2 the theoretical framework that is used is discussed. Lastly, the methodology of this study will be reviewed in 6.3.

6.1. Reflection on results

6.1.1 State of biodiversity reporting

The principal purpose of this research was to provide an analysis of the current state of biodiversity reporting by Dutch businesses, and their intentions behind their way of reporting. Literature showed that biodiversity is scarcely mentioned in business reports from over the world. Of the annual reports of the 100 largest businesses in the world, only 18 businesses mentioned biodiversity or ecosystems (PwC, 2008). Rimmel and Jonäll (2013) indicate that only 9 out of the 29 business in their study, provided information regarding biodiversity in their business reports. In Denmark, 9 out of 24 businesses reported about biodiversity in a three year period, according to Van Liempd & Busch (2013). So far, nothing can be found in literature about specifically biodiversity reporting by Dutch businesses. The results of this study, focused on biodiversity reporting by Dutch businesses, show that over a five year period, 70% of the 50 businesses has mentioned biodiversity at least once in one of their reports. Almost one third of these business thus reports nothing in the period 2010 to 2014, and the businesses that did report on biodiversity have not always been consistent. In addition, there appear to be large differences in the quantity and quality of the information on biodiversity in the investigated reports.

6.1.2 Amount of reporting

The results have shown that there has been a growth in reporting about biodiversity from 2010 to 2014, both in the amount of biodiversity disclosures as the number of businesses that is reporting. Both are also in a declining rate in the last year or two years. The percentage of businesses that has been reporting in one or more years, has increased by 16% from 2010 to 2012, and decreases with 4% in 2014. But when considering each of the investigated years separately, 21 to 29 of the total of 50 businesses doesn't report on biodiversity, which is 42 to 58%. So on average, only a little more than 50% of the investigated businesses reports about biodiversity (at least once) in the years 2010 to 2014. The total number of biodiversity disclosures per year, almost doubled within three to four years from 69 in 2010, to 138 in 2013, where after it decreases a little to 130 in 2014. This indicates that the businesses that report on biodiversity have done this more extensively, but the number of businesses itself has remained virtually unchanged. The expectation would be that in the meantime, the part of businesses that is reporting on biodiversity is larger now, in comparison with the results from the aforementioned studies (in 6.1.1) which have been conducted in the years 2008 to 2011. In this period, towards 2014, it was to be expected that much more businesses could have developed themselves and have been able to gather information about their impact on biodiversity. But in reality, this number of businesses apparently has not increased much, and the trend in which only a portion of the businesses pays attention to biodiversity continues.

6.1.3 Different sectors and biodiversity risk zones

The study results show that there is a great difference between sectors with respect to the percentage of businesses that is reporting on biodiversity. In some sectors only about 50% of the business reported on biodiversity during the five year period, other sectors score up to 89%. The Financial services sector has the lowest number of biodiversity category disclosures; the Raw material extractions sector shows the highest numbers of these disclosures. Bergsma *et al.* (2014) examined to what extent various business sectors reported on relevant pressure factors related to biodiversity. Although there some other sectors are taken into account, their study gained similar results in the sense that there are great differences in reporting between sectors. According to Bergsma *et al.* (2014), the chemical industry reports extensively, the agricultural sector and the timber industry do (almost) not report about biodiversity at all.

As expected, because of the higher risk of these businesses, the results show that the amount of businesses reporting about biodiversity in the red zone has been increasing over time. The green and amber zone demonstrate decreasing numbers. Nevertheless, no significant difference was found in the percentages between reporting businesses in the red, amber and green zone. Similar results have been found by Van Liempd & Busch (2013), statistical tests show that there is no significant difference among the three risk categories groups of businesses in their study. They state that this is contradicting the findings of the F&C report (F&C Asset Management, 2004), which suggests that there should be differences in biodiversity disclosure between risk categories. Overall, there does not seem to be a relationship between red-zone sector businesses and their propensity for biodiversity disclosure, as was expected because for these businesses it is the most important to take biodiversity and related risks into account.

6.1.4 Quality of reporting

The quality of biodiversity reporting in the reports of the 50 businesses in this study was investigated by analysing which biodiversity category elements are reported on. Here it turned out that of the 35 businesses that reported about biodiversity, every business applied on average 3 (out of the 18) category elements per year or report. But there are great differences between the businesses, from 1 up to 13 applied biodiversity categories per business per report. Bergsma *et al.* (2014) also stated that the information on biodiversity provided by businesses in their annual reports varies greatly between businesses. The elements that are applied most in the Dutch business reports are 'GRI', 'Partnerships' and 'Mission statement'. The element 'Awards' has not been applied by any of the businesses, in any year. 'BAP' (Biodiversity Action Plans), 'Surveys' and 'Biodiversity Officer' are n either popular. Similar results were also found in reports from businesses in Denmark, where 'Mission statement', 'Risk management', 'Materiality' and 'GRI' were the overall most disclosed categories (Van Liempd & Busch, 2013). Van Liempd & Busch (2013) state that even though the businesses acknowledge the potential risk for ecosystems, they do not explicitly report on these statistics, results or targets. The same applies to the reports of the Dutch businesses, these also rarely contain specific targets or results about biodiversity. Financial institutions in the study of Van Liempd & Busch (2013) list Global Reporting Initiative (GRI) environmental indicators on biodiversity in their annual report, but consider them as "not applicable" or "not relevant" to the business. The same can be concluded for financial businesses in the Netherlands, which is expected due to the indirect relationship they have with biodiversity. Also Rimmel and Jonäll (2013) found that when businesses do provide biodiversity disclosure, this is basically done as GRI indicators. In other words, biodiversity is mentioned, but no further information is given that provides context. Most businesses relate to biodiversity indirectly in

their reports, with respect to the emission of greenhouse gasses and carbon footprint. CLM/LNV (2010) also stated that sustainability reports are mainly aimed at climate issues, and not so much at biodiversity. For example, according to Bergsma *et al.* (2014), land use is not quantitatively reported by sectors such as agriculture and the timber industry, while this would be expected from these sectors with respect to their impact. The results have shown that in 84% of the cases, business reports contain 1 to 7 different biodiversity category elements. And in 16% of the reports 8 to 14 different elements are applied. So the majority of the businesses reports about less than 8 biodiversity category elements. Van Liempd & Busch (2013) found in their study that even more than one-third (36,8 percent) of the 19 reporting categories were empty of scores, in total only 28 scores were counted for all 24 businesses over a three-year period. According to PwC (2008), only 24 out of 89 businesses in their research described actions to reduce impacts on biodiversity, and 9 businesses identified biodiversity as a key sustainability issue. The numbers of this study and those of previous researches, indicate that reporting quality with respect to biodiversity is low overall, biodiversity disclosure is minimalistic and general. As pointed out by Rimmel and Jonäll (2013), when businesses make statements related to biodiversity, these statements seldom reveal in-depth information. Rather, businesses discuss environmental impact only in a broad context. These results are unexpected because despite that more biodiversity category elements have been reported during the investigated years, no significant increase in specific information on biodiversity is provided by the businesses.

6.1.5 Business motivations

Relationship with biodiversity

A large part of the businesses have indicated that their relationship is based on the products they buy, make and/or sell. Van Liempd & Busch (2013) discovered the same in their study and therefore suggest that typology by Grabsch *et al.*(2011) could be extended by adding a category called Products. Here, businesses then can describe the benefits their products or services have for biodiversity. Van Liempd & Busch (2013) argue that this Products category could be a be a genuine reporting category since it does convey important information to stakeholders. Another frequent relation to biodiversity that was named by the businesses is the certifications they work with, which contain requirements concerning biodiversity. The conclusions of the study of Bergsma *et al.* (2014) reveal however, that certification does not always result in halting the loss of biodiversity. For example, this study argues that the production of certified wood still causes biodiversity loss as the rotation time is shorter than the time the forest ecosystem requires to recover from the harvest. Furthermore, there are businesses that state they only have an indirect relationship with biodiversity and therefore have no impact. Rimmel and Jonäll (2013) also found that businesses dismiss biodiversity concerns as irrelevant since they claim their activities have no negative impact on the environment.

Opportunities and threats

The majority of the businesses indicated to see biodiversity as an opportunity, because of the improvement, development and emergence of products and / or projects. According to Bergsma *et al.* (2014), adopting a policy like No Net Loss or Net Positive Impact, has a much larger impact in businesses as it makes employees aware that natural resources are not for free and unlimitedly available. For these businesses biodiversity becomes an opportunity instead of a risk, as this awareness drives the design of processes and facilities to become resource-efficient, and ultimately

innovation, according to Bergsma *et al.* (2014). Van Liempd & Busch (2013) indicate that the business sector in general is beginning to notice the risks and opportunities posed by biodiversity loss, which is also indicated by other studies (WBCSD *et al.*, 2006; Makower and GreenBiz.com, 2011; PWC, 2011).

Legislation

Reporting about biodiversity is not required in the Netherlands, businesses do this on voluntary basis. The results show there is a lot of disunity amongst the businesses concerning legislation about biodiversity. Some think that this it will come eventually, others think it does not concern them or are against legislation. According to Bergsma *et al.* (2014), businesses in some sectors don't report information about biodiversity externally because this is not required. Also, the businesses in the study of Bergsma *et al.* (2014) have indicated they need more guidance from the government about biodiversity reporting, they find it logical if a gradual introduction of mandatory reporting of the biodiversity impacts of businesses is coming. It therefore is an obvious consequence that a number of businesses in this research is already preparing for possible future legislation. Until then, Bergsma *et al.* (2014) states, businesses will have to be encouraged to voluntarily get biodiversity reporting started. According to Van Liempd & Busch (2013), the Danish legislature does require businesses to describe their impact on the external environment and on measures to prevent, reduce or remedy any damage to the environment in annual report. But because there are no guidelines with regard to disclosing this information, anything from one sentence to a reference to a full environmental report will fulfil the law's requirement. Besides, there are no specific requirements to report explicitly on biodiversity in the Danish regulation. So in that there are no differences to the Dutch legislation. Van Liempd & Busch (2013) argue however that organizations like the UN and the EU will have to impose charters and legislation to promote action before the loss of biodiversity and ecosystem services is able to reduce human welfare to unacceptable levels. Also in Sweden, the mandatory biodiversity disclosure requirements for businesses are very limited, Rimmel and Jonäll (2013) state. Biodiversity disclosures by Swedish businesses are therefore mainly voluntary disclosures, and also this does not deviate from the Dutch situation.

GRI guidelines

It comes as no surprise that the majority of the businesses are following the GRI guidelines for reporting, as since this is a common and widely used method in sustainability reporting (GRI, 2006). According to Bergsma *et al.* (2014), GRI gives guidance to report on the impact on biodiversity, but none of the surveyed businesses used it yet at the time of research. Also Rimmel and Jonäll (2013) found that businesses see the GRI reporting framework as a facilitator for sustainability reporting, as the technical protocol and guidance enhance the reporting of specific areas of interest such as biodiversity disclosure, which develops over time. They also state this is in line with previous research (Brown *et al.,* 2009; Burritt and Schaltegger, 2010). According to Milne *et al.* (2009), the GRI guidelines provide an entity-focused view of sustainable development that enables businesses to turn sustainable development into actions by integrating it into their business practices. Nevertheless, some businesses mentioned that the GRI guidelines are too extensive and therefore not easy to use. This is also emphasized by Moneva *et al.* (2006), where the GRI indicators are criticized as being too broad and too de-contextualized. Furthermore, moving on to Integrated Reporting will currently be a step to far for many Dutch businesses.

Benchmarking

The majority of the reporting businesses are participating in a benchmark in some way. But these are not explicitly focused on biodiversity, as a number of businesses indicate that this theme is not well represented in benchmarks currently. This is the consequence of the fact that in many sectors not enough data on biodiversity is reported publicly to benchmark businesses well, states Bergsma *et al.* (2014). Bergsma *et al.* (2014) therefore argue that a first step is the increase of transparency by businesses. At the same time, Rimmel and Jonäll (2013) point out that according the F&C report (F&C Asset Management, 2004), which examined the biodiversity risks businesses are exposed to, biodiversity disclosure is directly relevant to the capital markets' assessment of businesses' value.

Reasons for biodiversity reporting

There are several reasons mentioned by the businesses to (not) report about biodiversity. A frequently mentioned motive is that the business wants to keep a good reputation, and therefore deals with social responsibility and the public opinion. KPMG (2012) also states that there is increasing pressure on businesses by the public opinion and consumer behaviour to reduce their impact on biodiversity and ecosystems. Respondents in the research of Rimmel and Jonäll (2013) have also made statements about the necessity of responding to future changes in order to protect the businesses' good reputations. Grabsch *et al.* (2010) pointed out that biodiversity disclosure is a way to demonstrate care for stakeholders, as businesses have responsibilities to different stakeholder groups: the general public, shareholders and employees. Some of the businesses in this study however, argued that they don't report on biodiversity (extensively) for the reason that their stakeholders are not asking for information on biodiversity. Most businesses do mention that licence to operate is important, Bergsma *et al.* (2014) indicate that businesses that are frontrunners do so because of explicit licence to operate issues, but many other businesses apparently consider transparency on biodiversity as less important with respect to their licence to operate. In the light of this, many studies refer to legitimacy theory (Deegan, 2002), accountability theory (Gray *et al.,* 1996) or risk management theory (Bebbington *et al.,* 2008). These theories suggest that if biodiversity is a concern for businesses and their stakeholders, businesses should also report to their stakeholders on biodiversity issues. Also, businesses that use sustainability disclosure, may be responding to threats to their legitimacy sequential to their environmental behaviour (Bebbington *et al.,* 2008; Milne *et al.,* 2009). Furthermore, businesses are expected to provide more information because of societal pressure according to legitimacy theory, as indicated by Patten (2002). Accountability theory (Gray *et al.,* 1995) suggests businesses are accountable to their stakeholders on economic, social and environmental performance. Van Liempd & Busch (2013) argue that businesses are not only accountable to present stakeholders, but also accountable to future generations. They thereby indicate the definition of sustainable development from the Brundtland report: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). This point relates to the motive some of the businesses in this study mentioned for reporting on biodiversity, which is continuity. As for example resources are becoming scarce, businesses have to anticipate to this to secure the continuity of their business activities, again customer demand plays a role here as more often customers want sustainable products. The same is argued by Jones (1996), businesses are morally accountable to their stakeholders at the very least, and arguably to society for the natural assets that they own and for the actions that they take that have an impact on the environment. Jones (1996) also states that good environmental practice is good business practice, environmental pressures should be seen as opportunities for businesses, and

a business attitude to the environment as benchmark of its commitment to innovation and good management. According to Jones (1996), those businesses that set the pace on environmental issues will be seen as the leaders of the corporate sector. That is exactly what some businesses in this study indicated they want to accomplish, they want to stay ahead of their competitors by anticipating to risks and make biodiversity an opportunity for innovation. This leads to risk management theory (Bebbington *et al.,* 2008), which suggests businesses should report to their stakeholders on the environmental risks the business is exposed to. This theory is endorsed by Van Liempd & Busch (2013) who argue that businesses should be transparent and report on how they manage and diminish exposure to these risks. Rimmel and Jonäll (2013) also found that businesses in their study understand and acknowledge the risk component of biodiversity, and that the financially-related aspect of biodiversity management can facilitate the business' interest in biodiversity in order to reduce potential future costs and liabilities. On the other side, Rimmel and Jonäll (2013) argue that ecological disasters, corporate reputational damage and financial losses may not necessarily lead to improved biodiversity stewardship. Van Liempd & Busch (2013) mention for example, a global beer business addresses the issue of water scarcity, but only with respect to risk management in that "a continuous supply of affordable water is a key prerequisite for the business ambition to be the fastest growing global beer brewer". This issue is also reflected in the commentary of some of the businesses in this study, as for some of them biodiversity is not a material issue, it is not a priority of the business and is therefore not part of the business strategy. Biodiversity is then more seen as a constraint which brings extra costs. McWilliams and Siegel (2001) state however, that there is some level of CSR that will maximize profits while satisfying the demands for CSR from multiple stakeholders. Another reason that a few businesses mention for not reporting on biodiversity, is that it is currently too early to report on biodiversity because they don't have enough information to report on yet. The same argument was found by the study of Bergsma *et al.* (2014). Another argument that is often mentioned is that information about biodiversity is difficult to collect, biodiversity is hard to quantify and therefore not easy to report on. CLM/LNV (2010) agrees upon the fact that for biodiversity no simple indicators for reporting exist (yet). Rimmel and Jonäll (2013) also indicate that respondents in their study argue that information on biodiversity disclosure might be difficult to collect because their environmental systems are quite different from their accounting information systems. Furthermore, Van Liempd & Busch (2013) point out that measurement and quantification, including valuation, are very difficult for non-financial information, including biodiversity and ecosystem metrics and measures.

Stakeholders – NGO's

As mentioned before, for businesses stakeholders are an important reason to report about biodiversity. A large part of the businesses in this study mentioned that NGO's are (one of) their most important stakeholders in relation to managing biodiversity. A large portion of these businesses has already formed a partnership with an NGO, or is willing to do this in the future. Bergsma *et al.* (2014) indicate that partnerships between NGO's and businesses highlight the benefits of reducing the biodiversity footprint. Also Van Liempd & Busch (2013) argue that businesses should build relationships with NGO's on biodiversity issues, in order that the business' vision and mission will include relevant and material issues. Furthermore, as Van Liempd & Busch (2013) argue, businesses should report on this social engagement, any partnerships formed and other stakeholder initiatives. Rimmel and Jonäll (2013) indicate that the infrequency of interaction with pressure groups (including NGO's) may be a reason for the low level of biodiversity disclosure.

Limitations and improvements

The most often mentioned limitation concerning biodiversity reporting by businesses in this study, is that biodiversity is difficult to measure and methods for this are lacking. This was already pointed out by Hammond *et al.* (1995), who remark that if each country is using different indicators or methodologies, opportunities for countries to cooperate to solve global or continent-wide environmental issues may be missed. Hammond *et al.* (1995) therefore argue that consensus on which indicators to develop and which methodologies to use must be reached. In the meantime, initiatives like GRI and TEEB have been developed, but as Van Liempd & Busch (2013) argue, more theoretical research is needed. Van Liempd & Busch (2013) explain that because accountants are no experts in biodiversity, standard setters should collaborate with scientists like ecologists, in order to collectively develop reporting categories for biodiversity. This is in line with the statements of some of the businesses in this study, which indicated that the existing indicators for biodiversity reporting are too complicated. However, Jones and Solomon (2013) argue that for the time being, it might be better to account poorly or inadequately for biodiversity than not to account at all. They explain that if accounting for biodiversity evolves the understanding of biodiversity, changes behaviour of businesses, acts as a call to action and raises awareness of the extinction of flora and fauna, then any form of accounting for biodiversity, however inaccurate is better than no reporting. Some of the businesses in this study indicated that the concept biodiversity is still quite vague, and therefore difficult to integrate in their business strategies and then report about it. Rimmel and Jonäll (2013) also found that biodiversity disclosure is a very new issue for businesses, and therefore it appears that businesses have not developed a clear strategy for providing biodiversity disclosure in their external reports. Furthermore, Rimmel and Jonäll (2013) even state that the term sustainability is vaguely used in corporate disclosures. Also Milne *et al.* (2009) showed that businesses might take a narrow economic and instrumental approach to the environment. According to most of the businesses in this study, this might be improved by the development of an adequate method for measuring and reporting biodiversity. CLM/LNV (2010) also emphasize the importance of good instruments to analyse and concretize the relationship between the business and biodiversity, which makes it able to report about biodiversity.

6.2 Reflection on theoretical framework

The concept of biodiversity is generally seen as a part of Corporate Social Responsibility (CSR), CSR is therefore taken as the basis of the theoretical framework of this study. The disadvantage of the concept CSR is the generality which comprises it. CSR contains so many different subjects, it gives businesses the freedom, and at the same time forces them to choose which topics they pay attention to. As CLM/LNV (2010) states, biodiversity is one of many sustainability issues, and may be included as part of the CSR policy of a business. And because biodiversity is often still seen as an unclear theme, businesses are less inclined to pay attention to this, or are confusing it with other, related topics. This is in line with what Jones and Solomon (2013) argue, namely that the term biodiversity might be a problem in itself because it is not immediately understandable, it sounds scientific and does not carry the concept of accountability for species and wildlife or the urgency of species extinction. Biodiversity is also often grouped under the concept sustainability. Bergsma *et al.* (2014) have also indicated that it is not always clear what exactly is understood by sustainability, and what targets within this are aimed at conserving biodiversity. Also Jones (1996) indicated that sustainable development remains a confused topic, with many latent contradictions. During the interviews

conducted in this study, it often happened that when talking about biodiversity, the answers of the businesses were actually about different or more general issues of CSR, or sustainability. Furthermore, as CLM/LNV (2010) pointed out, three dimensions of sustainability are distinguished: people (social aspects) planet (environmental issues and natural resources) and benefits (economic aspects). Often the focus is on only one of the dimensions. If the focus is on 'planet', then it is often referred to as 'green production'. Thereby it is often implicitly assumed that what is produced sustainably, is also good for biodiversity. The latter can however, not (yet) be supported by hard data, as Bergsma *et al.* (2014) argue. Also, an interesting question is if CSR is actually leading to significant changes and reduction of social and / or environmental impact. Or, as Laufer (2003) argues, 'greenwashing' could take place, in which businesses mainly talk about their intentions but where real improvements remain absent. However, the activities that businesses rank as CSR are of large diversity, also the concrete actions that businesses undertake vary widely, according to Burg and Overbeek (2012). CSR is therefore a less suitable concept to use when information about specifically biodiversity is desirable. Some of the questions for the interviews might have been too general in that sense, because these also were formulated on the basis of the subject CSR. The questions that were specifically on biodiversity, provided a lot of useful information though, because the answers often show how much knowledge a business has of biodiversity or to what level actions and/or reporting on biodiversity is implemented in the business.

The exploration of the relationship that businesses have with biodiversity, was useful in order to understand the interest that businesses have in acting on their impact on biodiversity. Also, to get to know where reporting concerning biodiversity should be about according to these businesses. As CLM/LNV (2010) pointed out that especially businesses that rely on ecosystem services (pharmaceutical businesses, food industry and retail) or that have a major impact on their environment (oil and gas) tend to give more attention to biodiversity in their reporting. The GRI guidelines form an important and useful element here, because one section of these guidelines are focussed specifically on the subject biodiversity concerning reporting. Since its inception in 1999, the GRI has become a normative framework for sustainability reporting, according to Brown *et al.* (2009). Also the fact that GRI is seen as a facilitator for biodiversity is in line with previous research (Brown *et al*., 2009; Burritt and Schaltegger, 2010). Subsequently the theory explains that the way or form of reporting, is very important to make information in the reports clear and comparable. To test these features within the existing business reports, this study made use of coding categories for biodiversity, derived from the existing literature and GRI indicators developed by Grabsch *et al.* (2011). These coding categories, divided into biodiversity elements, made it possible to investigate reports into detail for their content on these biodiversity elements, and to compare the data of all businesses with each other. This coding was a good guide and gave lots of information about biodiversity reporting levels. Yet, often it turned out to be hard to divide information from reports into the categories/elements, because of the variation and indistinctness in the way of reporting about biodiversity. Information on biodiversity was often not explicit, not measurable, only superficial and therefore hard to decide if it suffices to a certain category. However, this rather says something about the state of biodiversity reporting than it does about the used coding. Therefore, the use of this coding provided this study a proper foundation for the investigation of business reports.

6.3 Reflection on methodology

The used methodology of this research contained a number of limitations. First, the number of business reports that was investigated, is a substantial contribution for demonstrating the state of biodiversity reporting by businesses in the Netherlands. But this number doesn't cover the total of all Dutch businesses, as there are so many. Besides that, the composition of the selected businesses is very diverse, which makes it difficult to compare them. Furthermore, some sectors were underrepresented in this study. The choice to pick the top 50 largest businesses made it possible to get an insight in the state of biodiversity reporting, by businesses that have a lot of influence of themselves because of their size and international operations. It can also be very interesting to investigate businesses from the same sector and to compare them for their biodiversity reporting performance, which is recommended for further research.

Furthermore, the number of interviewees may also be questioned. Only about one fifth of all businesses in this research, were interviewed to obtain background information. This small number is due to limitation of time, but also because most of the businesses were not willing to give an interview, or gave no response at all to the request. However, this study had an exploratory character and was meant to provide an overview of biodiversity reporting by making a cross section of the different large Dutch businesses. This has provided a lot of information about the various and corresponding underlying motivations of businesses concerning biodiversity reporting. Nevertheless, future research could possibly take a closer look at more businesses from the same sector, including smaller businesses. Comparing the motivations for biodiversity reporting of different sectors with each other is then possible, which helps to understand the barriers within specific sectors better.

The interviews were conducted on the basis of pre-defined, open questions. In many cases, the interviewees gave comprehensive and detailed answers, which provided extensive but also a lot of non-relevant information. The many different answers and perspectives, made it hard and time consuming to process these results. Also, because of the open structure of the questions, often relevant information came up during other questions than was meant in advance. This would have been hard to avoid in this study, because of its explorative character. For further research however, well formulated, delimited questions focused on biodiversity reporting are recommended to use in interviews, in order to reduce the time that is needed to process the information.

Despite of the limitations, this exploratory research did derive some valuable information to provide an analysis of the current state of biodiversity reporting by Dutch businesses, which was unclear until so far. The results provide interesting insights which invite to examine their state again in a few years from now, in order to analyse if the situation around biodiversity reporting has improved.

7 Conclusions

Research concerning the degree and quality in which Dutch businesses report on biodiversity, and their motivation behind this way of reporting, have not been carried out so far. This exploratory study had the objective to provide an overview of the state of biodiversity reporting by Dutch businesses. The following conclusions were derived from this study:

Of the 50 businesses that were part of this research, 35 (70%) mentioned 'biodiversity' at least once in (one or more of) their published reports in the period 2010 to 2014. This result seems rather positive, as can be concluded that the majority of businesses reported about biodiversity. However, the extent to which biodiversity is addressed in the reports varies greatly. Additionally, 23 of the businesses (46%) mentioned biodiversity on their website at the time of research. Every year, there are different businesses that (did not) report(ed) about biodiversity, which indicates that some businesses are not consequent in their reporting about biodiversity. Although there has been an increase in the amount of businesses reporting about biodiversity, on average it appears that only slightly more than half of the businesses reported on biodiversity in the years 2010 to 2014.

It varies a lot between different sectors how many businesses report on biodiversity, the Financial services sector scores the lowest and the Raw material extractions sector the highest. Despite the fact that the number of businesses within the red biodiversity risk zone that reported on biodiversity increased from 2010 to 2014, with respect to the amber and green zones which decreased, these differences are statistically not significant. Moreover, seen over the five years, there are approximately equal numbers of businesses in each zone which did not report at all on the subject of biodiversity. Still, mainly businesses in the red zone have biodiversity related content on their websites, the amber and green zone do to a lesser extent.

Concerning the amount of biodiversity information disclosed in reports, the differences are also quite large. Some businesses only report on one category element and some stand out with 13 elements, the highest score was found for the business Esso. The majority of the reports in the investigated period contain 1 to 7 category elements, only a small part of the reports 8 to 14 different elements. On average, businesses applied 3 category elements per year, per report. Despite an increase of the application of category elements in business reports of up to almost the double, no significant difference was found in the number of biodiversity disclosures between the years 2010 to 2014.

The biodiversity category elements that are disclosed most often in the business reports are 'Stakeholder engagement', 'GRI', and 'Partnerships'. These can be considered as most easy to report on for businesses, as most businesses are able to mention something about these subjects. Least disclosed elements are 'Awards', 'BAP', 'Surveys' and ' Biodiversity Officer', these subjects are only applicable for more advanced businesses with regard to biodiversity reporting. Most elements showed an increase in application during the five years, though 8 elements show a decrease the last two years. Although the GRI indicators are often the inducement or starting point of biodiversity reporting, the element 'GRI' in particular shows a large decline in application through the years. The overall biodiversity related information in the investigated reports, is of superficial nature. Most reports mentioned some category related information, but without any further details on measures or quantitative information.

The businesses all have different motivations to report on biodiversity. This is due to the very different business types, which makes that the relationship with biodiversity is stronger or weaker, and therefore also the urgency for reporting about it. Reasons to report about biodiversity that were often indicated by most businesses are the importance of continuity of the business (and related reliance on fossil materials, and the origin, sustainability and quality of resources), agreements within partnerships with NGO's, the need for transparency towards stakeholders and the notion that biodiversity can lead to product innovation / development. Some of the businesses also mentioned staying ahead of competitors, social responsibility, reputational risk, licence to operate and following of the GRI guidelines are key drivers. Staying ahead of future legislation, meeting customer demands, or that biodiversity is a part of the business strategy or policy, are for just a few businesses reasons to report about biodiversity.

Businesses that do not report about biodiversity, also have a variety of reasons not to do so. Some of them deliberately choose not to report, because the business for example is not obliged to bring out reports, or biodiversity reporting is not legally required. Other reasons not to report are the costs of it in time and money, the indirect relationship with biodiversity, responsibility lies with suppliers, the issue is covered within certifications, or it is not a material issue (according to stakeholders). Some other businesses want to report on biodiversity but cannot (yet) do this, as they are currently investigating their impact on biodiversity, or their CSR policy is not yet suitable to be reported. A few businesses indicate they are limited by the complexity of GRI indicators that are too extensive. However, the biggest limitation seems to be the fact that biodiversity cannot be quantified, it is hard to measure. Many of the businesses indicate that collecting ecological data is difficult, indicators and measuring methods for biodiversity are considered too complex.

The businesses have several suggestions to make biodiversity reporting easier and more accessible for businesses. The most important of these, and starting point would be the development of usable, simple methods for measuring and reporting biodiversity. Some businesses indicate this could possibly be based on the No Net Loss principle, with taking the whole supply chain into account. Formulating biodiversity action plans and measures are important according to some of the businesses. The majority of the businesses is interested in collaborating with NGO's in order to put all this into operation. A few businesses argue that the government should be setting regulations to make biodiversity reporting more common, some others think biodiversity should be better represented in benchmarks. It was mentioned once that new technologies such as apps on product level, could help making the communication of information on biodiversity more easy.

To answer the central question of this research, it is shown that the number of Dutch businesses that is reporting on biodiversity, despite some growth in a few years, is still inadequate. Furthermore, the quantity of biodiversity disclosures increased, but the quality is generally poor, apart from a few exceptions. The businesses that do report on biodiversity have a lot of different reasons for it, but in general businesses are mainly led by their stakeholders, continuity of the business and transparency in relation to responsibility and reputation. Motivations to not report on biodiversity are mainly related to the (indirect) relationship with biodiversity, low materiality of the issue and the impossibility or complexity of quantifying biodiversity. The latter implies that for a large part of the businesses there is mainly a practical reason for not reporting on biodiversity, the will to report is not necessarily lacking. This research therefore shows that biodiversity reporting by Dutch businesses is

generally poor, but can be improved by the development of methods that will help make biodiversity reporting more accessible for businesses.

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Appendix A Semi Structured Questionnaire

Introduction

1. Can you please share a little about who you are, what your function is in the organization and what your activities are?

Biodiversity

2. How does your business describe biodiversity?
3. What is the relation of your business with biodiversity?
4. Does your business know what impact their activities have on biodiversity? Can you illustrate the extent of this impact? (local / global? , phase of chain?)
5. How is this (ecological) information collected?
6. Does your business see biodiversity as a risk or opportunity?
7. What does sustainability mean for your business? Does the business have a policy for MVO (corporate social responsibility) and how is this formalized/what are the main activities?
8. Do you consider that MVO (including biodiversity) is part of the Strategic management of the business?
9. Does the business have biodiversity goals? Where are these based on and how /why are they chosen?

Reporting

10. Does your business report about sustainability? What are the most important issues that are highlighted or discussed in the report?
11. Is the business familiar with Integrated reporting? Does it apply this to the business report?
12. Do you think the theme biodiversity is well represented in your business' report?
13. What is or should be reported in relation to biodiversity? What is the biodiversity strategy of the business?
14. Are you familiar with GRI guidelines? Are the GRI guidelines for biodiversity clear or did/do you need more information?
15. Is the business familiar with organisations like IUCN that can help to understand indicators and risks and opportunities? Do they have contact with any kind of organization?
16. Are standards or guidelines used for the reporting, what level of integration?
17. What kind of tools or indicators is used by the business? Or what kind should be used?
18. What other initiatives your business is using to report? (Examples: AA 1000 Assurance Standard or Social Accountability 8000 (SA8000), ISO 26,000).
19. What is the reason for choosing this way/method of reporting? Are they satisfied with this method or is the business currently in search for the best appropriate method?
20. Does the business uses reporting or GRI guidelines for benchmarking?
21. How are biodiversity activities / performances measured in your business?
22. Do you personally have read the reports of your competitors?
23. What are the positive and negative aspects of reporting?
24. Did you find reporting as a tool to increase transparency and accountability?

Motivation

25. Why is your business reporting about biodiversity, or why not? Who took the decision of starting this, and what went before this?
26. Are there staff members appointed for the responsibility of the reporting of sustainability / biodiversity issues of the business?
27. Are you aware of any (inter)national/governmental policy goals or regulations around biodiversity?
28. Does reporting (on this issue) give your business extra value? Can you explain this? / How important is non-financial information for your business (to communicate to stakeholders)?
29. How important is social acceptance to your business? (licence to operate)
30. Who is your main stakeholder?
31. What is the role of stakeholders in designing sustainability / biodiversity initiatives at your business? Can you describe one successful example and one non-successful example?
32. What are the main benefits and disadvantages of reporting about biodiversity? And of integrated reporting as a whole?
33. What do you think could help your business to improve the quality of reporting on biodiversity? What limitations encounters your business in this respect?

Appendix B Content analysis tables

Table I. Business reporting general information

Super sector	NL Business	Biodiversity risk zone	# on top 50 list	Comprehensive annual report*	Separate CSR report	UNGC Communication on Progress Report	GRI Index	www **	NL sample businesses mentioning biodiversity (2010-2014)	
									n	***%***
Consumer goods	*Unilever*	Red	3	-	2010, 11, 12, 13, 2014[a]	2010 to 2013	2013	X	8 (out of 9)	89
	Ahold	Red	5	-	2010 to 2014	2011 to 2014	2014	-		
	IKEA	Amber	6	-	2010 to 2014	2010 to 2014	-	X		
	Heineken	Red	12	2012	2010 to 2014	2010 to 2013	2011 to 2014	X		
	Friesland Campina	Red	24	2010, 12, 13, 14	2010 to 2014	-	2010, 12, 13, 14	X		
	VION Food Group	Red	34	-	-	-	-	-		
	Jumbo Groep	Red	44	-	2010 to 2014	-	2012, 13, 14	X		
	Philips	Green	9	[b]	2010[b] to 2014[b]	2010 to 2014	2013, 14	X		
	Samsung	Green	27	-	2010 to 2014	-	2010 to 2014	-		
Financial services	*Aegon*	Amber	4	-	2010 to 2013	-	-	-	7 (out of 12)	58
	NN	Amber	25	-	-	-	-	-		
	ASR	Amber	37	[b]	2010[b] to 2014[b]	2012 to 2014	2013 ,14	-		
	Delta Lloyd	Amber	43	-	-	2011 to 2014	2011, 12, 13	-		
	Achmea	Amber	8	-	2010,11,12, 2013[b], 14[b]	-	-	-		
	VGZ	Amber	26	-	-	-	-	-		
	CZ	Amber	32	-	2012 to 2014	-	-	-		
	Menzis	Amber	45	[b]	2010[b] to 2014[b]	-	2011, 12	-		
	ING	Amber	14	-	2010 to 2014	2010 to 2014	2012, 14	X		
	Rabobank	Amber	19	2010 to 2013 (2014)	2010 to 2014	2010 to 2014	2010, 11, 13	X		
	ABN AMRO	Amber	36	-	2010 to 2014	2010 to 2013	2011, 12, 13	X		
	SNS REAAL	Amber	41	2011 to 2014	2011	2010 to 2013	2010 to 2013	X		

Super sector	NL Business	Biodiver-sity risk zone	# on top 50 list	Compre-hensive annual report*	Separate CSR report	UNGC Communication on Progress Report	GRI Index	www **	NL sample businesses mentioning biodiversity (2010-2014)	
									n	***%***
Raw material extrac-tion	*Shell*	Red	1	2010 to 2014	2010 to 2014	2010 to 2014	2014	X	6 (out of 8)	75
	Vitol	Red	2	-	2014	-	-	-		
	Gasterra	Red	7	2014	-	-	-	-		
	Argos Energies	Red	16	-	-	-	-	-		
	Esso NL[c]	Red	17	2013, 2014	2010 to 2014	-	2011 to 2014	X		
	BP NL	Red	21	2011	2011 to 2014	2010 to 2014	2014	X		
	Cargill NL	Red	46	2014	2014	-	-	X (worldwide site)		
	Tata Steel (Global)	Green	48	2010 to 2012	2010 to 2013	2010 to 2014	2010 to 2013	X		
Industry	*SABIC*	Amber	10	2013	2011, 12, 13, 14	2012, 2013	-	-	8 (out of 9)	89
	AkzoNobel	Amber	18	2010 to 2014[b]	-	2010 to 2014	2013	X		
	DSM	Amber	30	[b]	2010[b] to 2014[b]	2010 to 2014	2010 to 2014	X		
	ASML	Green	47	2010 to 2014	2010 to 2014	-	2010 to 2012	-		
	Technische Unie[d]	Amber	29	-	Social report 2013	-	-	-		
	Cisco Systems	Green	11	-	2010 to 2014	2011 to 2014	2010 to 2014	X		
	BAM	Red	38	2014[b]	2010 to 2013	-	2010 to 2012	X		
	Essent	Red	40	-	2010 to 2014	2010 to 2014 (RWE)	2014 (RWE)	X		
	Eneco	Red	50	2014[b]	-	-	-	X		

Super sector	NL Business	Biodiver-sity risk zone	# on top 50 list	Compre-hensive annual report*	Separate CSR report	UNGC Communication on Progress Report	GRI Index	www **	NL sample businesses mentioning biodiversity (2010-2014)	
									n	***%***
Trade, transport and commer-cial cervices	*Nidera*	Red	20	-	2011 to 2014	-	2011	-	6 (out of 12)	50
	Glencore Grain	Red	22	2011, 2014	2010 to 2014	2014	2010 to 2014	X		
	Cefetra	Red	49	-	-	-	-	-		
	SHV	Green	13	-	-	-	-	-		
	Randstad	Green	15	-	-	2011 to 2014	-	-		
	BCD Travel	Red	23	-	2010 to 2014	2010 to 2014 (UN Global Compact Report)	-	-		
	KLM	Red	28	2013	2010 to 2014	2010 to 2014	2014	X		
	TNT Express	Amber	39	-	-	2010 to 2014	2010 to 2012	-		
	Pon Holdings	Amber	42	-	2013	-	-	-		
	KPN	Green	31	2012, 2013[b], 2014[b]	2010 to 2012	2010 to 2014	2010, 11, 12	-		
	CRH	Red	33	-	2011	-	2011	-		
	LeasePlan	Green	35	-	-	-	-	-		

* Comprehensive annual (financial) report = when biodiversity is at least mentioned once.

** When biodiversity is mentioned on the business' website (at time of research; 2015).

[a] Special publication on Biodiversity for Unilever suppliers; "A closer look at biodiversity".

[b] Integrated Report

[c] ExxonMobil Corporation; overarching business +website.

[d] Technische Unie is not obligated to report because of the type of business (BV).

-Table II. Use of biodiversity coding categories in business reports

	Scene setting			Species related				Social engagement		Performance evaluative		Risk				Internal managem.		External reporting	
Business	**Definition**	**Mission Statement**	**Site spec**	**Specific species**	**Surveys**	**IUCN redlist**	**Partnerships**	**Awards**	**Stakeholder engagement**	**Targets Performance**	**Costs**	**Risk**	**Risk Management**	**Incidents**	**Materiality**	**BAP**	**BD off**	**GRI**	**TOT**
Shell	-	2013, 14	2010, 11,12, 13, 14	2011, 12,13, 14([a])	-	2013	2010, 11, 12, 13, 14	-	2011[a], 12[a] , 13[a], 14[a]	2014[a]	2012[a], 13[a], 14[a]	2013[a] 14[a]	-	2012, 13, 14	-	2013[a] 14[a]	-	2014	12
Vitol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Unilever	2014[b]	2014[b]	2014[b]	2011, 2014[b]	-	-	2014[b]	-	2014[b,a]	-	-	-	-	2011, 2014[b]	-	-	-	2013	8
Aegon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Ahold	2010, 11, 12, 13, 14	2010	-	-	-	-	2010, 11, 12, 13, 14	-	-	-	-	-	2010[a], 13[a], 14[a]	-	-	-	-	-	4
IKEA	-	2012[a]	2011, 12	-	-	-	2012	-	2010, 12, 14	2012	-	2013 , 14	-	2012	-	-	-	-	7
Gasterra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Achmea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Philips	2010[a]	2010[a], 11[a], 12[a],13[a], 2014	2012, 13	-	-	-	2010, 11, 12,13, 14	-	2010, 11, 12	2010, 11, 12, 13, 14	2014[a]	-	2014	2012, 13	-	-	2012	2013 , 14	11
SABIC	-	-	2011	2011[a]	-	-	-	-	-	-	-	2013	-	2011	-	-	-	20 11[a]	5
Cisco Systems	-	-	2011, 12, 13, 14*	2011, 12, 13, 14*	-	2011, 12, 13, 14	2012	-	2011, 13	2011, 12, 13, 14	-	-	-	2011, 12, 13,14*	-	-	-	2010 ,11, 12, 13, 14*	8

	Scene setting			Species related				Social engagement		Performance evaluative		Risk				Internal managem.		External reporting	
Business	**Definition**	**Mission Statement**	**Site spec**	**Specific species**	**Surveys**	**IUCN redlist**	**Partnerships**	**Awards**	**Stakeholder engagement**	**Targets Performance**	**Costs**	**Risk**	**Risk Management**	**Incidents**	**Materiality**	**BAP**	**BD off**	**GRI**	**TOT**
Heineken	-	-	2011, 12, 13, 14[c]	2011, 12, 13, 14[c]	-	2014[c]	2011, 12, 13, 14	-	2012, 13	2012	-	-	-	2011, 12, 13	2011, 12, 13, 14	-	-	2011, 12, 13	9
SHV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
ING	-	-	2012	2012	-	2012	2012	-	2012[c]	2012	-	-	-	2012[c]	-	-	-	2012	8
Randstad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Argos Energies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Esso NL[d]	2010, 11[a], 12[a], 13[a], 14[a]	2010, 11, 12, 13, 14	2010, 11, 12, 13,14	2010, 11, 12, 13, 14	2014	2011, 14	2010, 11, 12, 13, 14	-	2011, 12, 13, 14	2010, 11, 12, 13, 14	2010, 11, 12, 13, 14	-	-	2010, 11, 12, 13, 14	2011, 12, 13	-	2014	2011, 12, 13, 14	14
Akzo Nobel	-	-	-	-	-	-	2010, 12, 13, 14	-	-	-	-	-	2010, 13	2010, 14	2013	-	-	2013	5
Rabo-bank	-	2010, 11, 13, 14	2011	-	-	-	2010, 11, 14	-	2010, 11, 12, 13, 14	-	2013[a]	-	-	-	2013	-	-	2010, 11	7
Nidera	-	2011, 12, 13[a]	-	-	-	-	2013, 14	-	2011, 12, 13, 14	2013	-	-	-	2013	-	-	-	2011	6
BP	-	2011, 13, 14	2011, 13, 14	2011, 13, 14	-	2014	2011, 12, 13, 14	-	2011, 12	2013, 14	-	-	-	-	2012	-	-	-	8

	Scene setting			Species related				Social engagement		Performance evaluative		Risk				Internal Managem.		External reporting	
Business	**Definition**	**Mission Statement**	**Site spec**	**Specific species**	**Surveys**	**IUCN redlist**	**Partnerships**	**Awards**	**Stakeholder engagement**	**Targets Performance**	**Costs**	**Risk**	**Risk Management**	**Incidents**	**Materiality**	**BAP**	**BD off**	**GRI**	**TOT**
Glencore Grain	-	2010[a], 11, 12, 13, 14	2010, 11, 12, 13, 14	2011, 14	-	2010, 11, 12, 13,14	2011, 12, 13, 14	-	2010, 11, 12, 13, 14	2013, 14	-	2010, 11	2013, 14	2010, 11, 12	2010, 11	-	-	2010, 11, 12, 13, 14[e]	12
BCD Holding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Friesland Campina	2012[a]	2010, 11, 12, 13, 14	-	2012, 14	2012	-	2012, 13, 14	-	2010, 11, 12, 13, 14	2012, 14	-	2014	2014	2014	2010, 12, 13, 14	2014	-	2010, 12, 13, 14	13
NN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
VGZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Samsung	-	2010, 12, 13	2012, 13	-	-	-	2012, 13	-	2010, 11, 12, 13	-	-	-	-	-	2012, 13	2012, 13	-	2011, 12, 13, 14	**7**
KLM	-	2010, 11, 12, 13, 14	2010, 11, 12, 13, 14	2013	-	-	2010, 11, 12, 13, 14	-	2010, 11, 12, 13, 14	2011, 12, 13, 14	2010	2013	-	2011, 12, 13	2010, 11	-	-	2014	11
Technische Unie[d1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DSM	2013, 14	2010, 11, 12, 13, 14	-	-	-	-	2011, 12, 13, 14	-	2010, 11, 12, 13, 14	2012	-	2011, 12	2013, 14	-	2010, 11, 12, 13, 14	-	-	2010, 11, 12, 13, 14	**9**

	Scene setting			Species related				Social engagement		Performance evaluative		Risk				Internal managem.		External reporting	
Business	**Definition**	**Mission Statement**	**Site spec**	**Specific species**	**Surveys**	**IUCN redlist**	**Partnerships**	**Awards**	**Stakeholder engagement**	**Targets Performance**	**Costs**	**Risk**	**Risk Management**	**Incidents**	**Materiality**	**BAP**	**BD off**	**GRI**	**TOT**
KPN	-	-	-	-	-	-	-	-	2011, 12, 13, 14	-	-	-	-	-	-	-	-	2010, 11, 12	2
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2012[f], 13[f], 14[f]	(1) 0
CRH	-	2011	2011	2011	-	-	-	-	2011	2011	-	2011	2011	-	2011	-	-	2011	9
VION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Lease plan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
ABN AMRO	-	-	-	-	-	-	2013	-	2011, 13, 14	-	-	-	-	-	2013	-	-	2011, 12, 13	4
ASR	-	-	2014	2014	-	2014	-	-	-	2014	-	-	-	-	-	-	-	2013[a], 14	5
BAM	-	2010, 11, 12, 13, 14	2012, 13	2012, 13	-	-	2010, 11, 12, 13, 14	-	2012	-	-	2011, 13, 14	-	2012, 13	2010, 11, 12, 13	-	2011, 12, 13	2010[a], 11, 12	10
TNT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2010[a], 11[a], 12[a]	1
Essent	-	2013, 14[g]	2013, 14[g]	2013	-	-	2013, 14[g]	-	2010, 11, 12, 13, 14[g]	2014[g]	-	-	2014[g]	2013	2013, 14[g]	-	2011, 12	(2012[a]),14[g]	11

Scene setting			Species related					Social engagement		Performance evaluative		Risk				Internal managem.		External reporting	
Business	**Definition**	**Mission Statement**	**Site spec**	**Specific species**	**Surveys**	**IUCN redlist**	**Partnerships**	**Awards**	**Stakeholder engagement**	**Targets Performance**	**Costs**	**Risk**	**Risk Management**	**Incidents**	**Materiality**	**BAP**	**BD off**	**GRI**	**TOT**
SNS REAAL	-	2013, 14	2013	-	-	-	-	-	-	-	-	2012, 13, 14	-	-	2011, 14	-	-	2010[a], 11[a], 12, 13	5
PON Holdings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Delta Lloyd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2011[a], 12[a], 13[a]	1
Jumbo Groep	-	2010, 13, 14	-	-	-	-	2010	-	-	-	-	-	-	-	2013, 14	-	-	2012, 13, 14	4
Menzis	-	-	-	-	-	-	-	-	2011, 12, 13	-	-	-	-	-	2011, 12, 13	-	-	2011[a], 12[a]	3
Cargill NL	-	2014	-	-	-	-	-	-	2014	-	-	-	-	-	2014	-	-	-	3[h]
ASML	-	-	2010, 11, 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2010[a], 11[a], 12[a]	2
Tata Steel	-	2010	2010, 11, 12, 13	2010, 12	-	2012	2011, 12, 13	-	2010, 12, 13	2011, 13	-	2013	-	2011, 12	2010, 11, 12, 13	-	-	2010, 11, 12, 13	11
Cefetra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Eneco	-	-	-	-	-	-	-	-	2014	-	-	-	-	-	2014	-	-	-	2

[a]=*partly*

[b]= *Special publication on Biodiversity for Unilever suppliers; "A closer look at biodiversity".*

[c]= *via GRI Index table.*

[d]= ExxonMobil Corporation

[d1] Technische Unie is not obligated to report because of the type of Business (BV).

[e]= GRI index of Glencore mentions: "Data on the number and percentage of sites identified as requiring biodiversity management plans is tracked internally but not reported externally."

** Cisco systems: No new information over the years, repetition of same information basically.*

[f]= *only says it is not material*

[g]= *Essent reported under RWE in 2014.*

[h]= *earlier reports not traceable*

Appendix C Top 50 largest Dutch businesses

List derived from the Elsevier Top 500 Dutch Businesses 2014.

#	Business	#	Business
1	Shell	**26**	VGZ
2	Vitol	**27**	Samsung
3	Unilever	**28**	KLM
4	Aegon	**29**	Technische Unie
5	Ahold	**30**	DSM
6	IKEA	**31**	KPN
7	Gasterra	**32**	CZ
8	Achmea	**33**	CRH
9	Philips	**34**	VION
10	SABIC	**35**	Leaseplan
11	Cisco Systems	**36**	ABN AMRO
12	Heineken	**37**	ASR
13	SHV	**38**	BAM
14	ING	**39**	TNT
15	Randstad	**40**	Essent
16	Argos Energies	**41**	SNS REAAL
17	Esso NL	**42**	PON Holdings
18	Akzo Nobel	**43**	Delta Lloyd
19	Rabobank	**44**	Jumbo Groep
20	Nidera	**45**	Menzis
21	BP	**46**	Cargill NL
22	Glencore Grain	**47**	ASML
23	BCD Holding	**48**	Tata Steel
24	Friesland Campina	**49**	Cefetra
25	NN	**50**	Eneco

Appendix D Business Descriptions

Business description Ahold

Ahold is an international retailing group based in Zaandam, the Netherlands, and is active in Europe and the United states. In 2014 Ahold had about 97.000 employees. The business holds different brands and store formats: Supermarkets, convenience stores, online grocery and non-food, wine and liquor stores and drugstores. The interview was held with a Specialist Product Sustainability of the Product Integrity Department, and another interview with the Project Manager Responsible Retailing to gain more in-depth information about reporting in particular. Because of the ability of interviewing two people, this case study provides the most information from all of the conducted interviews.

Business description Technische Unie

Technische Unie is the largest wholesale trade in technical installation materials for construction, installation and industry in the Netherlands. The organization of Technical Union consists of four parts: sales offices, transfer points, distribution centres and the central office, and employs about 2000 people. The business has over 280,000 articles from more than 700 suppliers, which contain installation materials in the field of electrical engineering, lighting, tools, (luxury) plumbing, heating and air-conditioning technology. The interview was held with the CSR project manager.

Business description AkzoNobel

AkzoNobel is a leading international paint and coatings business and a major producer of specialty chemicals. The business head office is located in Amsterdam, spread over 80 countries it has approximately 47.000 employees and owns several known brands. The interview was held with the Manager Innovation, Partnerships & Biobased Materials (UK).

Business description Achmea

Achmea is the largest insurer for damage insurance, health insurance and income in the Ne therlands. About half of Dutch households opt for an insurance of one of the 11 Achmea brands. The business is also active in 4 other European countries and in Australia. Achmea employs approximately 16,000 people in the Netherlands and 2500 outside of that. The interview was held with a Senior Advisor CSR.

Business description Vion Food Group

Vion Food Group is an international meat producer with production locations in the Netherlands and Germany and sales offices in more than ten countries worldwide. The product portfolio of VION Food comprises fresh pork and beef and derived products for retail, food and meat industry. Vion Food's headquarters is located in Boxtel in the Netherlands. The interview was held with the Corporate Director Quality Assurance.

Business description Royal BAM Group

Royal BAM Group is a European construction group with subsidiaries in two business lines: Construction and Property, and Infrastructure, as well as in the field of public private partnership.

This holds activities in residential and commercial construction, civil construction, dredging, consultancy and engineering. With some 23,000 employees, BAM realizes thousands of projects on a yearly basis. The interview was held with the Manager Center for Sustainability.

Business description SABIC

SABIC is a global petrochemical business. The European headquarters is situated in Sittard and a production site in Geleen (Chemelot), both in the Netherlands. SABIC employs 1,800 people in The Netherlands, worldwide this is more than 40,000. In Geleen raw materials are made for the production of various plastics that are made from hydrocarbons, which are derived from refined petroleum. The interview was held with a sustainability expert from SABIC Netherlands.

Business description Eneco

Eneco is an international renewable energy business with operations in the Netherlands, Great Britain, Germany, France and Belgium, the headquarters is located in Rotterdam. Eneco provides energy to more than two million customers and has over 7000 employees. The business invests in wind farms on land and sea, in solar projects and biomass plants. The interview was held with a senior business analyst from ENECO Energy.

Business description DSM

Royal DSM N.V. is a global business, and is in the Netherlands at eleven locations active in research & development, production and sales in the field of food ingredients, pharmaceuticals and high quality materials. DSM and its affiliated businesses have approximately 25,000 employees, of which 5000 are in located in the Netherlands. The interview was held with a Senior Advisor Sustainability.