

Linking shareholder and natural value

Managing biodiversity
and ecosystem services risk
in companies with an
agricultural supply chain

October 2009

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We are grateful also for the financial assistance provided by the Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM) and UNEP Finance Initiative for this project.

About the Natural Value Initiative (<http://www.naturalvalueinitiative.org/>)

The Natural Value Initiative (NVI) – led by Fauna & Flora International (FFI) in collaboration with the United Nations Environment Programme Finance Initiative (UNEP FI) and Brazilian business school Fundação Getulio Vargas (FGV) – aims to create a toolkit for institutional investors to enable them to understand risk and opportunity relating to the impacts and dependency of their investments on biodiversity and ecosystem services.

Key partners

Fauna & Flora International (FFI) (<http://www.fauna-flora.org/business.php>)



FFI is the world's first established international conservation body, founded in 1903. FFI acts to conserve threatened species and ecosystems worldwide, choosing solutions that are sustainable, are based on sound science and take account of human needs. Through its Global Corporate Partnership Programme, FFI aspires to create an environment where business has a long-term positive impact on biodiversity conservation.



UNEP Finance Initiative (UNEP FI) (<http://www.unepfi.org>)

The United Nations Environment Programme (UNEP) Finance Initiative is a strategic public-private partnership between the UNEP and the global financial sector. UNEP FI works with over 170 financial institutions that are signatories to the UNEP FI Statements, and a range of partner organisations to develop and promote linkages between the environment, sustainability and financial performance.



FGV - GVces (FGV) (<http://www.ces.fgvsp.br/>)

The Fundação Getulio Vargas (FGV) is a pioneering school in business education in Brazil and one of the main centres for business education, research and consultancy in the country, as well as in South America. The Centre for Sustainability Studies (GVces) aims to disseminate the concept and practices of sustainability through educational activities, training, research, publications and communication.

Steering Committee

The project is guided by a multi-stakeholder steering committee whose members include: Agribusiness Responsável Brasil, Banco do Brasil, Nic Bertrand, Bunge, Business for Social Responsibility, the Global Reporting Initiative, Grupo Santander Brasil, IUCN, KPMG, Pax World, Kerry ten Kate, Strathclyde University, WWF, Sadia, Strategic Environmental Consulting and VicSuper.

Notice: Fauna & Flora International accepts funding from Imperial Tobacco and British American Tobacco. In order to ensure impartiality was maintained in the analysis, it was conducted by individuals with no link to these two organisations and was reviewed by FGV.

Glossary of terms

Best practice	In this report 'best practice' refers to performance level 4 in the Ecosystem Services Benchmark (ESB). It is created based on observed best practice within the five key performance areas of the ESB combined with ideal performance in this area. Thus it does not represent best practice within a single company but rather a composite of best practices and an 'ideal' approach to managing biodiversity and ecosystem services impacts and dependencies.
Biodiversity	'Biological diversity' means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (Article 2, Convention on Biological Diversity ¹). Biodiversity underpins ecosystem services but is not an ecosystem service in itself.
Dependence	The extent to which a company is dependent on ecosystem services for raw materials or security of supply and the extent to which its operation gives rise to environmental externalities.
Ecosystem	A dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit (Article 2, Convention on Biological Diversity ¹). Examples of ecosystems are coral reefs, rainforest and deserts.
Ecosystem services	Ecosystem services are the benefits obtained by people from ecosystems. These include: <ul style="list-style-type: none">– Provisioning services such as food, water, timber, fiber, and genetic resources;– Regulating services such as the regulation of climate, floods, disease, and water quality;– Cultural services such as recreational, aesthetic, and spiritual benefits;– Supporting services such as soil formation, pollination, and nutrient cycling.
Impacts ²	A company impacts an ecosystem service if the company affects the quantity or quality of the service.
Market capitalisation	A measurement of corporate size equal to the share price times the number of shares outstanding of a public company.
Opportunities ³	Competitive advantage (monetisation of intangible assets) realised by a company as a result of putting strong practices in place to avoid and minimise impacts on biodiversity and ecosystem services. An example might be securing a significant share of the market for organic produce.
Performance levels ⁴	Categories of performance assigned by our toolkit that reflect a spectrum of business practice ranging from least formed (Level 1) to best (Level 4) practice. Companies are expected to progress from Level 1 to Level 4.
Risk ⁵	The potential in the short (one year), medium (one to five years) to long term (five years plus) that a company's dependence and impact on biodiversity and ecosystem services may adversely affect company performance through impacts on brand or reputation, lack of access to raw materials or markets, and/or liability or compliance issues.
Sensitive sites ⁶	There is no current accepted definition of 'sensitive sites', but the term is often understood to mean sites of high biodiversity value, by virtue of high levels of biodiversity, endemism, rarity, vulnerability, threat or particularly important associated social or cultural values.
Stakeholders ⁷	Stakeholders are those individuals, groups of individuals or organisations that affect and/or could be affected by an organisation's activities, products or services and associated performance. Stakeholders in the context of this report are those affected by and/or able to influence a company's biodiversity and ecosystem services risks and impacts.
Ticker	Codes used to uniquely identify publicly traded companies on a stock market.

Abbreviations

Frequently used acronyms are listed below and are highlighted hereafter in bold in the text.

BAP	Biodiversity Action Plan
BES	Biodiversity and Ecosystem Services (acronym used only in this report)
BOVESPA	Bolsa de Valores, Mercadorias & Futuros de São Paulo – Brazilian stock Exchange
CBD	Convention on Biological Diversity
EMS	Environmental Management System
ESB	Ecosystem Services Benchmark
ESR	Corporate Ecosystem Services Review
EU	European Union
FBT	Food, Beverage and Tobacco sectors
FFD	Forest Footprint Disclosure Project
FFI	Fauna & Flora International
FGV	Fundação Getulio Vargas
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
HCVF	High Conservation Value Forests
IBAT	Integrated Biodiversity Assessment Tool
IFC	International Finance Corporation
MDG	Millennium Development Goals
MA	Millennium Ecosystem Assessment
NGO	Non-Governmental Organisation
NVI	Natural Value Initiative
PES	Payment for Ecosystem Services
REDD	Reduced Emissions from Deforestation and Degradation
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Roundtable on Responsible Soy
SRiTP	Social Responsibility in Tobacco Production
TEEB	The Economics of Ecosystems and Biodiversity
UNEP FI	United Nations Environment Programme Finance Initiative
VROM	Dutch Ministry of Housing, Spatial Planning and the Environment
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute

Foreword

Over the last decade a broad consensus has developed that climate change and biodiversity loss are among the main challenges facing mankind in the 21st century. The loss of species, the destabilisation of ecosystems and the resulting loss of ecosystem services are threatening human wellbeing and economic development and are obstructing poverty alleviation. It is vital that governments, NGO's, scientists and the business community join forces to halt biodiversity loss and develop ways and means to sustainably use our natural resources. Time is running out, and we need to take responsibility now.

The Dutch government has recently updated its Biodiversity Policy Programme. Under the programme, collaboration with the private sector is a priority, and I am dedicated to contributing to a successful partnership. Facilitating the development of tools and instruments that allow investors, shareholders and companies to review company performance and develop best practice approaches is one way of doing that. I was therefore delighted to support the development of the Ecosystem Services Benchmark. The first testing, reported in this document, shows promising results and clearly illustrates that a growing number of companies are actively managing their biodiversity impacts and the natural resource base. I hope that the benchmark, together with other instruments, can further this trend through periodical reviews in a learning-by-doing process. I congratulate the Natural Value Initiative for the excellent work done, and stand ready to collaborate in the future.



Dr. Jacqueline Cramer

Minister for the Environment, The Netherlands

Biodiversity has a hugely significant role in providing goods and services to society (such as the ability of the Earth to regulate its climate or access to pollinators) that are simply not valued in today's markets. What is more, markets have historically worked largely in favour of habitat loss, overexploitation of species, spiralling pollution and climate change. One of the reasons for this is that the costs of using these resources unsustainably are borne by the planet, rather than by the supplier and end-user.

A discernible shift in political thinking seems to indicate that we are beginning to move in the right direction. The agreement by the G8 and five newly industrialised nations (China, Mexico, India, Brazil and South Africa) to produce a Stern-equivalent review on the value of ecosystem services provides evidence of a change in attitude. Although the study will not conclude until the end of 2010, it is likely to advocate further development of market-based mechanisms that reward sustainable use of ecosystem services.



FFI is delighted to be contributing to this important review through the production of this report. In it we summarise the findings of the Ecosystem Services Benchmark, the first investor-focused tool to evaluate company impact and dependence on biodiversity and ecosystem services. The level of activity on this emerging issue is encouraging. However, so much more is needed and fast if we are to have a hope of halting the devastating decline in these vital services on which all of us rely.

Mark Rose

CEO, Fauna & Flora International

The degradation of natural habitats by anthropogenic activities has already caused the extinction of several species, and is putting many others in danger. The environmental imbalance caused by such degradation is seriously affecting the functioning of nutrient cycles, water cycles, climate regulation and all the other environmental services that we depend on.

These issues are well known and have been proven by science over the last four decades. In the 21st century, the new “economy of nature” is now, not only a theory in academic papers, but a reality. We still have a long way to go until business and society recognize the value of these vital ecosystem services.

The Natural Value Initiative will play a major role in enabling and deepening the shift in the pillars of the world’s macro-economy as it demonstrates the importance of biodiversity and ecosystem services risks and opportunities to the financial sector. The success of companies in the future will not only be judged by economic criteria alone, but also by the measures implemented to reduce its impacts and dependence on scarce natural resources and, consequently, guarantee its productivity in the medium to long-term. The Centre for Sustainability Studies at FGV believes that this is one of the most important changes required to shift our development to a more sustainable path and we are proud to be part of the process.



Mario Monzoni

Director, Centre for Sustainability Studies, Fundação Getulio Vargas

The finance sector can play a significant role in incentivising companies to value and account for biodiversity and ecosystem services within traditional frameworks of business risk. An important enabler of this is the ability of investors to understand and quantify risk and opportunities at a portfolio and individual company level. The rapidly declining levels of biodiversity and associated loss of ecosystem services is clearly significant for society as a whole. However, as yet this significance has not yet been translated to material risk exposure on a company level. We hope that the ongoing review by UNEP and partners of the economics of ecosystems and biodiversity – known as TEEB – will provide further evidence of materiality and risk.

In our 2008 briefing to CEOs on biodiversity and ecosystem services – *Bloom or Bust?* – we encouraged the finance sector to take action on the issue of biodiversity and ecosystem services. It is heartening to see investors moving forward on this recommendation and tools emerging to assist them in this. The Natural Value Initiative and its results clearly have an important role to play in the development of these tools and we encourage investors within our membership to follow its recommendations. In closing, I would like to pay special thanks for work beyond the call of duty by Annelisa Grigg, formerly of Fauna & Flora International, and UNEP FI team member, Susan Steinhagen, responsible for our work on biodiversity and ecosystem services.



Paul Clements-Hunt

Head of Unit, UNEP FI

1 Executive Summary

Each year, it is estimated that we are losing ecosystem services, with an annual value equivalent to around € 50 billion, from land-based ecosystems alone⁸. This loss has important implications for the long-term viability of the businesses dependent on these services, in particular those with agricultural supply chains.

As Biodiversity and Ecosystem Services (BES) decline, this is increasingly translating to business risk and opportunity linked to reputational risk, security of supply and legal compliance⁹. Our survey of 31 companies in the food, beverage and tobacco sectors painted a picture of early stage response, of pilot projects, developing but incompletely applied management tools and reactive rather than proactive management. Companies differed in their approaches, a number showed innovative and forward thinking practices. Even these failed to demonstrate comprehensively applied risk assessment processes. Hence, risks may be unmanaged and opportunities to build shareholder value missed.

1.1 Overview

The 2008 global financial meltdown has raised the sensitivity of individuals, companies, investors and governments to unmanaged risks. The role that the financial sector plays in enabling **BES** loss and damage is increasingly apparent, and there is clear evidence that failure to manage **BES** risks has direct and tangible impacts on financial performance, reputational risks and long-term depositor commitments¹⁰.

A number of institutions have recognised that these impacts exist. The International Finance Corporation¹¹ has safeguard policies, for example, which require avoidance, management and compensation of impacts on **BES**. The Equator Principles (to which 60 financial institutions are now signatories¹²) follow these safeguard principles. Asset managers such as F&C Investments¹³ and Insight Investment¹⁴ both have programmes in place on biodiversity.

Recognition of **BES** as a business risk is not yet widespread in the finance sector, but is growing¹⁵. Yet tools are lacking that effectively evaluate this risk.

Box 1 Defining ecosystem services

Ecosystem services — also called ‘environmental services’ or ‘ecological services’ — are the benefits that people obtain from ecosystems. Examples include freshwater, timber, climate regulation, protection from natural hazards, erosion control and recreation.

Biodiversity itself plays a vital role in sustaining our agricultural system – from providing pollinators, to regulating water quality and quantity and ensuring soil quality.

A company **depends** on an ecosystem service if that service functions as an input or if it enables, enhances, or influences environmental conditions required for successful corporate performance. A company **impacts** an ecosystem service if the company affects the quantity or quality of the service.

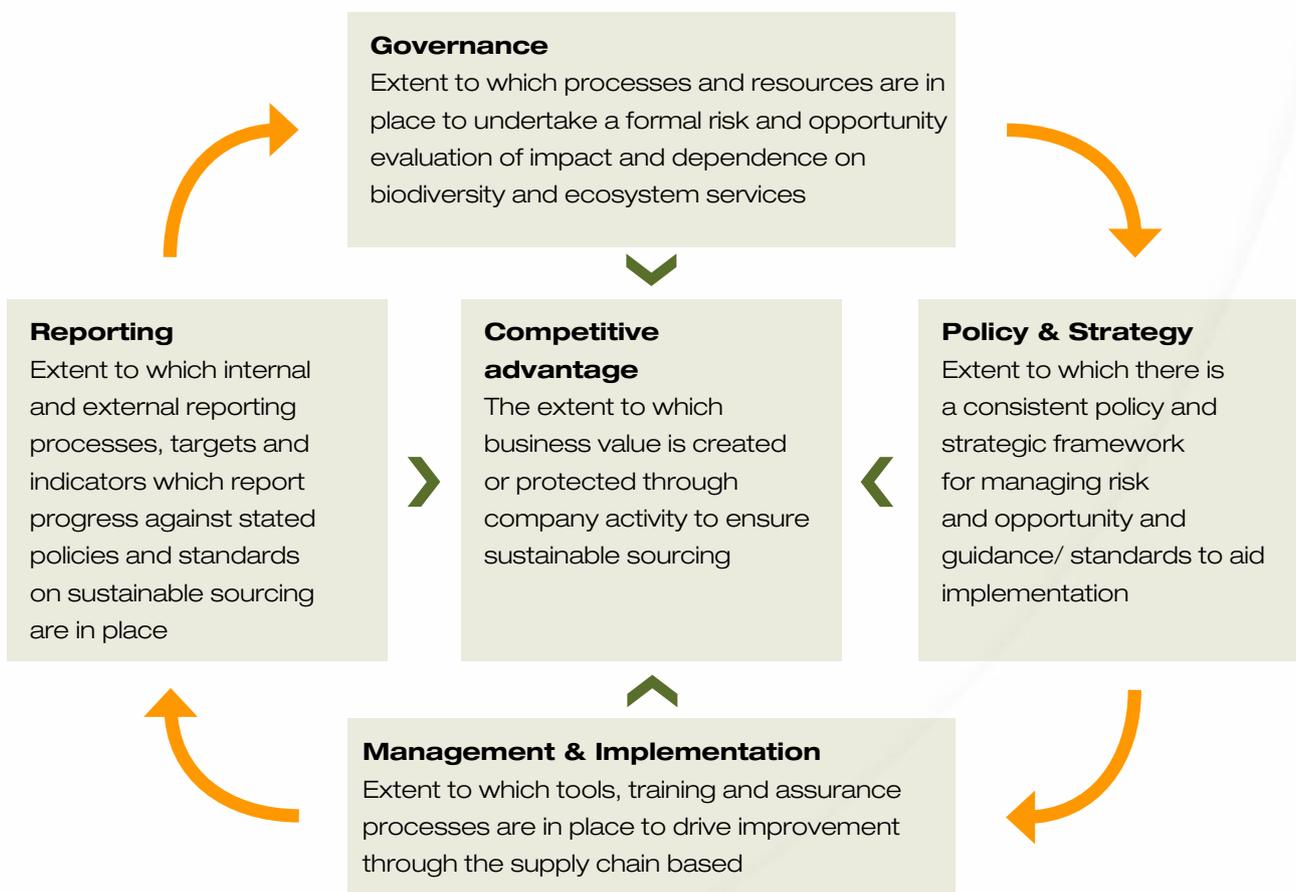
Source: C. Hanson et al. (2008) *The Corporate Ecosystem Services Review*

In recognition of this gap, the Natural Value Initiative (NVI) developed the Ecosystem Services Benchmarking (ESB) tool. Based on a biodiversity benchmarking tool developed by Insight Investment and Fauna & Flora International for the extractive sector (Foxall et al 2005), it was developed in collaboration with investors from Europe, Brazil, the USA and Australia: three UK-based asset managers (Aviva Investors, F&C Investments and Insight Investment); US-based asset manager (Pax World); Brazilian based bank (Grupo Santander Brasil) and a leading Australian pension fund, VicSuper. Collectively, these represent € 455 billion (£ 398 billion, US\$ 633 billion¹⁶) of assets under management.

The tool was created to enable institutional investors to understand how well their investments were managing their impacts and dependence on BES. It provides essential information for investors to engage individual companies in areas of poor performance.

This report summarises the results achieved from the first application of the ESB to 31 companies within the Food, Beverage and Tobacco (FBT) sectors in the UK, Brazil, the USA, Australia, Switzerland, Malaysia, the Netherlands and France representing market capitalization of over € 790 billion at 15th September 2009. These sectors are amongst those that are most dependent on ecosystem services, but also have the potential to have a significant impact on biodiversity¹⁷. This report outlines the potential risks associated with a company's impact **and dependence** on **BES**; sets out leading company and sectoral responses; identifies areas of common weakness and sets out recommendations for investors and companies within the FBT sectors to enable a risk focused response to managing impacts and dependence on **BES**.

Figure 1 **The components of the ESB analysis**



The Ecosystem Services Benchmark Guidance document provides further information on our approach

1.2 Our approach

The companies included within our analysis are outlined in Table 1. They were selected on the basis of interests held by collaborating investors during the period of analysis and to ensure representation from all stages of the supply chain as well as companies from both the developed and developing world. For the latter, we elected to focus on Brazil for two reasons:

1. Brazil plays a vital role in the global food web and is responsible for 25% of the world's food production¹⁸. It exports a number of agricultural commodities such as beef, coffee, cotton, maize, orange juice, pork, poultry, soya, sugar, tobacco and derivative commodities such as processed meat (Greenpeace, 2009).
2. Brazil has an increasingly engaged private sector with the recent development of sustainability criteria for the Brazilian stock exchange (Bolsa de Valores, Mercadorias & Futuros de São Paulo – BOVESPA).

The Ecosystem Services Benchmark (ESB)¹⁹ was conducted from September 2008 to March 2009 based on publicly available information (company websites, sustainability/ environmental reports, annual reports, and media searches). The ESB considers five interdependent categories of performance (see figure 1) : Competitive advantage, Governance, Policy and strategy, Management and implementation, and Reporting. It assigns levels of performance ranging from 1 (poor performance) to 4 (**best practice**).

To increase the accuracy of our data and the quality of our findings, each company was invited to verify their results based on our review of public material, provide additional information not currently in the public domain, and later to confirm the accuracy of ESB findings at the end of our process. Of the 31 companies, 22 (71%) took up this request.

Each company received a final summary of their results, highlighting strengths, weaknesses and recommendations for improvement. The information presented here, combined with these detailed company level summaries will be used by our investor colleagues to identify underperforming companies within their portfolio and to enable focused engagement with those companies on areas of risk.

1.3 Key findings

1.3.1 Analysis of results by sector

As one would expect, the sectors that perform best within the Ecosystem Services Benchmark are those facing immediate pressures, such as consumer interest, NGO campaigns, investor expectations, or those where the materiality of ecosystem service dependence is very clear and already affecting the bottom line. Table 2 shows the companies evaluated as best in class and the key findings by sector.

There is considerable activity across all sectors of relevance to **BES**. However, with the exception of the beverage sector, all sectors showed an average score that was at least 50% lower than the 'ideal'.

Our research found that only one of the companies analysed (Unilever) fell within the realm of best practice (level 4), albeit on the lower end of the scale. M&S came a close second. Both companies were distinguished by their well-documented, strategic and risk-focused approach that provided the ESB assessors with comfort that they had understood and were beginning to manage the issue.

Table 1 **Companies within the analysis with key market data**

Company	Stock exchange	Market capitalisation (€ billion)
Producers		
Açúcar Guarani (ACGU3)	São Paulo	0.63
Bunge (BG)	NYSE	5.46
COSAN (CZZ)	NYSE	1.56
Grupo André Maggi	Private company	0.00
SLC Agrícola (SLCE3)	São Paulo	0.59
United Plantations (UTDPLT)	Kuala Lumpur	0.53
Processors		
Cadbury plc (CBRY)	London	11.95
Dean Foods (DF)	NYSE	2.23
Groupe Danone (BN)	Euronext	24.57
Hain Celestial (HAIN)	NASDAQ	0.45
Nestlé (NESN)	SIX Swiss Exchange	105.21
Parmalat Brazil (LCSA4)	São Paulo	2.80
Sadia (SDA)	NYSE	0.94
Unilever (UN)	Amsterdam	52.15
Tobacco		
Alliance One International (AOI)	NYSE	0.29
British American Tobacco (BATS)	London	44.11
Imperial Tobacco Group (IMT)	London	20.18
Philip Morris International (PM)	NYSE	62.56
Beverages		
The Coca-Cola Company (KO)	NYSE	81.41
Diageo plc (DGE)	London	26.67
Foster's Group (FGL)	Australian Exchange	6.36
Heineken N.V. (HEIA)	Amsterdam	15.11
PepsiCo (PEP)	NYSE	62.48
SABMiller plc (SAB)	London	25.68
Retailers		
Ahold (AH)	Amsterdam	10.23
Carrefour (CA)	Euronext	21.93
M&S (MKS)	London	6.57
Sainsbury's (SBRY)	London	6.91
Tesco (TSCO)	London	34.46
Wal-Mart (WMT)	NYSE	134.79
Woolworths (WOW)	Australian Exchange	20.78

Note: abbreviations after company name refer to company 'Tickers'. Click on company name to link to Investor Relations web page. Source: www.corporateinformation.com and www.google.com/finance
 Figures quoted on 15th September 2009

The overall poor performance was not because the companies evaluated were inactive or disengaged, but because they could not readily demonstrate that the extent of their activity to manage this issue was commensurate to the risk involved. It is quite possible that **BES** does not pose a material risk to some of these companies. However, the complexity of their supply chains and lack of risk assessment processes means that risk exposure is difficult to establish by an external assessor.

1.3.2 Remaining challenges

Activity is required in a number of areas before a comprehensive and credible picture of risk and opportunity assessment and management can be demonstrated.

Corporate risk assessment processes frequently did not adequately address biodiversity and ecosystem services

Despite a clear reliance of the companies evaluated on an agricultural supply chain dependent on healthy biodiversity and continued access to ecosystem services, only 15 (48%) companies had a well-communicated risk and opportunity assessment in place. Unilever, Dean Foods, United Plantations, M&S, SABMiller and BAT are examples of this. Aspects of risk assessment were comprehensively addressed by many of the companies assessed, for example, direct operational footprints on water and climate. However, on the whole companies are not yet undertaking a thorough analysis of the risks and opportunities relating to **BES**, which addresses all elements of risk and considers the supply chain as well as direct operations.

The lack of a documented and well communicated risk and opportunity assessment makes it extremely challenging for any stakeholder, including investors, to determine whether a company has 1) identified and understood risk exposure and 2) is managing it. Without a clear roadmap for action that is informed by a comprehensive analysis of the business' impacts and dependence on ecosystem services, it is difficult for companies to adopt a proactive rather than a reactive approach to the issue. Risks may remain unidentified and opportunities undeveloped. In such circumstances a company may be caught unawares by unpredicted issues, and actions may be dictated by whichever issues based group shouts the loudest, rather than strategic priorities.

Disclosures on BES were often inadequate for evaluating corporate performance

Less than half of the (48%) companies achieved level 3 or more (half marks) on the ESB's evaluation of the quality of their reporting on **BES**. Even the companies most advanced in their thinking on **BES** struggled to report a complete picture of how they are managing the associated risks and opportunities. Furthermore, our analysis showed that there was an average gap of 6% between the scores companies attained based on publicly available information compared to those based on undisclosed information. Some **BES** elements, such as water, were addressed with greater regularity than others, but frequently reporting focused on direct operations, while assessment throughout the supply chain is incomplete or absent. As a result it was challenging for stakeholders to determine whether a company has understood and is managing its risk exposure.

Although over half of the companies used the **Global Reporting Initiative** (GRI) reporting framework²⁰, none of the companies surveyed reported against the GRI biodiversity indicators in full. The absence of clear risk assessment activities on this issue makes it difficult to determine whether this lack of reporting is due to inadequacy of the metrics or perceived lack of relevance of the issue to the company.

Companies often lacked clear policy and strategy frameworks to drive action

Although 58% of the companies evaluated disclosed a statement of management approach on single commodities, only five (16%) companies had a clear BES policy and strategy framework. BAT was unique in disclosing a biodiversity statement. Ambiguous policy statements that only address a proportion of the supply chain are common in all sectors. This may lead to a lack of clarity and enforceability of corporate requirements of suppliers. Effectiveness of risk management will vary considerably as a result. PepsiCo offers a good model to follow having integrated ecosystem services into a stand alone policy on sustainable agriculture.

Table 2

Summary of findings by sector showing the percentage of companies scoring more than 50%

	Competitive advantage	Governance	Policy and strategy	Management and Implementation	Reporting	Overall benchmark scores
Percentage scoring > 50% i.e. level 3 and over						
Producers: Operational and compliance risk from dependence on ecosystem services, e.g. pollination, access to water for irrigation, healthy soils. Reputational risk from potential impact on biodiversity						
sector result	Best in class: United Plantations					
	<ol style="list-style-type: none"> 1. No company had a comprehensive risk assessment process that included BES, although Bunge was evaluating impacts on sensitive sites in Brazil 2. Policy commitments too high level to act as a framework to drive action 3. Sustainable agriculture initiatives were underway in all companies e.g. water management plans, integrated pest management, use of certification schemes 4. Only Bunge produced a CSR report and reported against relevant GRI indicators 					
	67	33	67	17	33	33
Processors: Exposed to operational and reputational risk through the supply chain, e.g. the Dove campaign against unsustainable palm oil						
sector result	Best in class: Unilever					
	<ol style="list-style-type: none"> 1. 50% (4) of companies showed elements of a risk assessment process (with water & carbon well addressed). Unilever was particularly strong 2. 50% of companies had high level policy commitments on BES, recognising its importance. These were too high level to act as a framework to drive improvements 3. Tools used to manage the issue included biodiversity action plans, incorporation of standards into supplier contracts, certification schemes and NGO collaborations 4. Targets were commodity focused with the exception of Cadbury which committed to "sustainably source 50% of agricultural commodities" 					
	75	75	63	25	63	63
Tobacco: Operational and compliance risk from dependence on ecosystem services, e.g. pollination, access to water for irrigation, healthy soils. Reputational risk from potential impact on biodiversity						
sector result	Best in class: BAT					
	<ol style="list-style-type: none"> 1. None had yet undertaken a comprehensive risk assessment, 50% (2) had strong building blocks e.g. risk and opportunity assessment tools, two companies had or were identifying potential impacts on biologically sensitive sites as part of this. 2. BAT was the only company in the survey with a standalone biodiversity policy 3. 50% of the companies used tools that enabled evaluation of supplier performance on BES, this was used to target and address weak suppliers through local audits 4. Two companies had pilot projects that addressed security of supply issues re BES 					
	50	50	50	50	50	50
Beverage: Beverage dependence on water as key ingredient exposes sector to operational risk. Agricultural supply chain also has dependence on ecosystem services regulatory and reputational risks						
sector result	Best in class: SABMiller/ Foster's					
	<ol style="list-style-type: none"> 1. Diageo & Heineken had evaluated impacts on protected areas, 22% companies had undertaken risk assessments that included water and carbon but none had undertaken a comprehensive risk assessment that included BES and the supply chain 2. PepsiCo was unique in having a sustainable agriculture policy including BES 3. Standards are in place in 60% of companies, but voluntary 4. Only sector using payments for ecosystem services as a tool to manage dependence (SABMiller). There are untapped opportunities to build shareholder value on this issue. 					
	50	83	83	0	66	83
Retailers: Reputational risk linked to consumer desire for ethical goods combined with high-profile NGO campaigns						
sector result	Best in class: M&S					
	<ol style="list-style-type: none"> 1. 86% (6 companies) had undertaken commodity focused risk assessment, comprehensive assessments were lacking, activity appeared reactive rather than proactive 2. 43% had internal standards covering aspects of BES, these were not disclosed due to concerns about competitive advantage and often did not cover the entire supply chain 3. Only one company (M&S) had a strategy/action plan of relevance to BES 4. Companies were piloting projects aimed at ensuring sustainability of supply Sainsbury & Carrefour were unique in addressing the issue of pollination 5. The sector showed a high level of responsiveness to NGO concerns 					
	86	86	57	43	57	57

Supplier performance standards are in place which incorporate BES, but these are often limited in scope or voluntary in nature

Whilst 45% of the companies evaluated had standards or detailed guidelines for sustainable agriculture or guidelines for sustainable sourcing that encompassed BES, only three of these (BAT, Imperial Tobacco and United Plantations) covered the majority of the companies' raw materials supply. These companies are characterized with relatively simple supply chains. Few standards were mandatory or enforceable through contracts. Hence their ability to ensure consistency of performance and compliance with company standards was restricted. Unilever, Dean Foods, Fosters, SABMiller, M&S, Carrefour all offer useful models to follow.

Activity to build shareholder value and ensure continued raw material supply is widespread, but it may not be proportional to corporate impact or risk

It was encouraging that 65% of companies had some form of pilot programmes in place or were engaging with initiatives aimed at overcoming barriers to sustainable supply such as the Roundtable on Sustainable Palm Oil. However, often these were small initiatives at local level rather than company wide schemes that deal with issues at a scale equivalent to the company's global footprint. Such programmes often reflected a reaction to immediate risks rather than being part of a longer-term strategic risk assessment that anticipated 'natural resource' crunch before it becomes a reality. Our research showed that SABMiller was the only company experimenting with payments for ecosystem services as a means of ensuring continued access to raw materials (in this case, water).

Management tools that encompass BES issues exist but often only address a small part of the company's supply chain

17 companies (55%) had developed tools relevant to the management of BES. It is encouraging to see a range of tools develop in this area – self-assessment checklists, audit protocols, farmer engagement programmes, contractual incentives, commodity trackers, biodiversity action plans, and guidelines for better management practices. However, these approaches are not yet widely or uniformly employed.

1.3.3 Areas of strong performance

It was encouraging to see activity to manage aspects of BES throughout all sectors.

Companies are actively managing material short-term risks

Many of the companies evaluated were actively managing their direct operational footprints and putting in stretch targets for water and climate impact management. This reflects the recognition that these pose the most immediate material risks.

Piloting of activities to ensure sustainability of supply is common

Throughout the entire supply chain companies are experimenting with approaches to minimising impacts on BES: 81% of the companies that we evaluated had pilot projects in place to address one or more aspects of ecosystem service dependence or biodiversity impact. The challenge will be to take the lessons learned from these initiatives and scale them up across the business, prioritising them according to levels of corporate risk and opportunity.

Activity to unlock shareholder value was well developed in some sectors

65% of the 31 companies were undertaking activities to differentiate corporate brand based on strong sustainability performance that incorporated some aspects of BES impacts and dependence. Activities such as third party certification against respected sustainable agriculture standards, consumer facing campaigns on sustainable sourcing or co-branding of products with environmental NGOs position these companies well to realise competitive advantage.

Engagement with stakeholders was used by a significant number of companies to build corporate capacity on BES

Partnerships with NGOs were relatively common, with 13 (42%) of the companies demonstrating close engagement with environmental NGOs to understand and address impacts and dependence. Such collaborations were used to inform, develop and implement strategy or to address specific issues of concern such as sustainable sourcing of fish, palm oil, timber or soya. M&S, for example, worked with WWF to define and implement Plan A, their 100 point environmental strategy. Carrefour is working with WWF to create a trial computerised self-diagnostic sustainable development tool for suppliers.



1.4 Relevance for investors

Failure to manage **BES** risks may have direct and tangible impacts on company financial performance, reputational risks and long-term commitments – which makes the investment analysis decision more challenging. In the same way that we have observed in the past nine years the increased coverage of environmental pollution (especially green house gases) by environmental, social and governance research analysts and increased demand from investors to understand perceived or actual risks, the emergence of **BES** as a systemic risk to the value of ongoing business operations as an investor issue is likely.

In the short term emerging risks are:

- **Increased reputational risks:** to institutions involved in controversial lending or investing. The reputational risks in this situation are generally at the corporate level and not transaction level;
- **Liabilities:** that may become apparent as national laws, banking regulations and reporting requirements become more demanding and increasingly seek to incorporate non-financial issues.

In the longer term, emerging risks are:

- **Lower and less secure investment returns:** loss of investment return as a result of clients' revenue dropping as they fail to achieve repayments or business growth targets as a consequence of failing ecosystem services and loss of biodiversity²¹.

Opportunities to capitalise on **BES** are increasingly evident, and a number of financial institutions are now servicing new and mainstream markets particularly for forest linked carbon credits and water.

1.5 Recommendations

There are a number of steps that investors and companies can take to be ahead of the game in managing risks associated with the impacts and dependence of investments / business operations on **BES**.

1.5.1 For investors

Investors that undertake the following will be well positioned to manage risks associated with **BES** as they crystallise.

1. Develop a clear policy of recognition and intent in relation to BES.

Commitment should be made to comply with the law and to avoid financing operations in areas of important biodiversity or providing significant ecosystem services

2. Build capacity to engage on the issue of BES

3. Identify areas of risk and opportunity within your portfolio

4. Identify high-risk companies (companies that are failing to manage their impacts and dependence on BES) using the Ecosystem Services Benchmark

Companies and their investors have long taken ecosystems services for granted, as if they came for free. Yet recent pressures on natural resources suggest that in future such services will start to command a premium, or, worse, become unavailable. This could have a profound impact on the strategies and valuations of companies in high-risk sectors.

Karina Litvack, Head of Governance and Sustainable Investment, F&C Investments

5. Engage with companies identified as high risk and ask the following questions:

- Does your process for identifying and managing environmental risks and opportunities include an assessment of potential impacts and dependencies on **BES**? If not, why not?
- What risks and opportunities have you identified from this process, and what is your strategy to address them?
- What policies and standards have been set in relation to sustainable sourcing of agriculturally based products and do they address **BES**? If not, why not?
- What tools and incentives are in place to encourage your suppliers to adhere to internal standards and requirements related to this issue?
- What assurance processes (monitoring, auditing, self-assessment) are in place to ensure that your suppliers are meeting your internal standards relating to this issue?

6. Disengage from companies that are known to be infringing legal requirements and / or consistently underperforming on the issue

1.5.2 For companies in the sectors evaluated

We recommend that companies:

- 1. Understand how the company is both impacting and dependent on biodiversity and ecosystem services using a stakeholder inclusive risk and opportunity assessment process.** A number of mapping and prioritisation tools are emerging that can assist companies in this. These include the World Resources Institute and World Business Council for Sustainable Development's Corporate Ecosystem Services Review², WBCSD Global Water Tool²² and the Integrated Biodiversity Assessment Tool (IBAT)²³.
- 2. Make clear policy commitments and develop a time-bound strategy or road map, with publicly communicated targets.** This could include commitments to understand, avoid, minimise and offset impacts on biodiversity and ecosystem services.
- 3. Act to manage those ecosystem services which are the most critical to the business** through setting standards, ensuring supply chain management tools address **BES** and by building the capacity of suppliers to understand and manage impact and dependence on BES.
- 4. Monitor the supply chain** to ensure that policies and standards are adhered to and to support suppliers in meeting requirements to conserve biodiversity and manage priority ecosystem services
- 5. Disclose activities to understand and manage risks and opportunities in relation to BES in more detail.** Disclosures should include: an outline of material risks and the process used to identify them, policy and strategy, management tools, performance against measurable and time-bound targets, potential impacts on **sensitive sites** and action taken to mitigate them.



1.5.3 For governments

A significant barrier to corporate action on the issue of biodiversity and ecosystem services is the failure of society to place a value on them. Measures of wealth fail to factor in the cost of ecosystem services. In the face of a rapidly increasing global population and fluctuations in resources compounded by a rapidly changing climate, these measures need to change. The ongoing review of The Economics of Ecosystems and Biodiversity²⁴ (TEEB) is examining this issue. The final outputs of the TEEB review are likely to deliver recommendations for policy makers that encourage the internalisation of some of these costs and incentivise protection of **BES**. Governments are encouraged to take on the recommendations from TEEB. The private sector is advised to engage with this initiative which has the potential to significantly change the parameters of corporate reporting and management.

The Natural Value Initiative can provide support with this as these groups move forward on these recommendations.

1.6 A final note

Fifteen years ago the Convention on Biological Diversity was created, in recognition of the significance of global loss of biodiversity to society. Four years ago the Millennium Ecosystem Assessment²⁵ showed that action was urgently needed on this issue. Biodiversity loss and ecosystem service degradation remains, however, an intimately linked but poor cousin to climate change. The period 2009-2011 will witness significant activity on the issue of Biodiversity and Ecosystem Services.

It is encouraging to see that a number of companies in this analysis have started the journey to understand and address their impacts and dependence on ecosystems. These early activities will position these companies (and those investors with an interest in them) well to respond efficiently and rapidly to the challenges that will inevitably be posed by this increasingly resource-constrained world. More needs to be done, but lessons learned from this early work combined with active engagement with cross-sector collaborations will be invaluable to help ensure this vital issue is tackled.

2 Introduction

The implications of corporate dependence on ecosystem services and impact on biodiversity are frequently overlooked. Yet they are inextricably linked with human well-being, climate change and food security – all issues that are high up the corporate agenda. Furthermore, biodiversity, like climate change, is subject to a major international convention – the Convention on Biological Diversity (CBD).

The period 2009-2011 will witness significant activity on the issue of Biodiversity and Ecosystem Services (**BES**). This will undoubtedly result in the issue rising up the policy and business agenda:

- A review of The Economics of Ecosystems and Biodiversity (TEEB) will conclude in 2010²⁶. Billed as the **BES** equivalent to the Stern Review on climate change, this is likely to have implications both for national and international policy. Business is viewed as one of the key audiences for the results, and private sector action on the issue is likely to be encouraged
- The extension of Millennium Development Goals²⁷ (MDG) to include much more demanding biodiversity targets will create a drive for action.
- The deadline for reaching the target **‘to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth’**²⁸ set under the CBD will be passed. New targets will be set in which the private sector will be expected to play a part.

In the face of these developments, active management of corporate impacts and dependence on **BES** will become increasingly important. Those companies identifying and managing risk most effectively, and pursuing opportunities to adapt and out perform their peers, will be best placed to respond to the coming ‘natural resource crunch’.

The international environmental NGO Fauna & Flora International (FFI)²⁹ has developed a benchmarking tool to evaluate current practice in the management of **BES** risk and the pursuit of related opportunities by the agriculture sector in collaboration with the United Nations Environment Programme Finance Initiative (UNEP FI)³⁰ and Brazilian business school Fundação Getulio Vargas³¹ (FGV). This report summarises the results achieved from the application of this tool – the **Ecosystem Services Benchmark** (ESB) – to 31 companies with agricultural supply chains in Brazil and globally in from September 2008 - March 2009. It outlines the potential risks and opportunities posed by a company’s impact and dependence on BES; sets out leading company and sectoral responses; makes recommendations for improvement; identifies areas of common weakness and offers some directions for future action.

The results are being used by the following investors to better understand the **BES** risks and opportunities in their investment portfolios: UK-based money managers Aviva Investors, F&C Investments, Insight Investment, Brazilian bank Grupo Santander Brasil, US-based money manager Pax World and a leading Australian pension fund, VicSuper. Collectively, these represent € 455 billion (approximately £ 398 billion, US\$ 633 billion¹⁶) of assets under management and provide a diversity of expertise from four differing markets.

3 Ecosystem services and biodiversity – a business issue

This section sets out the rationale behind investor interest in this issue. In it we outline why BES is an issue for business and the factors that interplay to create differing levels of corporate risk.

3.1 What are ecosystem services?

Biodiversity²⁸ (the variability within and between species and habitats) underpins the functioning of ecosystems, enabling them to provide the services that businesses require to operate. Such services range from water cycling and purification to the regulation of the climate and formation of soil (see box 2).

As set out within the 2005 United Nations Millennium Ecosystem Assessment (MA), ecosystem services are broadly divided into the following categories³³:

- **Provisioning Services:** the goods or products obtained from ecosystems, for example, food, fibre, biomass fuel, freshwater, genetic resources, biochemicals, natural medicines and pharmaceuticals.
- **Regulating Services:** the benefits obtained from an ecosystem's control of natural processes, for example, air quality regulation, climate regulation, water regulation, erosion regulation, water purification and waste treatment, disease regulation, pest regulation, pollination, and natural hazard regulation.
- **Cultural Services:** non-material benefits from ecosystem services, for example, recreation, spiritual values and aesthetic enjoyment.
- **Supporting Services:** natural processes that maintain other services, e.g. nutrient cycling, primary production and water cycling.

Box 2 **The link between climate, biodiversity and ecosystem services**

Deforestation is responsible for approximately 20% of annual greenhouse gas emissions due to the loss of the carbon storage function of forest and the release of stored carbon into the atmosphere. Other natural habitats such as grasslands and peat swamps play a similar role in storing carbon. Global climate policy is beginning to recognise the link between land use, land use change, release of greenhouse gas emissions and climate change. Furthermore, in addition to regulating greenhouse gas emissions, natural habitats play a vital role in regulating soils, nutrients and rainfall.

Demand for food is projected to increase 70-80% by 2055. As demand for basic commodities increases, this raises the pressure to convert natural ecosystems into farmland and to increase the intensity of production from already converted land. This may have implications for yield in the long term.

It is estimated that each year we are losing ecosystem services with a value equivalent to around € 50 billion, from land-based ecosystems alone.

Policy changes are under discussion to capture these costs, which are likely to strongly influence the cost-benefit analysis for further natural habitat conversion.

Source: MA (2005), TEEB (2008)



3.2 Why are biodiversity loss and ecosystem service degradation business issues?

According to the MA, more than 60% of these ecosystem services – including freshwater provision, climate regulation and soil fertility – are being degraded or used up faster than they can be replenished. World demand for food is forecast to increase by 70-80% within 50 years. Use of water for agriculture is expected to double by 2050³⁴. Freshwater use and fisheries capture is beyond sustainable levels with all the world's commercial fisheries likely to have collapsed in less than 50 years unless current trends are reversed³⁵. This downward trend in ecosystem services is likely to intensify, as demand for raw materials continues to grow.

As the world's population increases from 6.7 billion (2006) to a predicted 9.2 billion by 2050³⁶, we are likely to face considerable shortages of food, conflicts between people concerning the availability of land for fuel, food and biodiversity, and increasingly erratic water supplies caused by global changes in the climate. The degradation of ecosystem services clearly has implications for the long-term viability of the businesses that depend upon them.

3.3 A spotlight on the agricultural sector

Agricultural systems are dependent on **BES**:

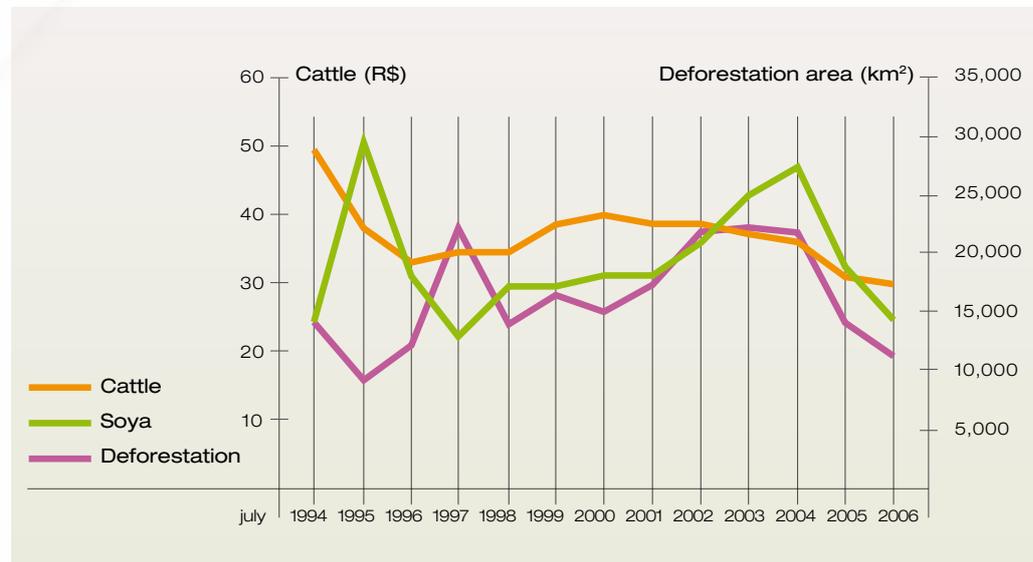
- Soil microorganisms, natural predators and natural genetic diversity are essential to maintain yields³⁷.
- 35% of the global food production from plants benefits from animal pollination. The value of this ranges from \$ 112 billion to \$ 200 billion annually. Bees are in decline globally, linked to escalating levels of pollution, disease, and loss of habitat.
- Natural habitats play a vital role in regulating climate, water flow (see box 2) and nutrient cycles, thus stabilising environmental conditions for crop growth.

Agriculture itself is a key cause of **BES** loss. Agriculture uses 70% of all available freshwater, it can result in depletion of soil nutrients, soil erosion, the introduction of invasive species and desertification³⁸. Cultivated land covers now one quarter of the world's land. This has resulted in loss or degradation of natural habitats such as forests and wetlands. It is estimated that a further 10-20% of grassland and forest will be converted to agriculture between 2000 and 2050³⁹ with associated loss of biodiversity and ecosystem services.

Changing consumer preferences are exacerbating this trend. Changing dietary preferences, for example, are resulting in an increase in meat within the diet. This requires greater amounts of land and water for production. Already the shift towards higher meat and livestock product consumption is one of the most important causes of deforestation worldwide⁴⁰. Figure 2, below, demonstrates the close links between annual deforestation rates and meat and soya. When the price of both products drops, deforestation rates reduce significantly in the following year.

Figure 2

Annual deforestation rates compared to meat and soya prices



Source: Imazon, <http://www.greenpeace.org/raw/content/france/presse/dossiers-documents/amazon-cattle-footprint.pdf> <http://www.greenpeace.org/raw/content/france/presse/dossiers-documents/amazon-cattle-footprint.pdf>

3.4 An emerging area of risk and opportunity⁴¹

A recent report from Eurosif and Oekom⁴² identified the agricultural sector as one with high risk associated with impacts on biodiversity and ecosystem services and high dependence. Such risks include:

- **Operational:** Increased scarcity and cost of raw materials such as freshwater or fish (including associated price effects throughout the supply chain) may narrow operational margins and result in disruption to production (see box 3). Natural hazards may cause disruptions to business operations. Higher insurance costs may be experienced for disasters such as flooding where natural defences have been compromised.

Box 3 **Overexploitation of ecosystem services is already impacting consumer choice**

52% of fish stocks are being fished at their maximum biological capacity. 24% are over-exploited, depleted or recovering from depletion. The Grand Banks fishery has collapsed beyond recovery and all the businesses that depended on it alone have gone. In 2007, Birdseye, UK based food manufacturer switched from cod to the more plentiful Alaskan Pollock as a result of concerns over the increasing decline of cod stocks. This is also anticipated to reduce profit margins as the cost of cod increases.

Source: FAO (2004) State of World Fisheries and Aquaculture (SOFIA) - SOFIA 2004. FAO Fisheries Department

- **Regulatory and compliance:** Risks arising from the emergence of new government policies such as taxes, moratoria on extractive activities and rationing of scarce resources. The new European Union (EU) Liability Directive⁴³, for example, which came into force early in 2009, will require companies to compensate for damage caused to ecosystems, habitats and species. In Brazil, the Forest Code⁴⁴ requires companies to set aside a proportion of natural habitats when land is developed and ensure that erosion measures and riparian zones are preserved.
- **Access to capital and markets:** Restrictions are increasing as the financial community adopts more rigorous investment and lending policies, or natural systems degrade reducing growth potential, raw material harvest or potential harvest. There is also an increasing trend for leading multinationals to set higher sustainability standards for their supply chains, requiring certain levels of performance in order to continue supply contracts.
- **Reputational:** There is a risk of damage to corporate reputation and to the value of particular brands from exposure from media and Non-Governmental Organisation (NGO) campaigns, shareholder resolutions and changing customer preferences. The risk arises from emotional associations in consumers' minds with the species and habitats potentially impacted by actions in a company's supply chain (see box 4).



There are potentially lucrative **BES** opportunities for companies as well as risks. These include:

- **Market differentiation for the company:** Preference will be to trade with producers that minimise the impacts arising from their use of resources. Companies that can demonstrate the sustainability of their production processes via third party certification schemes such as those required by the Roundtable on Sustainable Palm Oil (RSPO) or the Rainforest Alliance (RA) are likely to secure greater market share because they fulfil a growing aspiration on the part of consumers to bring their buying into line with their aspirations. The growth of the market for Fairtrade produce illustrates a similar trend, with a significant number of staple goods now being certified as Fairtrade.

- **Access to new revenue streams:** Companies that hold land-based assets may be able to benefit from payments for the ecosystem services provided by the assets under their management. For example, a number of companies with holdings of natural forests are investigating the potential for income generation through Reduced Emissions from Deforestation and Degradation (REDD)⁴⁵, a potential mechanism to reduce annual greenhouse gas emissions from deforestation that is under discussion for the post 2012 climate policy.
- **Opportunities for investment and increased efficiency:** Competitive advantage will be increased through the development of new technologies, raw materials and processes which enable companies to reduce resource use and degradation, improve efficiency, increase supply chain resilience and even restore the ecosystems on which they depend. Such developments may, in turn, offer investment opportunities.

Box 4 **Links between palm oil, soya and meat production with deforestation**

Greenpeace's recent campaigns on palm oil, soya and meat linked to concerns around deforestation and naming specific brands and companies within the production, processing and retail sector have gained considerable consumer support and encouraged further action towards the development of sustainable commodities.

Source: Greenpeace (2009) Slaughtering the Amazon, Greenpeace (2006) Eating the Amazon
 Source: FAO (2004) State of World Fisheries and Aquaculture (SOFIA) - SOFIA 2004. FAO Fisheries Department



© Greenpeace



3.5 Factors affecting risk and opportunity

The risks and opportunities faced by companies will vary according to where they sit within the supply chain:

- **Company size and complexity:** If a company sources from tens of thousands of suppliers, understanding and managing supply chain impacts and dependencies is hugely challenging. Conversely, those companies with less diverse supply chains, but a heavy focus on known high-risk crops such as soya or oil palm may be more exposed on this issue.
- **Brand visibility/ consumer preference:** Brand and consumer-focused organisations generally attract more attention from campaign groups than less visible corporate brands. Companies that seek competitive advantage and to build brand value based on ‘green’ credentials are particularly exposed to the risk of criticism for unwarranted impacts on **BES**, as these will be seen as evidence of inconsistency in policy and practice, or even of ‘greenwash’.
- **Operating environment:** Where the company sources from areas where laws regarding the protection of **BES** are particularly strong and well enforced, they may be exposed to risk if they are found to be mismanaging their impacts. Companies sourcing from areas where the application of laws is particularly lax may find themselves blamed for the consequences of poor public management of common property resources.
- **Ability to switch product/ supply:** Companies sourcing from the commodities markets are disassociated from direct risks linked to poor corporate performance. Equally, however, they are exposed to risk associated with being linked to the poorest performing supplier.
- **Nature and location of operations:** Companies directly involved in, or with a relatively high degree of influence over, farming practices and natural resource may be exposed to both reputational risk and direct operational risk, particularly where company operations are in areas of known importance for conservation or where the use of ecosystem services is known to be unsustainable.

3.6 Relevance of Biodiversity and Ecosystem Services impacts and dependence to the finance sector

The financial sector's role in facilitating others to damage **BES** is increasingly being recognised. It has an indirect role in the biodiversity and ecosystems services footprint of companies through investment in the equity and loans to firms that are growing their business across the world. Internationally, momentum for sustainable development and the integration of environmental, social and corporate governance factors in investment decisions has gained traction in this century. By 2008, 500 companies representing US\$ 18 trillion assets were signatories to the Principles for responsible investment. Of these, companies operating in emerging markets represented US\$ 440 billion. This clearly demonstrates the recognition by mainstream capital markets of the importance of environmental and social issues to the investment process⁴⁶.

The 2008 global financial meltdown has raised the sensitivity of individuals, companies, investors and governments to unmanaged risks. The purpose and role that modern financial institutions play in economic development is under scrutiny.

The risks outlined for the food, beverage and tobacco sectors in section 3.5 translate into potentially material risks and opportunities for the financial sector. Risks include:

- **Reputation and brand:** Society at large is focusing on the causes of, and responsibilities for, **BES** loss. The financial sector is seen as a key point of leverage in enabling **BES** loss (and also as a mechanism for effecting better **BES** assessment and management). Failure to understand exposure to risk on this issue may impact reputation and brand. The International Finance Corporation, for example, amongst others, came under fire in 2004 for their investment in Grupo André Maggi due to pressure group concerns about agricultural expansion into the Amazon⁴⁷.
- **Liabilities and compliance aspects:** The decline in **BES** is likely to result in increased regulation as governments and the international community factor the management of ecosystem services into private sector activities.
- **Investment returns:** Loss of investment returns arising from (1) disruption to business operations caused by natural hazards, (2) reduced (agricultural) yields and insecurity of raw materials, (3) increased insurance premiums, (4) costs imposed by governments in efforts to curb Greenhouse Gas (GHG) emissions, (5) declining collateral value of land, and (6) declining share price or company valuation as a result of disruption in supply of goods and services dependent on **BES**.

Opportunities to capitalise on **BES** are increasingly evident, and a number of financial institutions are now servicing new and mainstream markets particularly for forest linked carbon credits and

water. Commitments made by Citigroup and Bank of America totaling US\$ 70 billion for financing climate change programmes including forest based programmes are an example of this⁴⁸. Another example is public and private payments for watershed services which are predicted to increase from a current estimate of US\$ 1.5 billion per year to US\$ 3 billion in 2010 and US\$ 30 billion by 2050. UNEP FI predicts an increase in such opportunities as a result of increasing legitimacy of returns from the carbon markets and a realization that ecosystem services and provide acceptable rates of return⁴⁹.

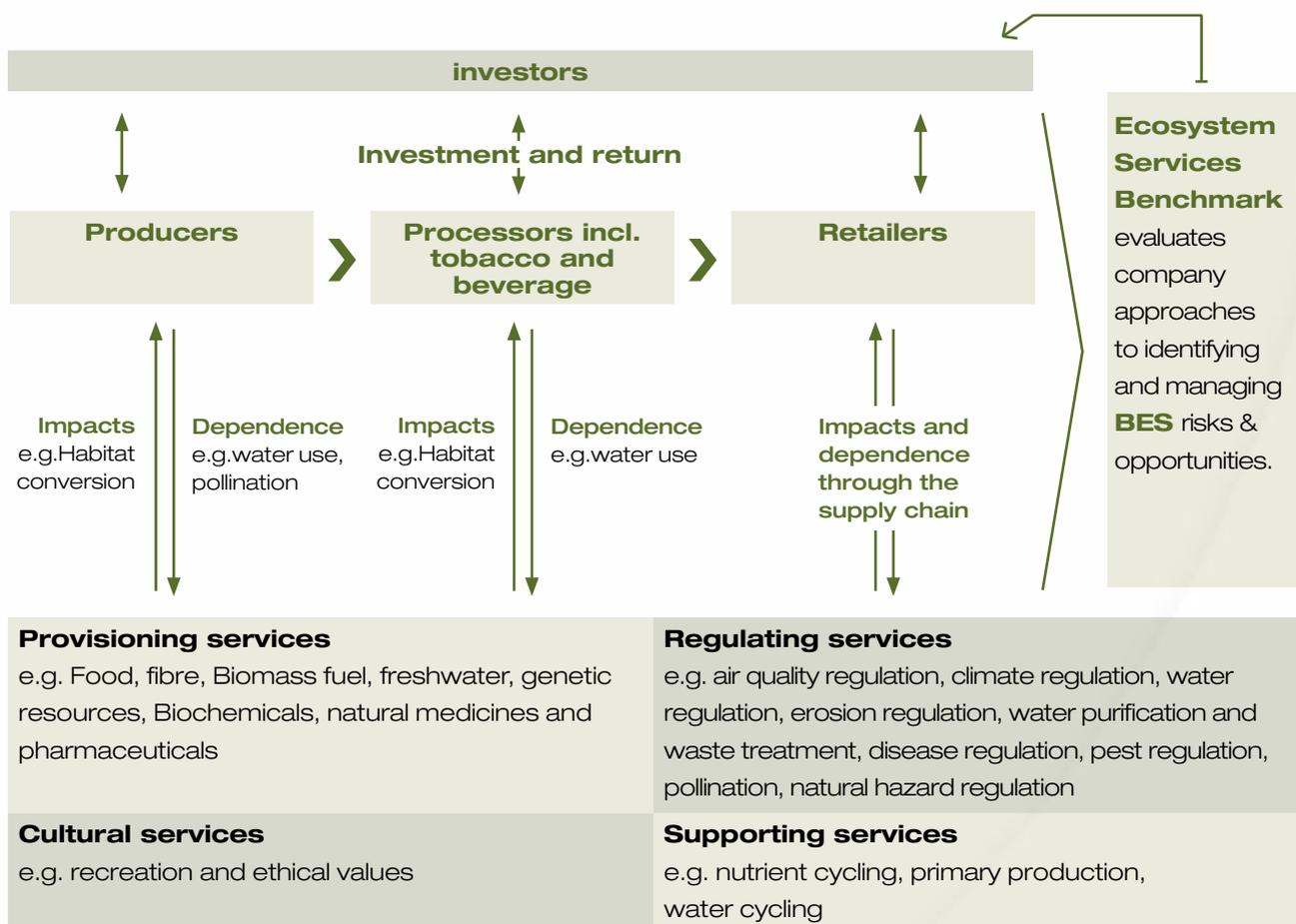
Insight Investment has used benchmarking on a wide range of topics and companies to provide the information required for effective engagement with companies within our investment portfolios. It provides an objective and consistent way to assess companies' performance and identify leaders and laggards. Repeating benchmarks regularly has resulted in real changes to corporate performance.

Rachel Crossley, Director, Insight Investment

UNEP FI's 2008 report on biodiversity and ecosystem services 'Bloom or Bust'⁵⁰ showed that considerable activity was already underway within the finance sector on this issue. Asset managers such as F&C Investors and Insight Investment both have programmes in place on biodiversity. The International Finance Corporation has safeguard policies that require avoidance, management and compensation of impacts on **BES**⁵¹. The Equator Principles⁵² (to which 60 financial institutions are now signatories⁵³) follow these safeguard principles. Investor-backed initiatives such as the UK Government-backed Forest Footprint Disclosure Project (FFD)⁵⁴ launched in June 2009 are making a link between deforestation and corporate risk. The FFD aims to help investors identify how an organisation's activities and supply chains contribute to deforestation. Some investors are focusing on specific commodities; for example, the recently launched Soy Supply Chain policy from Rabobank launched in 2009 requires companies linked to the production of soya to avoid impacting on biodiversity as a condition of financing.

UNEP FI noted in 2008 that there was a need for **"consistency in consideration of BES aspects of financing and investment"** and "clear, simple and practical guidance and checklists". The ESB aims to do this. Figure 3 shows how the ESB analysis enables investors to understand the link between the companies in which they invest and **BES**.

Figure 3 **The agricultural supply chain and its links to investors, the ESB and ecosystem services**



4 Methodology

This section outlines the Ecosystem Services Benchmark methodology (ESB) developed and used by the Natural Value Initiative (NVI).

4.1 The Ecosystem Services Benchmark

The Ecosystem Services Benchmark (ESB) is based on a benchmarking methodology that was originally developed by the UK-based asset manager Insight Investment and Fauna & Flora International for the oil and gas⁵⁵, mining and utilities sectors. Following two rounds of analysis of up to 36 companies in the extractive sector, and positive feedback on its utility for the finance sector, the methodology was adapted for application to companies with agricultural supply chains.

The ESB draws from a range of materials including (but not limited to) the Global Reporting Initiative, Corporate Ecosystem Services Review⁵⁶, Roundtable for Sustainable Palm Oil Principles and Criteria⁵⁷, ISO 14001 and the International Finance Corporation (IFC) Performance Standard 6⁵⁸. It was developed based on consultation with a range of stakeholders including academics, environmental groups, social groups, the food, beverage and tobacco sectors, and the finance sector. Consultation was through two workshops conducted in Brazil and the UK in 2007 and via email to a network of over 400 interested parties.

4.2 Company sample

See section 3 for an overview of business risk

The companies included within our analysis are outlined in Table 3. These were selected on the basis of interests held by the investors with which we are collaborating.

The sample combines multinational companies with Brazilian based companies as a means of creating a snapshot through the supply chain. Brazil was selected as a foci for the pilot as financial institutions within the country are increasingly active on environmental risk and the country plays a vital role in the global food web and is responsible for 25% of the world's food production⁵⁹. It is a leader in global production and exports of agricultural commodities such as beef, coffee, cotton, maize, orange juice, pork, poultry, soya, sugar, tobacco and derivative commodities such as processed meat⁶⁰.

The food and beverage sector was identified as having risks associated with biodiversity by both the UNEP FI⁶¹ and F&C Investments⁶². These sectors are amongst those most dependent on ecosystem services, and also have the potential to have a significant impact on biodiversity. Most companies in the food sector were categorised as high risk, whilst beverage and tobacco companies were seen as belonging to medium-risk sectors. As such they are exposed to operational, regulatory and reputational risks, whilst also having access to a range of associated business opportunities.

We have been closely involved in the development of the methodology the NVI has used to evaluate the 31 companies. We will be using the results of the Ecosystem Services Benchmark to identify companies that need further action on this issue and ask more about their approach. The ability to understand where the less proactive companies are on an issue and focus our effort in these resource-constrained times is invaluable.

Julie Gorte, Senior Vice President for Sustainable Investing, Pax World

Table 3 **Companies within the analysis**

Company	Stock exchange	Market capitalisation (€ billion)
Producers		
Açúcar Guarani (ACGU3)	São Paulo	0.63
Bunge (BG)	NYSE	5.46
COSAN (CZZ)	NYSE	1.56
Grupo André Maggi	Private company	0.00
SLC Agrícola (SLCE3)	São Paulo	0.59
United Plantations (UTDPLT)	Kuala Lumpur	0.53
Processors		
Cadbury plc (CBRY)	London	11.95
Dean Foods (DF)	NYSE	2.23
Groupe Danone (BN)	Euronext	24.57
Hain Celestial (HAIN)	NASDAQ	0.45
Nestlé (NESN)	SIX Swiss Exchange	105.21
Parmalat Brazil (LCSA4)	São Paulo	2.80
Sadia (SDA)	NYSE	0.94
Unilever (UN)	Amsterdam	52.15
Tobacco		
Alliance One International (AOI)	NYSE	0.29
British American Tobacco (BATS)	London	44.11
Imperial Tobacco Group (IMT)	London	20.18
Philip Morris International (PM)	NYSE	62.56
Beverages		
The Coca-Cola Company (KO)	NYSE	81.41
Diageo plc (DGE)	London	26.67
Foster's Group (FGL)	Australian Exchange	6.36
Heineken N.V. (HEIA)	Amsterdam	15.11
PepsiCo (PEP)	NYSE	62.48
SABMiller plc (SAB)	London	25.68
Retailers		
Ahold (AH)	Amsterdam	10.23
Carrefour (CA)	Euronext	21.93
M&S (MKS)	London	6.57
Sainsbury's (SBRY)	London	6.91
Tesco (TSCO)	London	34.46
Wal-Mart (WMT)	NYSE	134.79
Woolworths (WOW)	Australian Exchange	20.78

Note: abbreviations after company name refer to company 'Tickers'. Click on company name to link to Investor Relations web page. Source: www.corporateinformation.com and www.google.com/finance
 Figures quoted on 15th September 2009

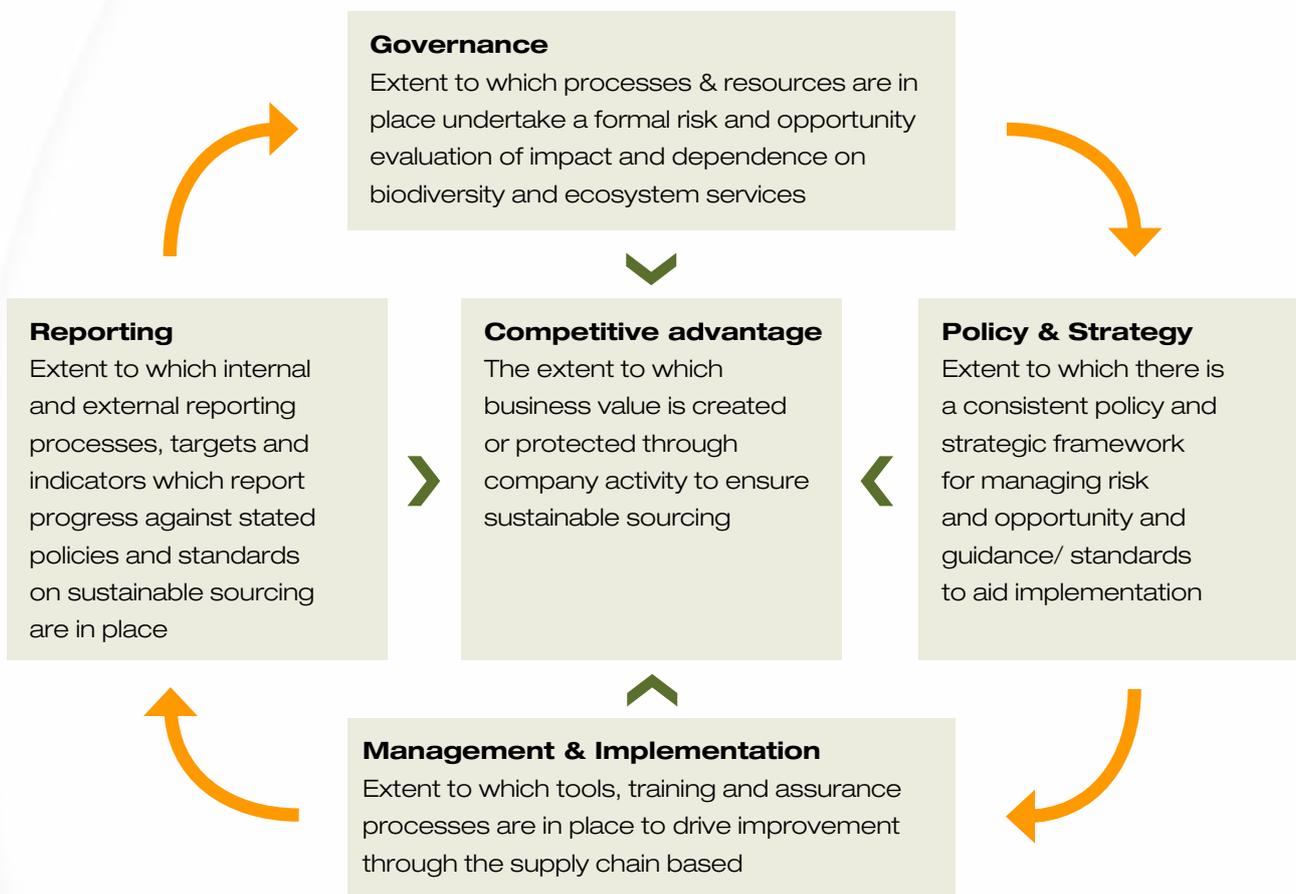
4.3 How did we conduct the study?

See the Ecosystem Services Benchmark Guidance document for further information on the methodology

Our analysis was conducted from September 2008 to March 2009 based on publicly available information (see figure 4, below). The ESB considers five interdependent categories of performance: competitive advantage, governance, policy and strategy, management and implementation, and reporting.

Ideally a company should demonstrate activity across all sections commensurate with the nature and scale of the risk involved. For example, having a clear policy and strategy helps drive change through the business, but will not be effective without appropriate governance structures that assign responsibilities and focus effort⁶³. Similarly, devising a good policy and strategy lacks credibility without the tools and competencies to implement them and then test that implementation. The benchmark sets stretch targets based on elements of strong performance in different companies and it is to this that the analysis refers when it refers to best practice.

Figure 4 An overview of the components of the ESB analysis



Our approach was collaborative in nature. It was not intended as a name and shame exercise, but rather as a means of drawing out best practice and areas of common weakness to enable collective action to address them. Each company was invited to discuss their results with us to ensure that they were an accurate reflection of its activities and to supplement information in the public domain with additional internal information. Of the 31 companies, 22 (71%) responded to this invitation.

Strengths, weaknesses and suggestions for improvement were highlighted to each company. It is these suggestions for improvement that our investor collaborators are using in their ongoing dialogue with companies identified as underperforming within the analysis.

4.4 How will this study be used?

This analysis and the individual company reports that support it will be used by Aviva Investors, F&C Investments (see box 5), Grupo Santander Brasil, Pax World and VicSuper as the basis of an ongoing engagement process between the investors and the companies evaluated.

The investor group that piloted the ESB intend to use the ESB to support their existing commitments to factor in social and environmental performance into their investment analyses. They will do so by undertaking a selection of the following actions:

- 1. To build capacity to engage on the issue of BES:** through engaging in the development and application of the ESB as research is undertaken.
- 2. To identify areas of risk and opportunity within their investment portfolio:** through this process, investors have identified poorly performing or high-risk companies or sectors, future effort on the issue of **BES** will be prioritised based on this.
- 3. To identify high-risk companies:** where companies have been identified as lacking well-developed systems to identify and manage impacts and dependence on **BES**, the information from the ESB is being used to highlight areas of weakness to those companies.
- 4. To encourage improved performance through engagement with companies identified as high risk:** the information from the ESB will be used to inform shareholder resolutions on controversial issues and will be used as a vital part of investors' engagement strategies with important investments. Where weaknesses have been identified, companies will be asked in a formal letter from the investors to the company CEOs to address them. Actions taken by companies to improve their approach to managing the issue will be tracked by the investors involved in this initiative.
- 5. To disengage from companies that are known to be infringing legal requirements:** For the direct purpose of protecting the **BES** or protecting investor clients from companies that are identified as high risk from the analysis above and continue to show no or minimal activity.

The study will also be used to build expertise in the finance sector to evaluate **BES** opportunities and risks within the food, beverage and tobacco sectors, and drive integration of these issues into investment decisions. It will support the work undertaken by the TEEB team to address the fundamental issue that ecosystem services are not currently valued within society's measures of economic growth or financial performance.

Box 5 **How F&C Investments is using the benchmark**

Representatives from **F&C** attended just under a third of the meetings with the NVI team, both to observe and learn from the methodology employed, and also to add questions on specific issues to the company. Each company was provided with a summary of the NVI analysis prior to the meeting and as investors, we were able to review a much more detailed report that underlay the summarised analysis. We will be using these summaries and overall analysis to better understand the long-term risks in our portfolio and inform our ongoing dialogue with investee companies where relevant.

The non-confrontational approach of the study is important, as the management of ecosystem services is very much an emerging issue albeit an important one. We support the NVI approach not to rank companies publicly, but to adopt a collaborative style of interaction. We believe that the public sector reports and company specific reports should act as a clear framework for moving forward on areas of weakness.

By engaging with the companies through the NVI, we are clearly signalling that the investment community believes this issue is of increasing importance. Companies and their investors have long taken ecosystems services for granted, as if they came for free. Yet recent pressures on natural resources suggest that in future such services will start to command a premium, or, worse, become unavailable. This could have a profound impact on the strategies and valuations of companies in high-risk sectors. The Natural Value Initiative will help us to identify which companies understand and manage those risks – and which companies are in danger of losing out.

Karina Litvack

Head of Governance and Sustainable Investment, F&C Investments

5 Analysis of results by sector

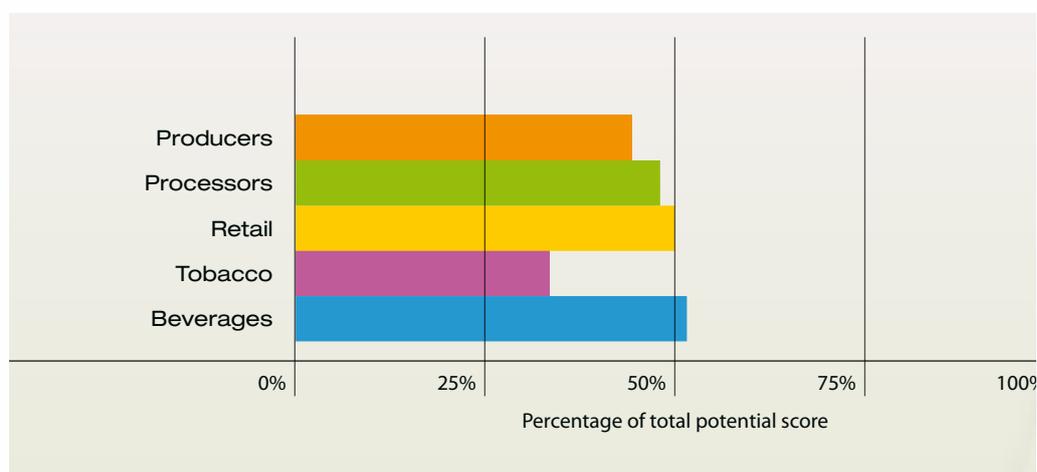
This section outlines the results of the Ecosystem Services Benchmark by sector. The results highlight examples of best practice and common areas of weakness.

5.1 Overview of all sectors

Overall, the beverage sector outperformed the other sectors in the analysis, with the average results just exceeding 50% of the potential score. The tobacco sector was the weakest performer, with producers also attaining lower scores than the other sectors. These sectors included a two (tobacco) and five (producers) companies that produce very limited external disclosures on environmental issues (no sustainability reports or limited disclosures on the website), and little or no specific reference to biodiversity and ecosystem service issues.

Figure 5

Comparison of average scores across the five sectors analysed



Only one company in the analysis attained level 4 (best practice), 17 attained level 3, 8 attained level 2 and 5, level 1. Companies classed as level 1 are considered high risk.

Our analysis included on both Brazilian and multinational companies in order to obtain an analysis of a cross-section of the supply chain. There are obvious challenges in comparing such diverse companies linked to size, culture and also business pressures. It would be fair to say that there has been a greater focus on environmental and social issues, corporate risk and disclosure in Europe, than in Brazil. Nonetheless, Brazilian companies operate under strict environmental legislation that requires set-asides to maintain habitat and protect water-bodies.

Our expectation was that the Brazilian companies in the sample would have less sophisticated reporting on the issue. This was confirmed. However, they also demonstrated a strong understanding of sustainable agriculture practices and had a number of innovative partnerships and collaborations in place to ensure sustainable sourcing. However, many are in their early stages, particularly for those companies focused on the internal market. An improvement in the results of these companies on this issue is foreseen in years to come, as the pilot projects and partnerships identified in this analysis evolve.

We highlight below key areas of risk and opportunity noted within each sector, providing examples of good practice. Further examples are provided in the NVI website <http://www.naturalvalueinitiative.org>.

5.2 Producers

5.2.1 Sector overview

Producers

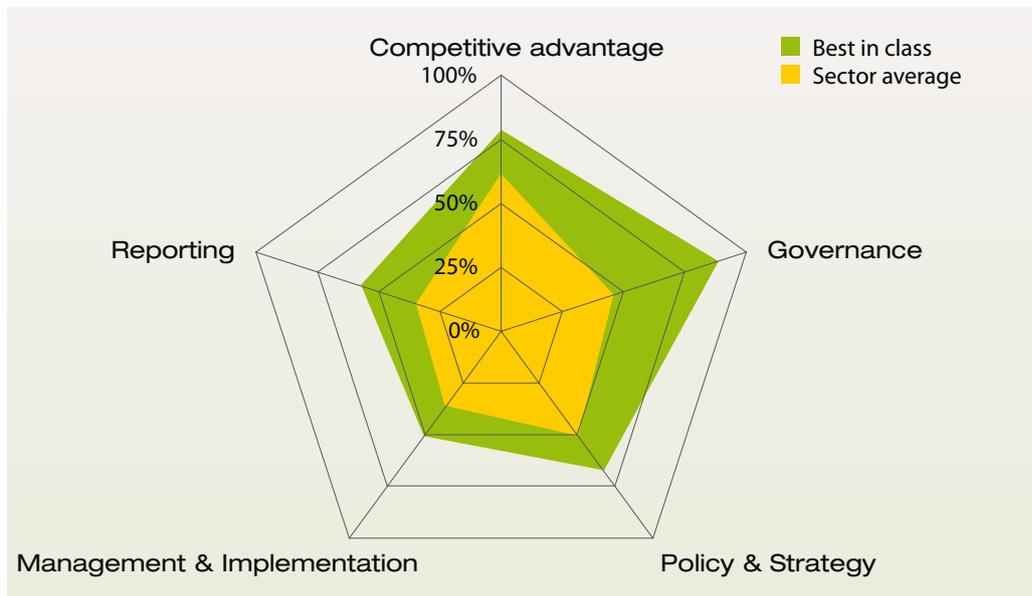
Açúcar Guarani
Bunge
COSAN
Grupo André
Maggi
SLC Agrícola
United Plantations
(Best in class)

The six companies in this sector had a variety of business models: single or multiple commodity producers; some located in only one or two countries, others operating multi-nationally; some owning land, others sourcing products through third parties. Cross-comparison is therefore challenging particularly when comparing companies producing commodities covered by mature certifications schemes compared to those producing products for which such schemes do not exist or are still developing. Our results should be viewed with this in mind. The companies' main products included soya, palm oil, coffee, corn, cotton and sugar (all commodities subject to NGO campaigns or investigation). Four of the six (67%) companies are headquartered in Brazil, reflecting both the Brazilian focus of our research effort and the range of key agricultural commodities implicated in deforestation.

Companies in this sector were at an early stage of development of their approach to **BES** and, in some cases, to environmental management generally (see figure 6).

Figure 6

Producer sector scores by ESB category



5.2.2 Main findings

Key areas of risk and opportunity identified from our analysis are as follows:

- **None of the companies reviewed had adequately included biodiversity and ecosystem services in their risk and opportunity assessment processes.** Bunge had started activity in this area and was evaluating potential impacts on important areas for biodiversity. Companies receiving IFC loans/funding (SLC Agrícola and COSAN) appear to be carrying out some form of risk assessment as a requirement for the loan, but the scope and outcomes of this process was not clear.
- **Policy commitments were high level on this issue and did not act as a clear framework for communication with suppliers and other stakeholders.** United Plantations makes reference to BES or sustainable agricultural practices within their policy commitments but this is high level. None of the companies made detailed disclosures on BES. Maggi Group in Brazil had produced Good Farming Practices that include commitments to having no impact on Protected Areas, no illegal deforestation and implementation of environmental improvements. These were guidance rather than policy commitments.

- **Companies were using a range of management tools, but application was often limited in scope, hence some areas of risk may be unmanaged.** The majority of companies incorporated some aspects of BES in on the ground activities and active farmer outreach programmes. All six companies had tools in place to improve production using sustainable agriculture practices such as integrated pest management, soil and water management plans, and strict contracts with suppliers. Perhaps the most advanced is Bunge's work with Conservation International and Oréades in Brazil (see box 6). All companies engage in some form of multi-stakeholder commodity platform appropriate to their key products such as the Roundtable on Responsible Soy (RTRS)⁶⁴, the RSPO⁶⁵ and the Roundtable on Sustainable Biofuels (RSB)⁶⁶. However, none of the companies had systems that would enable a customer/ investor to form a robust judgement on the extent to which the company is managing its environmental – or social – footprint, and it was not clear how such activities linked to risk.
- **There were no comprehensive evaluation systems/ assurance programmes to measure supplier performance in relation to BES.** Assurance of environmental performance was particularly weak. There were some notable exceptions. United Plantations, for example, had obtained external certification for its production systems, while Grupo André Maggi, Bunge and SLC Agrícola are developing and implementing Environmental Management Systems (EMS) which could act as a framework to manage BES impacts and dependence. Guarani collects a wide range of farm level information from habitat restoration, fauna and flora and water quality, amongst others, but only some of the monitoring programmes in place are extended to the supply chain. Only Grupo André Maggi claims to have reviewed 100% of its suppliers.
- **Limited public disclosures, a lack of targets and a focus on qualitative data made it challenging to evaluate corporate performance on this issue.** For example, none of the companies disclosed details on internal standards required of farmers/ suppliers in relation to sustainable agriculture, though all claimed to

Box 6 **Bunge: managing biodiversity and ecosystem services risks in Brazil**

Bunge Limited, Brazil's largest soybean processor, has entered into a partnership with two NGOs, Conservation International and Oréades, to help suppliers in the Cerrado manage their lands and conserve biodiversity. The partnership began in 2004 to assist farmers in the strategic placement and establishment of legal private reserves, as required by Brazil's Forestry Code. The partnership encourages farmers to implement agricultural practices that reduce the ecological impacts of soy cultivation and identify areas with high concentrations of biodiversity.

In a pilot project approximately 50 soy farmers who manage nearly 150,000 hectares from the mid-western and north-eastern regions (adjacent to Emas National Park, between Goiás, Mato Grosso and Mato Grosso do Sul). A further area in the south (the State of Piauí) was added in 2006. Farming expansion there has been more recent and the work is concentrated on adapting the legal reserves to form corridors of native vegetation that guarantee the survival of the region's biodiversity.

Environmental requirements are written into supplier contracts and failure to comply with Bunge's requirements result in the contracts being voided and the fertiliser supplied to farmers being stopped.

Source: Bunge (2009) Sustainability Report

have such standards in place. Only Bunge produced a Corporate Social Responsibility (CSR) report with detailed information. This followed the requirements of the GRI, including the biodiversity indicators though the latter addressed the fertiliser side of the business, rather than agricultural production. Only one company had set a target that related to biodiversity or ecosystem services (no sourcing of soybeans from the Amazon region - Bunge), most targets set related to specific issues, such as waste and energy.

- **Activity to build brand value and unlock shareholder value is developing in the sector.** Most of the producers reviewed addressed sustainability of supply in some way, examples included projects which attempt to reduce company's own footprint involving reforestation, rehabilitation of headwaters to guarantee water quality and quantity and soil conservation. However, rarely were these activities clearly linked to an evaluation of corporate risk and opportunity associated with the issue.



5.3 Processors

5.3.1 Sector overview

Processors

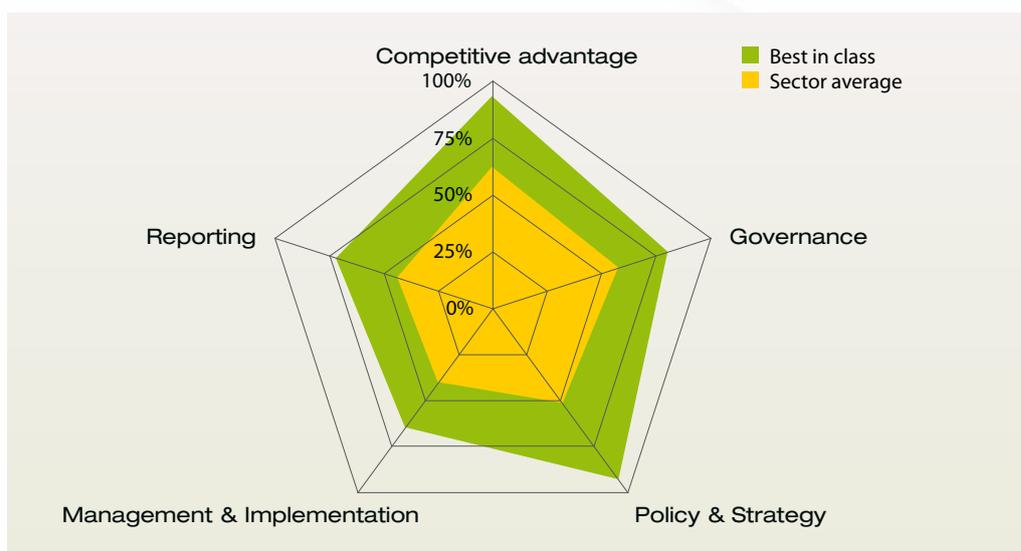
Cadbury plc
 Dean Foods
 Groupe Danone
 Hain Celestial
 Nestlé
 Parmalat Brazil
 Sadia

Unilever
(Best in class)

This sector was the second highest performer, with Unilever attaining the highest scores in the sector and in the benchmark as a whole (see box 7). Areas of particular strength were competitive advantage, governance, and policy and strategy (figure 7). This reflects the sector's high-brand visibility, which makes the issue one of competitive advantage, but also makes these companies very visible targets for campaign groups. The last few years have seen high-profile research and campaigns by pressure groups on soya, palm oil and fish. A recent report by Greenpeace⁶⁷ has placed a spotlight on the role of the meat industry in deforestation in the Amazon – in particular for processed food and ready meals, many of which find a market in Europe. A number of processor and retail sector companies were cited in the analysis.

Figure 7

**Processor
sector scores
by ESB
category**



5.3.2 Main findings

Key areas of risk and opportunity identified from our analysis are as follows:

- **The lack of a comprehensive risk and opportunity assessment process may undermine attempts to manage the issue.** Although half of the companies had undertaken some form of risk assessment of their supply chain, these often focused on water and carbon. None of these analyses were comprehensive with regards to BES. The most developed approach is that of Unilever. The company had undertaken a risk evaluation based on stakeholder views, the volume of commodity sourced, and the level of influence the company can influence over performance. This resulted in prioritisation of action on a number of key commodities over which the company felt it could exert influence.
- **The sector has clearly recognised the importance of BES, but policy commitments were high level and did not provide a clear framework for action.** 50% of the companies used policy commitments to state intent with regards to biodiversity. Four companies had signed up to the CEO Water Mandate and had policy commitments on the management of water. It was encouraging that one of the companies is developing a separate biodiversity policy.
- **Companies were using a range of management tools, but application was often limited in scope, hence some areas of risk may be unmanaged.** Tools used included biodiversity action plans (Unilever), incorporation of standards into supplier contracts (Hain Celestial, Dean Foods, Unilever), self-assessment checklists (Hain Celestial, Dean Foods, Danone, Unilever), NGO collaborations (Dean Foods, Groupe Danone, Cadbury) and certification schemes (Hain Celestial, Dean Foods, Nestlé, Unilever). Only one company (Unilever) reported a comprehensive set of tools and approaches to ensure implementation of policy and standards.
- **Activity to build brand value and unlock shareholder value was widespread in the sector.** Six of the eight (75%) companies showed activity aimed at building brand value and marketing 'sustainable products'. Third party assurance was used by a number of companies to differentiate products and demonstrate sustainability credentials. Nestlé, for example, has adopted a programme of certification against sustainable agriculture standards for coffee production (see box 8) and Unilever has made commitments to sourcing Rainforest Alliance certified tea.

- **Limited public disclosures, a lack of targets and a focus on qualitative data made it challenging to evaluate corporate performance on this issue.** All companies focused on high level policy statements, case studies and qualitative data in their public disclosures, none were able to report quantified data on the issue. Disclosures on the rationale behind the company's implementation activities were particularly weak and disclosures on the proportion of company activities covered by these implementation activities was rare. Unilever, Cadbury and Nestlé had set targets relevant to BES. Of these, only Cadbury addressed the supply chain more broadly ('sustainably source 50% of agricultural commodities'). The other two (Unilever, Nestlé) were commodity specific commitments on coffee, palm oil and tea, representing a small proportion of the companies' supply chain.

Box 7 **Best in class: Unilever**

Unilever scores top of the processors and of this analysis as a whole, with areas of particular strength in competitive advantage, standards and the development of projects aimed at addressing barriers to sustainable sourcing:

- Unilever showed a structured way of building brand value and addressing barriers to sustainable sourcing through its Brand Imprint tool which takes a 360 degree look at product impact from environmental, social and economic perspectives, and actions are developed accordingly.
- Unilever has policy commitments to 'minimise any adverse effects on soil fertility, water and air quality, and biodiversity from agricultural activities'.
- The company has developed sustainable agriculture standards, which provide guidelines for farmers. These have been developed for the crops that Unilever sources in the greatest volume, in consultation with an external advisory panel. The documents outline sustainable best management practice for each crop, against 11 sustainability indicators, which include: soil fertility/ health; soil loss; nutrients; pest management; biodiversity; value chain; energy; water; social/ human capital; local economy and animal welfare. By 2005, good practice guidelines were published for peas, spinach, palm oil and tomatoes, and requirements are incorporated into contracts with growers. These guidelines have been adopted/ adapted by companies in a number of other sectors.
- The company has produced biodiversity action plans for two sites and a farmer-focused tool to assist farmers in addressing sustainability indicators, including biodiversity.
- Unilever discloses an unusually thorough range of training programmes; it conducts workshops with suppliers and has developed commodity specific training which includes biodiversity and ecosystem services.

Source: <http://www.Unilever.com> (March 2009)

Box 8 **Tools and approaches to sustainable agriculture - Nestlé's Nespresso Sustainable quality programme for coffee**

The Nespresso AAA Sustainable Quality™ Coffee Program aims to **stabilise the supply chain and safeguard the long-term supply** of the highest quality coffee. It promotes environmental sustainability and social responsibility on the farms that produce coffee for Nespresso's gourmet espresso capsules. The programme discourages the unnecessary use of fertilisers, encourages integrated pest management strategies and promotes use of shade coffee to better protect the crops from erosion, and diversify the plantation area. Trees used for shade such as banana, citrus, avocado, both provide nutrients to the soil and offer additional sources of income for farmers. The programme protects ecosystems by incorporating planning and management of protected natural areas. It prohibits hunting and captivity of wild animals and illegal logging. The programme includes ecosystem restoration, e.g. planting trees near water sources. The Rainforest Alliance Sustainable Agriculture Network (SAN) verifies that the farms in the AAA programme are implementing better methods and are decreasing their impact on the natural world.

The Tool for the Assessment of Sustainable Quality (TASQ™) is used to help implement the AAA programme. It includes quality, environmental, social and economic indicators. Farmers and growers are provided with a self-assessment guidebook and are trained to use it. A team of agronomists later assesses these farms and the resulting data from the TASQ™ is analysed. Farms found to be falling short on certain critical practices such as deforestation or the misuse of dangerous agrochemicals must correct these problems before they can qualify for the programme.

Currently 50% of Nespresso coffee is sourced through this programme (25,000 farmers in five countries). Nespresso has recently committed to source 80% (80,000 farms, nine countries) of its coffee from the AAA Sustainable Quality™ Coffee Program including Rainforest Alliance Certification™ by 2013.

Source: <http://www.ecolaboration.com/#/aaa/en/coffee/aaa> (July 2009)

5.4 Tobacco

5.4.1 Sector overview

Tobacco

Alliance One
International

**British
American
Tobacco**

(Best in class)

Imperial Tobacco
Group

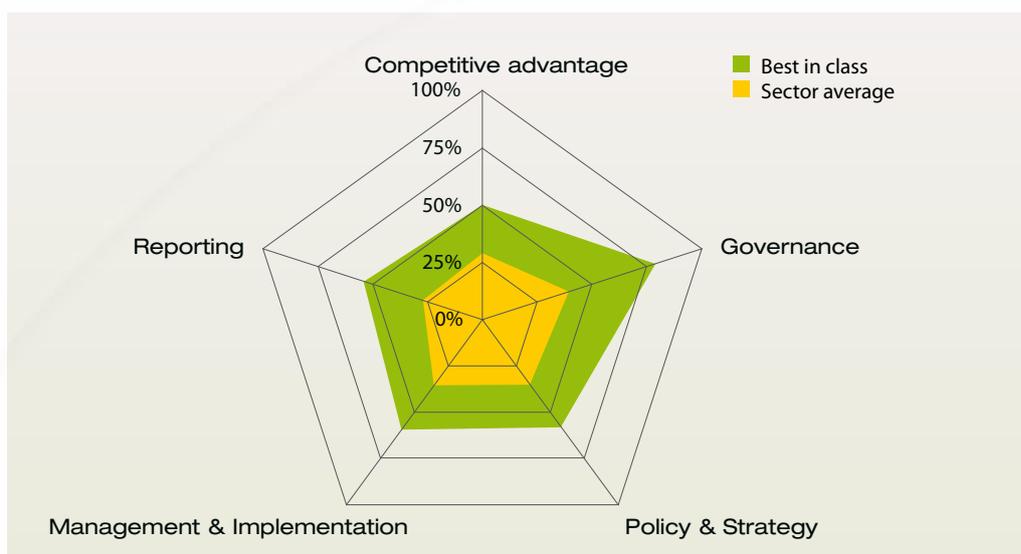
Philip Morris
International

Tobacco was included in our analysis at the request of one of our investor colleagues. Although the sector arguably has more material social issues than environmental, it nonetheless has a significant agricultural footprint (3.6 million ha⁶⁸), is dependent on ecosystem services such as timber, water and healthy soils and has the potential to impact biodiversity. The industry uses significant volumes of timber each year for curing, barns and other agricultural uses. Tobacco cultivation is estimated to be responsible for 5% of Africa's total deforestation⁶⁹. The crop requires significant chemical and water inputs. This exposes investors in the sector at risk.

Tobacco is the weakest performer of the five sectors. Public disclosures were poor, and the US-based companies in the sample elected not to engage with the research process. The strongest area of performance within the sector is governance, reflecting the fact that the sector is in the early stages of tackling **BES** issues (see figure 8).

Figure 8

**Tobacco
sector scores
by ESB
category**



5.4.2 Main findings

Key areas of risk and opportunity identified from our analysis are as follows:

- **The lack of a comprehensive risk and opportunity assessment process may undermine attempts to manage the issue.** None of the four companies reviewed had a comprehensive risk and opportunity process in place for BES. However, BAT and Imperial Tobacco had a number of strong building blocks in place that were being amalgamated for this purpose (e.g. exercises to map the location of biologically sensitive sites⁷⁰ in areas where the companies are active). BAT is combining site-based piloting of a Biodiversity Risk and Opportunity Assessment Tool with a global mapping exercise to identify areas of high biodiversity value. This will be used to inform and prioritise British American Tobacco's action on biodiversity and ecosystem services⁷¹.
- **Policy commitments rarely addressed BES.** Only one of the four companies made reference to BES in policy disclosures. The British American Tobacco Biodiversity Statement (Nov. 2006) recognises that the company has both an impact and a dependence on biodiversity, through business operations and use of ecosystem services, such as forest products, soil and water. It commits British American Tobacco to understanding, avoiding, minimising and offsetting its impacts on biodiversity and offers a clear framework for action against which the company can be held accountable.
- **Standards of performance are in place, include BES, but are voluntary.** This weakens their ability to act as a strong framework to ensure consistency of supplier performance on this issue. BAT, Imperial Tobacco and Philip Morris have guidance in place to govern the leaf supply chain – two (BAT and Imperial Tobacco) were confirmed to address BES. A key tool for the management of tobacco leaf suppliers is Social Responsibility in Tobacco Production (SRiTP) (see box 9). This provides clarity on the standards expected from suppliers, however, supplier compliance with these standards is not mandatory.
- **Companies were piloting approaches to manage dependence on ecosystem services.** Two of the four companies had developed a range of pilot projects aimed at addressing raw materials constraints, biodiversity impacts and ecosystem services concerns. British American Tobacco (BAT) has a series of projects in place aimed at addressing risks associated with declining ecosystem services (wood use in Indonesia⁷², Brazil and Uganda⁷³, and watershed conservation in Indonesia). Imperial Tobacco has also developed projects aimed at encouraging sustainable sourcing of wood and generating income from carbon credits in Kenya, experimenting with approaches for wider company roll-out.

- **Limited public disclosures, a lack of targets and a focus on qualitative data made it challenging to evaluate corporate performance on this issue.** BAT and Imperial Tobacco had well-developed disclosures on biodiversity, including (incomplete) reporting against the Global Reporting Initiative biodiversity indicators⁷⁴ and a number of targets. However, very few quantitative performance metrics were in place to enable companies to track impacts and dependence on BES on the ground. BAT acknowledges this gap and sets out commitments to develop biodiversity performance metrics by the end of 2009.

Box 9 **Social Responsibility in Tobacco Production (SRiTP): a tool to encourage sustainable agriculture practices**

The SRiTP (or SRTP) is a tool to monitor supplier performance on an annual basis. It is used by **BAT** and **Imperial Tobacco** to enable suppliers to self-assess performance for a range of sustainable agriculture practices including climate change, labour rights, minors in crop production, capacity building and guiding policy, biodiversity, water management, timber use, soil protection and integrated pest management. It allows year on year comparison of performance, with a sample of suppliers audited to ensure accuracy, and build supplier capacity to understand key aspects of sustainable agriculture and implement improvements. Manufacturers are able to consolidate results from their suppliers, and thus identify common issues and areas of weakness within the supply chain that need to be addressed. It is one of the most comprehensive, publicly available supply chain tools we encountered in our analysis.

For a number of the companies, the SRiTP is central to their management of **BES** issues. It has the potential to function as a supplier standard – it is not being used in this way at present. Instead of setting mandatory standards, the industry has opted to encourage performance improvement. As a result, supplier performance is likely to vary significantly and in some parts of the supply chain may expose the company to risk. This presents an opportunity to strengthen the application of the tool, requiring, for example, stricter time frames for progression from one level of performance to the next.

Source: <http://www.leafc.com/downloads.htm> (June 2009)

5.5 Beverages

5.5.1 Sector overview

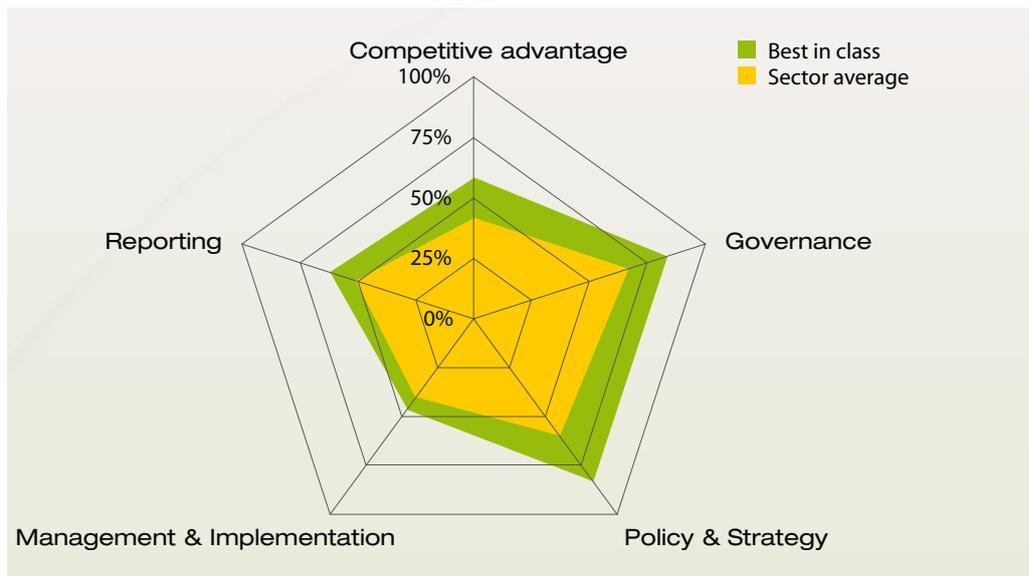
Beverages

The Coca-Cola Company
 Diageo plc
Foster's Group
(Best in class)
 Heineken N.V.
 PepsiCo
SABMiller plc
(Best in class)

The beverage sector performs well in its management of **BES** issues, compared with other sectors in this analysis showing solid performance on the issues of governance and policy. Implementation activities to support policy commitments are less well developed, as is disclosure on the issue (see figure 9). The emphasis of activity was on direct operational footprint – water consumption and climate change – although leaders are increasingly acknowledging and addressing the implications of their extended supply chains. Clearly water and climate change are material issues for companies in this sector. However, the presence of robust ecosystem services is essential to enable the effects of a changing climate and increasing water scarcity to be managed. Furthermore, a number of raw materials used by these companies such as sugar cane⁷⁵ and palm oil have been implicated in habitat destruction.

Figure 9

**Beverage
sector scores
by ESB
category**



5.5.2 Main findings

Key areas of risk and opportunity identified from our analysis are as follows:

- **There are untapped opportunities to build shareholder value:** The focus of activity (in contrast to some sectors) was not overtly linked to consumer-focused competitive advantage. Product certification to enable differentiation was not widely used, in part this is due to a lack of certification schemes – although engagement with emerging schemes such as the Better Sugar Cane Initiative was limited.
- **Although excellent work had been done on some issues e.g. water and carbon, risk and opportunity assessments were incomplete in all companies evaluated.** All six companies had completed some elements of risk assessment relevant to BES, focusing in particular on carbon and water. Fosters, Heineken, PepsiCo and SABMiller have undertaken (or are undertaking) commodity-based climate risk assessments to assess how supply may be disrupted by the changing climate, often partnering with academic institutions to do so. However, none of the companies had undertaken a comprehensive analysis of impacts and dependence of their supply chains on BES. Given the range of agricultural commodities that these companies source through their supply chains, all of which are dependent on ecosystem services, this is a potential area of risk.
- **Some number of companies had undertaken steps to understand potential supply chain impacts on legally protected areas.** This could lead to reputational risk. Two companies had undertaken a review of their potential impacts specifically on biodiversity. Diageo concluded that the company had no significant impacts on biodiversity (although it was not clear from public disclosures whether this incorporated supply chain impacts). Heineken used its results to prioritise action on the development of wastewater treatment plants.
- **Policy commitments often failed to encompass supply chain impacts and dependence of ecosystem services.** Although all six companies had policy commitments on water use and were signatories to the CEO Water Mandate⁷⁶, only two, SABMiller and The Coca-Cola Company, explicitly recognised water-use impacts beyond the boundaries of company-controlled operations. PepsiCo was unique in having a Global Sustainable Agriculture Policy that set out commitments in relation to sustainable agriculture and impacts on ecosystem services. Diageo, The Coca-Cola Company and SABMiller also made specific reference to biodiversity and/ or ecosystem services within policy statements but

these were high level. Without a comprehensive, clearly communicated policy commitment with associated standards there is a risk of inconsistency in levels of performance and risk management throughout the supply chain.

- **Standards of performance were in place for over 60% of the companies, include BES, but were voluntary:** Fosters, The Coca-Cola Company, SABMiller and PepsiCo all have standards in place that address part of their supply chain impacts, however, none of these are mandatory requirements of suppliers thus they do not yet provide a strong framework for ensuring the effective management of risk relating to sustainable sourcing of raw material.
- **All companies were still developing their management and implementation processes⁷⁷.** Comprehensive water strategies, management plans and targets that are developed on a watershed scale are a feature of the sector. However, activity on sustainable agriculture (which encompasses BES) is still at a pilot stage with five of the six companies analysed actively piloting approaches to ensuring sustainable supply of raw materials. Foster's Biodiversity Conservation Guidelines and associated tools offer a comprehensive and strategically applied set of standards to facilitate engagement with suppliers on sustainable agriculture practices (see box 10).

Box 10 **Best in class: Foster's Guidelines for Biodiversity Conservation**

Foster's Guidelines for Biodiversity Conservation developed in partnership with the Australian Conservation Foundation (ACF) describe Foster's approach to biodiversity management in its viticulture business. They have been rolled out at all Foster's own and contract vineyards. Vineyard managers are required to use biodiversity assessment tools and set goals for regional-catchment outcomes. Actions may include: enhancing degraded patches of native vegetation; establishing wildlife corridors, and; sharing water with the environment. Vineyard Managers are required to raise the capacity of the staff to undertake conservation related activities. Through the development of the Biodiversity Conservation Guidelines, Foster's is able to articulate best management practice across its operations in Australia and provide a consistent approach to native vegetation management with a set of tools and biodiversity metrics.

Source: Foster's Sustainability Report 2008

- **Companies were piloting activity to ensure sustainability of supply. The Coca-Cola Company,** for example, has a long-term global partnership with WWF to protect seven major watersheds in locations critical to the business. Meanwhile, SABMiller is demonstrating best practice at a local level through its participation in a model Payment for Ecosystem Services (PES) scheme in Colombia (see box 11). However, the lack of a comprehensive, publicly disclosed risk assessment makes it difficult to determine whether activity undertaken is commensurate with risk exposure.
- **Limited public disclosures, a lack of targets and a focus on qualitative data made it challenging to evaluate corporate performance on this issue.** Five of the six companies describe targets and activities to engage with suppliers. These activities remain largely at a pilot stage or target single crops or issues. Commitments such as that made by Heineken to achieve '50% sustainable sourcing' are rare but essential to drive performance improvements through the supply chain. All companies in this sector use the GRI G3 reporting framework, and report against selected GRI environment indicators. Only Diageo, Fosters and Heineken report against the biodiversity indicators, and none of them report comprehensively against these.

Box 11 **Best in class: SABMiller's approach to managing water**

SABMiller has committed its operations to a) reduce the amount of water required to produce a unit of beer, b) consider the needs of the surrounding communities in order to avoid potential water use conflict, and c) commit its vendors to a better understanding of SABMiller's supply chain water footprint. One of the three key elements of its water management programme includes a commitment to protecting critical watersheds, quantifying local risks and increasing the efficiency of irrigation practices.

The company undertook a watershed risk mapping exercise to identify the most critical areas of water availability. This resulted in a prioritisation of watersheds for management action linked to SABMiller's target for water consumption per litre of beer produced. SABMiller also reviewed the water footprint of beer, which indicated that over 95% of water usage was at the agricultural production stage of the product. SABMiller analysed water usage profiles for all major commodities sourced and long-term suitability of barley growing regions and then defined areas of risk that required management activity.

In Colombia, for example, SABMiller is engaging in the Bogotá Water Project with the City, EAAB and The Nature Conservancy in a scheme investing in watershed management in the Bogotá area of Colombia. For SABMiller, Colombia is a promising market for beer, but the company faces risks associated with the costs of water (which are 12% higher in Bogotá than elsewhere in the country) and increasing water shortages (70% of the population is facing water shortages). With a primary aim of assuring the company's continued access to water and to control the costs of water use, the company has engaged in a scheme which aims to reduce the negative impacts of downstream sedimentation from cattle ranching activities further upstream, by supporting improved land management and reduced deforestation. The scheme (which is administered by a multi-stakeholder governing body) is expected to save water companies in the region of US\$ 4million per year and the costs of implementation are estimated at US\$ 60million over ten years. These costs of implementation are not borne entirely by the private sector, but by governments and philanthropic foundations. This combination of commercial and public money is currently essential to create a case for private sector engagement given the long payback period involved and the failure of the economic measures currently used to value ecosystem services.

Source: <http://www.nature.org/wherework/southamerica/colombia/work/art24802.html> and SABMiller sustainable development report 2008

5.6 Retailers

5.6.1 Sector overview

The large number of products sold and highly complex supply chains make it difficult for companies within this sector to trace back potential vulnerability as a result of declining ecosystem services. This is particularly true for processed goods. It also makes retail companies visible targets for campaign groups. The last few years have seen high-profile campaigns and studies by pressure groups on soya⁷⁸, palm oil⁷⁹ and fish.

The gaining popularity of local sourcing could increase corporate exposure to risks associated with loss of biodiversity, disruptions in ecosystem services, natural and anthropogenic disasters. However, it also increases the level of control it is possible to exert over supply chain impacts. High exposure to consumer pressure makes this issue one of competitive advantage.

Retailers

Ahold
Carrefour

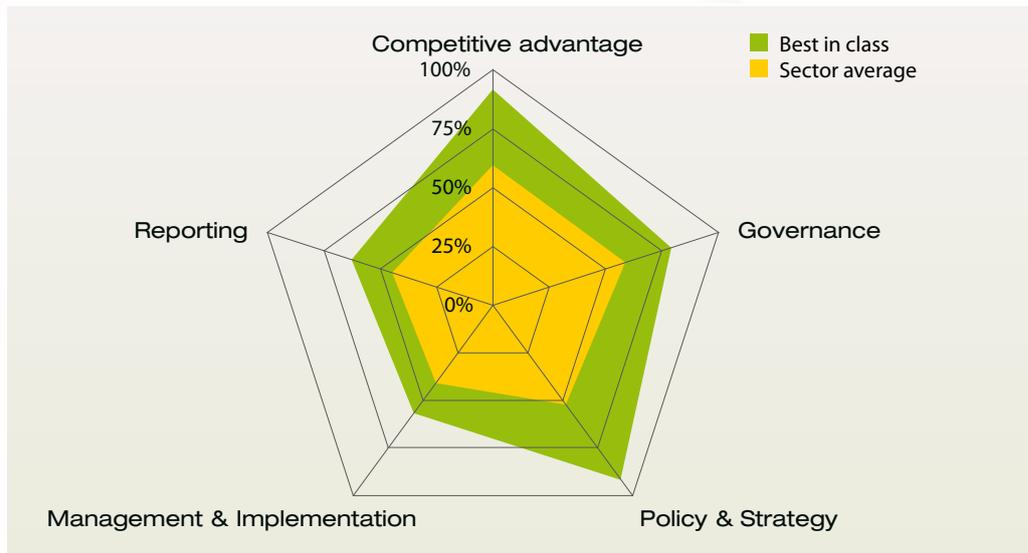
M&S

(Best in class)

Sainsbury's
Tesco
Wal-Mart
Woolworths

Figure 10

**Retail sector
scores by ESB
category**



The sector shows significantly greater activity in the areas of competitive advantage, governance, and policy and strategy than management and implementation and reporting (see figure 10)

5.6.2 Main findings

Key areas of risk and opportunity identified from our analysis are as follows:

- **None of the retailers in our analysis had undertaken a full corporate wide risk assessment that comprehensively addressed BES.** Risk assessments had been performed on certain commodities, and programmes are in place to address them, often with targets for performance improvement. Six of the companies had undertaken or are undertaking commodity reviews as follows: palm oil (Carrefour, M&S, Ahold and Sainsbury), timber (Carrefour, M&S, Wal-Mart and Sainsbury), fish (Ahold, Carrefour, M&S, Wal-Mart, Tesco and Sainsbury), water (M&S), cotton (M&S and Wal-Mart). Activity on other commodities, e.g. rice, beef, soya, sugarcane, cocoa, tea, coffee, was not disclosed in detail nor was the rationale behind a focus on certain commodities explained. This suggests that activities are reactive and external facing rather than grounded in a comprehensive analysis of risk and opportunity.



- **Policy commitments often failed to encompass supply chain impacts and dependence of ecosystem services.** Only Carrefour and M&S made specific reference to biodiversity within their policy/ strategy commitments. Carrefour was the most explicit, committing to ‘preservation of water quality and availability’, ‘conservation of biodiversity’ and to ‘sustainable agriculture practices’. Six of the companies had made (or were developing) commodity specific commitments (fish, timber, palm oil).
- **Standards and tools were in place and address BES but were often not disclosed because of concerns about competitive advantage.** This makes it challenging to determine how well the sector is managing the issue. Carrefour, M&S, Tesco and Sainsbury’s all have supplier-focused standards with requirements relating to BES. Such standards clearly set out requirements of suppliers and can both provide guidance on best practice and can be used to monitor supplier performance on BES. Carrefour’s Quality Lines standards, for example, cover aspects such as species and ecosystems protection; soil and water management; and carbon emissions. Similarly, Tesco’s environmentally friendly farm management scheme, Nurture, incorporates 15,000 growers from over 70 countries around the world and assures customers that all products can be traced back to their source; that growers demonstrate commitment to wildlife protection and landscape conservation; encourages sustainable farming practices; and requires the rational use of artificial pesticides. Only Tesco provided details of these in the public domain.
- **The sector showed a high level of responsiveness to NGO concerns.** Six of companies are actively engaging with the environmental sector to identify issues and check approaches, four had ongoing partnerships with NGOs. Six companies (Ahold, Carrefour, M&S, Sainsbury, Tesco, Walmart) were members of the Roundtable on Sustainable Palm Oil (RSPO), three (M&S, Ahold, Carrefour) were members of the Roundtable on Responsible Soya (RTRS). Six were engaged with the Marine Stewardship Council (Ahold, Carrefour, M&S, Sainsbury, Tesco, Walmart) and all companies showed some form of activity to address sustainable sourcing issues with regards to fish or shellfish.
- **Companies were piloting activities to ensure sustainability of supply.** Sainsbury’s, M&S and Ahold have activities under way that are aimed at overcoming barriers to supply beyond being members of commodity roundtables/ initiatives. Such projects are



Box 12 **Best in class: Marks & Spencer**

Marks & Spencer (M&S) scores top of the retail sector and second within the ESB overall, with areas of particular strength in policy, risk assessment, management and the development of projects aimed at addressing barriers to sustainable sourcing. Fundamental to their activities is Plan A. This sets a key framework for action that is well resourced and contains quantitative, time-bound commitments of relevance to biodiversity and ecosystem services. A partnership with WWF acts as a sounding board on the Plan's progress.

- Plan A (a 5-year corporate responsibility programme) is unique in design and internal support compared with all sectors reviewed. Evaluation of M&S' activities in respect to customer concern, ability to influence and scale of the issue has resulted in the integration of Plan A into M&S' key business objectives.
- Detailed risk assessments have been performed for fish, palm oil and timber and are under way for cotton and water.
- Marks & Spencer has developed supplier specifications through the 'Field to Fork' initiative to give customers assurances on farm animal welfare, animal health, food safety and quality. These include produce in the entire agriculture supply chain. The current standards contain requirements addressing biodiversity management and action planning; water management; integrated pest management with responsible pesticide use; and non-GM and organic produce.
- M&S has also partnered with a number of leading farming and environmental organisations to develop a set of simple measurements to help farmers make their businesses environmentally sustainable whilst improving their business performance.

An intrinsic part of the Plan A programme is engagement with sustainable sourcing partners such as MSC and FSC as well as roundtables such as RSPO. Finally, M&S consult periodically on their progress with Plan A – they recently held a meeting with over 70 NGOs – and all the activities, stakeholder engagements and actions taken by the company to achieve Plan A are outlined in the CSR report.

Source: <http://www.marksandspencer.com> (March 2009) Marks & Spencer Field to Fork standard,

small scale and pilot in nature. For example, Sainsbury's and Syngenta have developed a nationwide project in the UK known as 'Operation Bumblebee'⁸⁰. The project has resulted in the enrichment of over 130,000 acres of field in over 500 farms with critical bumblebee pollen and nectar. The only other company in our survey to recognise the issues associated with declining pollinators was Carrefour. Tesco is exploring models sustainable beef farming which are examining issues such as greenhouse gas emissions release, conservation of biodiversity, water and chemical efficiency. Only one company – Marks & Spencer – placed these activities within the context of a corporate action plan (Plan A) see box 12.

- **Activity to build brand value and unlock shareholder value was widespread in the sector.** As one would expect in a consumer-facing sector, companies in this sector had a focus on competitive advantage with a range of products sourced to externally certified standards. The Marine Stewardship Council (MSC), Forest Stewardship Council (FSC), The Global Partnership for Good Agricultural Practice (GLOBALGAP), The European Partnership for Safe and Sustainable Agriculture (EurepGAP), the Aquaculture Association of Canada, and Fairtrade are all commonly used. However, BES is not consistently and comprehensively addressed in some of these standards. GLOBALGAP, for example, contains relevant requirements but they are non-mandatory.

- **Companies were using a range of management tools, but application is limited in scope, hence some areas of risk may be unmanaged.** The most mature tools reflected areas on which NGO attention had focused or was beginning to focus e.g. cotton, palm oil, timber and/ or areas where the company felt it could exert most influence e.g. produce. Approaches used included preferential payments for moving to organic supply (Wal-Mart, Sainsbury), use of multi-stakeholder issues groups (Wal-Mart, Sainsbury), pilot projects and building fair-trade capacity through donation and extension services. Sainsbury's palm oil tracker is an example of this (see box 13).
- **Limited public disclosures, a lack of targets and a focus on qualitative data made it challenging to evaluate corporate performance on this issue.** Reporting was qualitative rather than quantitative. Of the three companies (Ahold, Carrefour and M&S) following the GRI reporting standard, only Carrefour reported in part against the GRI requirements on biodiversity. This may reflect the lack of relevance of a number of the GRI biodiversity indicators for this sector. The most widespread setting of targets occurred for sustainable fish sourcing (Ahold, Sainsbury's, M&S, Wal-Mart), sustainable palm oil sourcing (Ahold, Sainsbury's, Wal-Mart) and sustainable timber sourcing (Carrefour, M&S, Sainsbury's).

Box 13 **Tracing the use of high-risk commodities through the supply chain - Sainsbury's approach to managing palm oil in the supply chain**

Sainsbury's uses questionnaires on palm oil to establish a chain of custody from raw materials suppliers to end product. Known internally as 'Trackers', these are used when commissioning a new product range and on annual assessments of existing products. Their purpose is to support suppliers in the development of certified supply chains and create product messages that consumers engage with. This, in turn, supports Sainsbury's strategy of 'Our Values Make us Different', helping the company to track progress towards commitments such as 'using only certified palm oil across [its] entire product range by the end of 2014'.

The Trackers are managed by a third party consultant working in conjunction with the Brand Sustainability team, Product Technologists and Buyers to ensure that the Tracker information is used widely within the business. The consultants undertake research into palm oil products producers and highlight any areas of concern. They record information such as certification status, percentage of product composed of palm oil, produce weight and supplier location. When collated, this data allows the estimation of Sainsbury's annual raw material footprint by certification status, country of origin and by volume or hectare equivalent. This information is used to assess progress against company commitments and to identify and prioritise areas for improvement. Detailed supplier action plans for achieving certification are developed alongside it.

Sainsbury's has used the Trackers to identify products that contain crude palm oil. The Basic fish finger range was the first to contain certified sustainable palm oil; this was then extended to the entire frozen fish range. Interestingly, Sainsbury's states that this move has been made at no additional cost to the consumer and sales 'have risen significantly' since food packs were branded with sustainable palm branding.

Source: Liz Crosbie, Managing Director, Strategic Environmental Consultants and Fiona Wheatley, Brand Integrity and Sustainability Research Manager, Sainsbury's

6 Conclusions

This section sets out the conclusions from the Ecosystem Services Benchmark and discusses the implications of these findings for the effective management of risks and opportunities associated with company impacts and dependence on biodiversity and ecosystem services.

6.1 Areas of strength

6.1.1 Companies are actively managing material short term risks

Many of the companies evaluated were actively managing their direct operational footprints and putting in place stretch targets for water and climate management. This reflects a recognition that these pose the most immediate material risks for many companies. As confidence grows within the private sector on the effective management of these direct impacts, attention is turning to the next target – the supply chain.

6.1.2 Piloting of activities to ensure sustainability of supply is common

More than two thirds (81%) of the companies in our analysis were experimenting with approaches to minimise impacts on **BES**. They showed proactive engagement with initiatives such as the RSPO, MSC or BSI which aim to overcome barriers to sustainable supply or had pilot projects in place to test approaches to securing sustainable supply. The challenge for these companies will be to take the lessons learned from these initiatives and scale them up, prioritising them in accordance with corporate risk and opportunity. Our analysis suggests that none of the companies reviewed have achieved this yet.

6.1.3 Activity to unlock shareholder value was well developed in some sectors

Almost two thirds (65%) of the companies evaluated were undertaking some form of activity to differentiate brand based on strong sustainability performance that incorporated some aspects of **BES** impacts and dependence. Such activities included certification by third parties against known standards, consumer campaigns on sustainable sourcing and co-branding of products. Such activities position these companies well to realise competitive advantage.

6.1.4 Engagement with NGOs and academics was being used to build corporate capacity on the issue

Almost half (42%) of the companies we evaluated had partnerships or relationships with NGOs. These were used to:

- inform strategy and risk assessments, for example, M&S worked with WWF to define and implement Plan A and Carrefour worked with WWF to create a trial computerised self-diagnostic Sustainable Development tool for suppliers to assist policy and share best practices.
- address specific issues, for example, Ahold and WWF are working in a project that links strawberry production with protecting wetlands by building brand value through association of product to ecosystem service protection near the Coto Doñana wetland nature reserve, in the south of Spain.

6.2 Remaining challenges

Our research found that only one of the companies analysed (Unilever) fell within the realm of best practice – not because the companies evaluated were inactive or disengaged, but because they could not readily demonstrate that the extent of their activity to manage this issue was commensurate to the risk involved. It is quite possible that **BES** does not pose a material risk to some of these companies. However, the complexity of their supply chains and lack of risk assessment processes means that risk exposure is difficult to establish by an external assessor. Activity is required in the following areas before a comprehensive and credible picture of risk and opportunity assessment and management can be demonstrated.

6.2.1 Development of a comprehensive risk and opportunity assessment processes

None of the companies evaluated made comprehensive links between the potential impacts of their supply chains and their dependence on ecosystem services as a whole and business risk and opportunity. It was encouraging to note that 21 (68%) of the companies had started on elements of risk assessment relating to biodiversity and ecosystem services. Unilever, Dean Foods, United Plantations, M&S, SABMiller and BAT are examples of this. Some of the companies analysed (22%) had made considerable progress on the issues of water and carbon management. This in part reflects an entirely appropriate focus on direct footprint as being the most material risk in the first instance. As attention shifts to the supply chain impacts of products, and primary production is increasingly affected by resource constraints at farm level, activities to understand and manage supply chain risks will become increasingly important.

For companies that are highly visible to the consumer, in the absence of a strategic approach, stakeholder pressure may dictate a focus on issues that the company may not necessarily have control over, nor which reflect a major area of impact. In such cases the drivers for reputational risk are in conflict with those managing operational risk. Companies that are able to demonstrate a comprehensive, stakeholder-inclusive strategy and a road map for action are better positioned to focus on business critical areas of risk and opportunity and to communicate to stakeholders the rationale behind this. To be credible, such risk assessments must be transparent and must combine evaluations of ground level risk (for land owners) and supplier risk exposure (for companies that source their products/ raw materials from third parties) with scenario planning/ mapping at a global level. Companies are encouraged to investigate those tools outlined in box 14 which provides guidance on **BES** inclusive risk assessment.



Box 14 **Tools available to identify biodiversity and ecosystem services risks and opportunities**

Tools are being developed to assist companies to conduct a comprehensive analysis of biodiversity and ecosystem service risks and opportunities. Four tools are outlined here.

Corporate Ecosystem Services Review (ESR): This tool offers a structured methodology that assists managers to identify and manage risks and opportunities. The ESR was developed by the World Resources Institute with support from the Meridian Institute and the World Business Council for Sustainable Development (WBCSD). The tool was designed for sectors ranging from extractive industries and agribusiness to manufacturing and retail. It was 'road-tested' by five WBCSD member companies (Akzo Nobel, BC Hydro, Mondi, Rio Tinto, Syngenta) that provided feedback to be incorporated into its current design. The key difference with this approach (c.f. ISO 14001) is that it considers how the company is dependent on the ecosystem service rather than how it is impacting on it.

Source: <http://www.wri.org/project/ecosystem-services-review/tools> (July 2009)

The Integrated Biodiversity Assessment Tool (IBAT): A collaborative initiative between the United Nations Environment Programme World Conservation Monitoring Centre, BirdLife International and Conservation International. IBAT facilitates access to information about high priority sites for conservation – protected areas and key biodiversity areas – to inform the implementation of corporate biodiversity policies and enhance environmental management systems. It can be used to assess risks associated with sourcing of raw materials. It does not currently explicitly include ecosystem services but will do so in the future.

Source: <http://www.iBATforbusiness.org/>

High Conservation Value assessments: The High Conservation Value (HCV) concept was originally devised in the context of forest certification (High Conservation Value Forests or HCVF), but it is also applicable to all kinds of ecosystems and habitats. It is increasingly being integrated within the requirements of commodity roundtable principles and criteria and has developed into a valuable and flexible toolkit for a variety of uses, including designing responsible purchasing and investment policies.

Source: <http://hcvnetwork.org/>

The WBCSD's Global Water Tool is a tool for companies and organizations to map their water use and assess risks relative to their global operations and supply chains.

Source: <http://www.wbcds.org>

6.2.2 Greater development of opportunities to unlock shareholder value

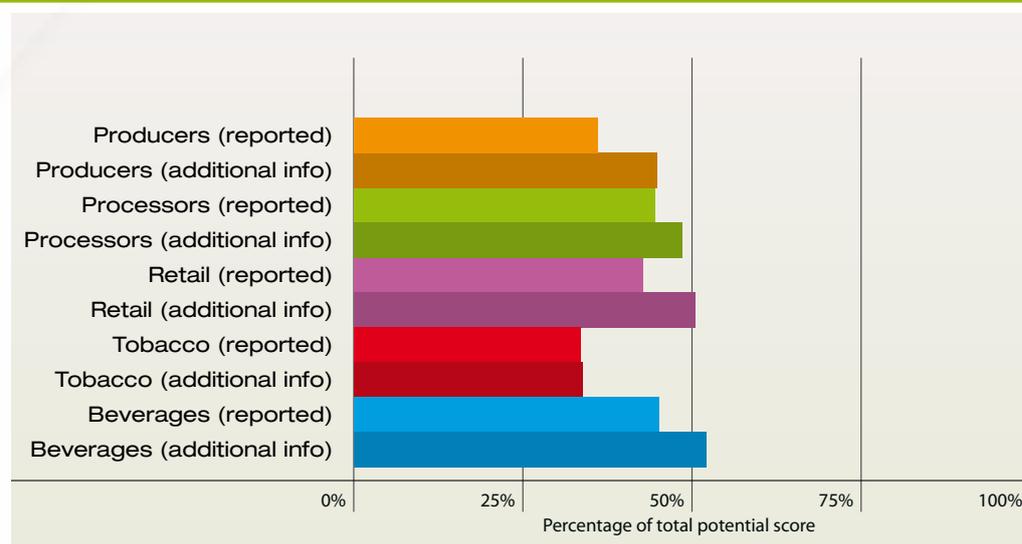
35% of the companies evaluated undertook no activities to build brand value through effective management of **BES** impacts and dependence throughout the supply chain. This represents a lost opportunity. Our research showed that SABMiller was the only company experimenting with payments for ecosystem services as a means of ensuring continued access to raw materials (in this case, water).

6.2.3 More extensive corporate disclosures on BES

Levels of disclosures on opportunity and risk assessments, targets, policies, management programmes and performance were poor. Only 15 (48%) companies scored over 50% on this section. Our application of the ESB showed that reporting does not currently accurately reflect corporate activity on this issue. All sectors show a gap between performance based on public disclosures and performance based on a dialogue with the company. This is illustrated in figure 11 below.)

Figure 11

The reporting gap: the difference between scores based on publicly available information and those based on additional information provided by the company.



As a result of this reporting gap, it is challenging for stakeholders, including investors, to understand whether a company has understood its risk exposure and is managing its material risks effectively. Companies could significantly improve their reporting by disclosing more fully the actions undertaken to understand and manage **BES** issues (see box 15).

6.2.4 Appropriate performance metrics and targets

The lack of broad agreement on performance metrics on these issues that can be translated to a company level and monitored on a cost-effective basis currently hampers monitoring of performance. Although the GRI provides guidance in this area, few companies are using it. It is encouraging that five of the 31 companies had reached the stage of piloting metrics of relevance to **BES**. Piloting and cross-sector collaboration will be required to develop widely agreed metrics that link well to both corporate process and global priorities for measurement.

Targets set generally related to direct operational impacts rather than indirect impacts within the supply chain. Where they referred to sourcing, they tended to be focused on a few commodities with no clear indication of the importance of this commodity to the business in terms of economic value or volume. A lack of targets undermines the strength and credibility of policy commitments and makes it difficult for stakeholders to track progress.

Piloting and cross-sector collaboration will be required to develop widely agreed metrics that link well to both corporate process and global priorities for measurement. It is encouraging that a number of the companies evaluated are already experimenting with this.

6.2.5 Clear statement of policy commitments

Five (16%) and four (13%) companies disclosed detailed policies and strategies on this issue. Only two companies, BAT and PepsiCo, had policies outlining their commitments on the issue in detail. BAT had produced a biodiversity statement whilst PepsiCo had developed a sustainable agriculture policy that made specific reference to ecosystem services. 18 (58%) companies disclosed statement of management approaches on single commodities.

Box 15 **Performance versus process-based indicators**

The Global Reporting Initiative (GRI) recommends a number of indicators of relevance to **BES**. Sixteen of the 31 companies reported against GRI and five reported on the GRI biodiversity indicators. None of these reported against the full set of biodiversity indicators, suggesting that these indicators are challenging for all sectors, that the issue is not considered material, or that understanding of the materiality of this issue is still developing.

For companies attempting to manage their impacts down the supply chain, such indicators prove challenging. Nonetheless, a process-based approach can provide stakeholders with useful information on the effectiveness of management. Disclosures made could include:

1. An overview of the structure of the supply chain and major raw materials sourced.
2. An outline of material risks in the supply chain arising from impacts and dependence of suppliers/ raw materials on biodiversity and ecosystem services.
3. An outline of the underlying basis of this materiality analysis and the process undertaken to form this opinion (e.g. discussion with key stakeholders).
4. A description of the company policy/ strategy to address significant risks and opportunities together with time-bound, quantitative targets against which the company reports – thus generating year on year trend data on performance improvement.
5. A description of tools and programmes (supplier assessment checklists, pilot programmes, better management practices, certification schemes, biodiversity offsets, biodiversity action plans, watershed management tools, contractual requirements for suppliers) in place to implement this strategy and policy together with a report on performance against targets.
6. Disclosures on the percentage of raw materials supplies that are produced in accordance with internal standards or which are purchased from internationally recognised standards of better production and an indication of the extent of coverage of the programmes above.

Companies should also be explicit about the links between risk assessment results and subsequent strategy, as this is invaluable in demonstrating to investors and other stakeholders that they are responding strategically and proactively to specific risks.

The Global Reporting Initiative Food Processor Sector supplement offers guidance in this area which may be of relevance for the tobacco and retail sector also. From a performance-based perspective, ongoing trials and tests by companies at farm level and testing these with key stakeholders to determine their appropriateness represents the best way forward on this issue. Initiatives such as the Stewardship Index for Specialty Crops and the Keystone centre Field to Markets initiative are also aiming to develop workable indicators of farm level performance.

Source: Richard Perkins, WWF (personal comm.), GRI (2006) Sustainability Reporting Guidelines G3, GRI (2009) Sustainability Reporting Guidelines & Food Processing Sector Supplement. Public Comment Version, <http://www.stewardshipindex.org/>, <http://www.keystone.org/spp/environment/sustainability/field-to-market>

Ambiguous policy statements, non-mandatory standards, or standards that only address a proportion of the supply chain are rife on this issue. Without clarity of and enforceability of requirements, it difficult to determine a company's priorities for action and intent with regards to ensuring this issue. Performance amongst suppliers will vary considerably on this issue and risks will remain unmanaged.

Although it lacks a clearly documented risk evaluation process behind it, Marks & Spencer's Plan A represents best practice in communicating priorities and strategy. Other companies would benefit from adopting a similar approach.

6.2.6 Effective implementation of performance standards that encompass BES

It was disappointing to find that only 14 (45%) of the 31 companies had detailed guidelines in place for sustainable agriculture or guidelines for sustainable sourcing that addressed sustainable agriculture in detail. Of these, only three companies (BAT, Imperial Tobacco and United Plantations) had standards in place for the majority of the companies' raw materials supply. Where such guidelines were in place, few were mandatory and enforceable through contracts. A number of companies declined to disclose the detail of these standards due to concerns regarding competitive advantage and commercial confidentiality. Unilever, Dean Foods, Fosters, SABMiller, M&S, Carrefour all offer useful models to follow.

6.2.7 Management tools that address material risks and opportunities

Development, and more comprehensive disclosure, of tools, approaches and assurance processes are needed to drive improved performance within the supply chain. Although seven or 22% of companies showed well developed activity in this area, there was a lack of clarity over the extent that current activities address key risks and whether they cover a significant proportion of corporate activity.

Tools and approaches common in other sectors were not widely used in these sectors. Biodiversity Action Planning (BAP) tools⁸¹ for example are of relevance for the tobacco, producer and some processor companies, but only Unilever used them.

Securing or requesting sustainability credentials for certain commodities through third party certification was common. However, only United Plantations specified the percentage of the product range that was covered by such schemes. As such, certification efforts often come across as 'tokenism'.

A number of European headquartered companies refer to SEDEX⁸², AIM-PROGRESS⁸³ and The International Social and Environmental Accreditation and Labelling Alliance (ISEAL)⁸⁴ as means of evaluating supplier performance. However, these schemes (with the exception of ISEAL which is shortly due to announce plans to incorporate biodiversity more thoroughly) do not address **BES** comprehensively.

As scrutiny turns to the supply chain, having a robust set of tools and approaches to manage this issue will be increasingly demanded, ranging from environmental impact assessments that factor in impact and dependence on **BES**, to supplier selection tools that consider climate, water and other ecosystem service risk including landscape and catchment risk, outreach and engagement materials relevant to the issue, commodity supplier trackers such as the one used by Sainsbury's and evaluation systems, farm level plans and certification schemes.



6.2.8 Cost and value

Surprisingly there was little mention within those companies evaluated of the potential barriers posed by cost and price in encouraging the uptake of sustainable agriculture programmes. Incentives for suppliers to undertake sustainable agriculture programmes varied from compliance being a prerequisite for business, to improvement of yields, to gaining access to markets or commanding a price premium. It is unrealistic to expect that small-scale farmers, many of which are in the developing world, will bear the bulk of up front investment. Initiatives that aim to reduce the cost burden whilst encouraging improved uptake of better management practices, e.g. RSPO or **SEDEX** have a key role to play, as does raising awareness and willingness to pay at the downstream end of the supply chain.

6.3 Upcoming issues

6.3.1 Emergence of a value for ecosystem services

The ongoing review of The Economics of Ecosystems and Biodiversity is placing a spotlight on the value of ecosystem services and biodiversity. The preliminary TEEB review, launched in June 2008, gave some inkling as to annual cost of the loss of forests at \$ 2-5 trillion. Although it has long been known that such services have a value, often the costs of the services are not borne by those receiving benefits from them, but are external costs incurred by society at large – a phenomenon often referred to as the ‘Tragedy of the Commons’. The final outputs of the TEEB review are likely to deliver recommendations for policy makers that encourage the internalisation of some of these costs and incentivise protection of **BES**. Tools under consideration include payments for ecosystem services and certification schemes. Furthermore, one of the key discussions within the current climate policy negotiations is the inclusion of REDD within the post Kyoto climate policy framework. This is likely to result in higher value being placed on intact forests through policy incentives and is already resulting in experimentation in the voluntary carbon offset market.

6.3.2 Biodiversity offsets

Biodiversity offsets (see also Appendix 2) – practical conservation activities undertaken with the aim of ‘no net loss’ of biodiversity in order to ‘offset’, or compensate for, unavoidable harm to biodiversity caused by a company’s operations – are receiving increasing attention within governments, industry and conservation organisations. To date the focus of attention has been on companies with direct operational footprints on land; hence the concept of offsets is of direct relevance to the producers within this analysis. However, increasingly discussion is turning to whether impacts can be offset down a supply chain. With a number of governments either exploring

the concept (UK) or with offset schemes already in place (Brazil, New Zealand, Australia, EU, USA), biodiversity offsets as a tool to enable companies to compensate for unavoidable impacts looks set to grow. BBOP⁸⁵ is the key initiative in this area (see Appendix 1). It is critical to identify whether the proposed offset translates into a reduction in the risk to the company by improving the status of the resources on which it critically depends.

The integration of biodiversity and ecosystem services into mainstream investment decisions will remain difficult until ecosystem services have a dollar value and the use and impact on ecosystem services is priced into the cost of doing business.

Bob Welsh, CEO, VicSuper

6.3.3 Organic versus intensification

Sales of organic produce have increased significantly in recent years. The global market for organic products reached an estimated \$ 46 billion in 2007⁸⁶ with most products being consumed in North America and Europe. There are indications, however, that the recent economic climate has slowed and maybe even reversed this trend. Organic production inevitably (at least in the short term) requires more land for the same yield as from intensified agriculture. A conflict between the need for more land for lower impact farming practices, declining **BES** and the requirement simply to meet the increasing food needs of the world means that it is increasingly likely that widespread use of sustainable agricultural management practices that minimise chemical use and environmental impact in accordance with yield will be required.



7 Recommendations

This section sets out our recommendations for both food and beverage companies and investors in this sector.

There are a number of steps that investors and companies can take to be ahead of the game in managing risks associated with the impacts and dependence of investments / business operations on **BES**:

7.1 For investors

1. Develop a clear policy of recognition and intent in relation to BES

Commitment should be made to comply with the law in local and foreign jurisdictions and to avoid financing operations in areas containing important biodiversity or ecosystem services.

2. Build capacity to engage on the issue of BES

Tracking relevant initiatives outlined in Appendix 2 of this report such as the WRI and WBCSD's Corporate Ecosystem Service Review² and TEEB, engaging with stakeholders actively tracking these issues or with initiatives such as the Natural Value Initiative can assist in this. For those specialising in the food and beverage sector, the initiatives outlined in Appendix 1 of this report are important ones to be aware of.

3. Identify areas of risk and opportunity within your portfolio

Risk analyses conducted by F&C Investors⁸⁷ and UNEP Finance Initiative⁸⁸ could be used as a guide for this. Further guidance on this is expected from the TEEB review.

4. Identify high-risk companies (companies that are failing to manage their impacts and dependence on BES) using the Ecosystem Services Benchmark

The ESB can be used to identify those companies that are lagging behind their peers in their understanding and management of **BES** and thus represent a potential risk.

5. Engage with companies identified as high risk and ask the following questions:

- Does your process for identifying and managing environmental risks and opportunities include an assessment of potential impacts and dependencies on **BES**? If not, why not?
- What risks and opportunities have you identified from this process, and what is your strategy to address them?
- What policies and standards have been set in relation to sustainable sourcing of agriculturally based products and do they address **BES**? If not, why not?
- What tools and incentives are in place to encourage your suppliers to adhere to internal standards and requirements related to this issue?
- What assurance processes (monitoring, auditing, self-assessment) are in place to ensure that your suppliers are meeting your internal standards relating to this issue?

6. Disengage from companies that are known to be infringing legal requirements and / or consistently underperforming on the issue.

This can act to protect BES, thus avoiding reputational risk and protect client reputation and returns. Disengagement should be considered from companies identified as high risk by the ESB analysis and which continue to show no or minimal activity.

7.2 For companies in the sectors evaluated

We recommend that companies:

1. Understand how the company is both impacting and dependent on biodiversity and ecosystem services using a stakeholder inclusive risk and opportunity assessment process.

Put in place a comprehensive risk and opportunity assessment process to understand their material risks or expanding existing processes to incorporate the issue. Box 14 provides guidance on tools that can be used to assist in this process.

2. Make clear policy commitments and develop a time-bound strategy or road map, with publicly communicated targets.

This could include commitments to understand, avoid, minimise and offset impacts on biodiversity and ecosystem services.

3. Act to manage those ecosystem services which are the most critical to the business

The ESB offers a framework that can guide companies in this process and guidance on best practice within the sector. Companies should:

- **Set policies and standards** which set a clear framework for suppliers.
- **Develop and implement supply chain management tools** that specifically address the issue of **BES**.
- **Build capacity** within the organisation and its supply chain to understand and manage impact and dependence on **BES**.

4. Monitor the supply chain

Companies should focus on areas of risk and opportunity, to ensure that policies and standards are adhered to and to provide support to suppliers in meeting requirements to conserve biodiversity and manage priority ecosystem services.

5. Disclose activities to understand and manage risks and opportunities in relation to BES in more detail.

For companies directly responsible for producing agricultural commodities, the Global Reporting Initiative (GRI)⁸⁹ core and additional indicators provide a framework with which to report on **BES**-related criteria. In addition to this, companies should disclose:

- Material risks in the supply chain arising from impacts and dependence of suppliers/ raw materials on **BES** and the basis for forming this decision;
- Company policy and strategy to address significant risks and opportunities together with time-bound, quantitative targets against which the company reports;
- A description of tools and programmes (supplier assessment checklists, pilot programmes, better management practices, certification schemes, biodiversity offsets, biodiversity action plans, watershed management tools, contractual requirements for suppliers) to implement the policy and strategy and address any risks identified;
- Percentage of raw materials supplies purchased from internationally recognised standards of better production as a percentage of overall volume purchased and an indication of the extent of coverage of the programmes above.

7.3 For governments

A significant barrier to corporate action on the issue of biodiversity and ecosystem services is the failure of society to place a value on them. Measures of wealth do not factor in the cost of ecosystem services. In the face of a rapidly increasing global population and fluctuations in resources, compounded by a rapidly changing climate, these measures need to change. The ongoing review of The Economics of Ecosystems and Biodiversity is examining this issue. The final outputs of the TEEB review are likely to deliver recommendations for policy makers that encourage the internalisation of some of these costs and incentivise protection of **BES**. Governments are encouraged to take on the recommendations. The private sector is advised to engage with this initiative. It has the potential to significantly change the parameters of corporate reporting and management.

7.4 Next steps for the NVI

See the Ecosystem Services Benchmark Guidance document for further information on the methodology

The Natural Value Initiative intends to work with our colleagues in the investment and finance space by supporting the use of the results of the ESB to engage with the companies included in this benchmark. Each company participating in the ESB has received a summary of their results with suggestions for further action. These results are being used by our partner investors as part of their ongoing engagement process with the companies in which they have investments, encouraging action and innovation in areas where risks are unmanaged and opportunities unrealised.

The NVI and ESB benchmark will allow investors to suggest specific steps that each company may take to be confident that it is operating according to **BES** best practice and managing its risk exposure. The NVI will repeat and extend its evaluation of the FBT sector in 2010-11 using the ESB to track progress and profile new best practices and areas for action.

The NVI will provide support to companies and investors in implementing the recommendations set out in 7.1 and 7.2. We will work with our peers and private sector collaborators to provide better guidance and drive action in the following areas:

- Risk and opportunity assessment
- Disclosures and metrics for performance
- Determining coverage of existing assurance schemes of **BES**
- Supply chain management tools

By evaluating companies on **BES** and their management of it down the supply chain, we have thrown the companies that we evaluated a challenge. Biodiversity is a complex issue, difficult to understand and to cut into manageable chunks for corporate action. Nevertheless our society – including the private sector – is clearly dependent on **BES**. Policy measures to protect these services are developing rapidly, and companies that can understand and manage their draw on these services, or ensure limited exposure to their decline, will benefit in the medium term.

We have made the ESB available for groups to use and adapt as required and encourage asset managers to use it to inform their engagement process with the companies in which they invest on what is becoming an increasingly significant issue for companies with agricultural supply chains.

For further information on the next steps for the NVI, please refer to the contact details at the front of this report.



7.5 A final note

Fifteen years ago the Convention on Biological Diversity was created, in recognition of the significance of global loss of biodiversity to society. Four years ago the Millennium Ecosystem Assessment¹⁵ showed that action was urgently needed on this issue. Biodiversity loss and ecosystem service degradation remains, however, an intimately linked but poor cousin to climate change.

The period 2009-2011 will witness significant activity on the issue of Biodiversity and Ecosystem Services. It is encouraging to see that a number of companies in this analysis have started the journey to understand and address their impacts and dependence on ecosystems. These early activities will position these companies (and those investors with an interest in them) well to respond efficiently and rapidly to the challenges that will inevitably be posed by this increasingly resource-constrained world. More needs to be done, but lessons learned from this early work combined with active engagement with cross-sector collaborations are invaluable to help ensure this vital issue is tackled.

Appendix 1 Multi-stakeholder initiatives – food, beverage and tobacco sectors

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>Aquaculture Stewardship Council (ASC) – voluntary – work with independent, third parties to certify farms in compliance with standards for responsible aquaculture. (Website not yet in place)</p>	<p>Expected to be in operation by 2011. Eight multi-stakeholder groups are creating global standards designed to minimise the key negative environmental and social impacts related to 12 aquaculture species: salmon, shrimp, tilapia, trout, pangasius, Seriola, cobia, abalone, mussels, clams, oysters and scallops. GLOBALGAP's accredited certification bodies will be authorised by GLOBALGAP to audit farms that adopt the Aquaculture Dialogue standards.</p>
<p>Better Sugarcane Initiative (BSI) – voluntary – aims to enable sugar producers to produce sugar to transparent and verifiable sustainability criteria. www.bettersugarcane.com/about.html</p>	<p>Consultation closed June 2009 on the first version of the BSI Standard. Principle 4 on Biodiversity and Ecosystems requires companies to actively manage biodiversity and ecosystems, identify areas of high conservation value, soil nutrient status, eutrophication, ecotoxicity and aquatic oxygen demand. Also commits companies to consult stakeholders and implement appropriate mitigation activities where adverse impacts are identified. Second version of Principles released September 2009 (finalisation 2010). Certification processes are developing in parallel (2010 certification of producers planned).</p>
<p>Business and Biodiversity Offset Programme – voluntary – a partnership of over 40 companies, governments, conservation experts and financial institutions working together to develop and apply best practice in biodiversity offsets. http://bbop.forest-trends.org</p>	<p>BBOP is helping companies manage their business risks and opportunities by demonstrating 'no net loss' or a 'net gain' of biodiversity through developing and applying best practice in biodiversity offsets. Biodiversity offsets can help achieve significantly more, better and more cost-effective conservation outcomes than normally occurs as a result of development projects. They are designed to address residual impacts after developers have avoided and minimised impacts to the extent practicable, and undertaken on-site restoration. The BBOP partners have published a set of principles, handbooks offering guidance on biodiversity offset design and implementation and case studies of the programme's pilot projects.</p>

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>CEO Water Mandate – public-private initiative designed to assist companies in the development, implementation and disclosure of water sustainability policies and practices.</p> <p>http://www.unglobalcompact.org/Issues/Environment/CEOWater_Mandate/</p>	<p>Voluntary commitment open to signatories of the UN Global Compact addressing direct operations, supply chain and watershed management, collective action, public policy, community engagement, and transparency. Recognises role of agricultural supply chain in water consumption. Signatories commit to encouraging suppliers to improve their water conservation, quality monitoring, waste-water treatment, and recycling practices, build capacities to analyse and respond to watershed risk, encourage and facilitate suppliers in conducting assessments of water usage and impacts, share water sustainability practices – established and emerging – with suppliers and encourage major suppliers to report regularly on progress achieved related to goals.</p>
<p>Fairtrade – voluntary – independent consumer label that appears on UK products as a guarantee that they have given their producers a better deal.</p> <p>http://www.fairtrade.net/fileadmin/user_upload/content/Jan_2009_EN_Generic_Fairtrade_Standards_SPO.pdf</p>	<p>Commitments of relevance to this issue within Fairtrade standards include: environmental impacts assessed and plan designed to mitigate and monitor impacts; no gathering of plant material from protected areas or illegally; harvesting from uncultivated areas must be done sustainably; improvement plan in place and monitored; conservation areas, buffer zones around water bodies and watershed recharge areas identified and protected; new planting in virgin forest prohibited; plant to encourage biodiversity in areas of low biodiversity. Active promotion of agricultural diversification. Maintain appropriate records.</p>
<p>Forest Stewardship Council (FSC) – voluntary – promotes responsible management of the world's forests through a global certification scheme.</p> <p>www.fsc-uk.org</p>	<p>Standards: Principle 6 'Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest' and Principle 9 'Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach' apply.</p>
<p>Global Aquaculture Alliance – GAA aims to promote the aquaculture industry and to advance environmental and social responsibility throughout the process of raising, processing and distributing aquaculture products.</p> <p>www.gaalliance.org</p>	<p>Within the guiding principles, there are detailed management practices that focus on mangrove protection and environmental awareness and site evaluation from design to closure which consider biodiversity and ecosystem services. One of the nine main guiding principles states that companies and individuals engaged in aquaculture, singularly and collectively shall 'utilize only those sites for aquaculture facilities whose characteristics are compatible with long-term sustainable operation with acceptable ecological effects, particularly avoiding unnecessary destruction of mangroves and other environmentally significant flora and fauna'.</p>

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>GLOBALGAP – private sector body that sets voluntary standards for the certification of agricultural products around the globe. The GLOBALGAP standard is primarily designed to reassure consumers about how food is produced on the farm by minimising detrimental environmental impacts of farming operations, reducing the use of chemical inputs and ensuring a responsible approach to worker health and safety as well as animal welfare.</p> <p>www.globalgap.org</p>	<p>The GLOBALGAP standard has specific requirements for individual sectors (which are covered in some detail at http://www.globalgap.org/cms/front_content.php?idcat=48). There are also requirements set out that ALL sectors must adhere to which include the following criteria: Farming and environment are inseparably linked. Managing wildlife and landscape is of great importance; enhancement of species as well as structural diversity of land and landscape features will benefit the abundance and diversity of flora and fauna. Specific criteria include: there must be a written action plan which aims to enhance habitats and increase biodiversity on the farm which includes knowledge of IPM practices, of nutrient use of crops, conservation sites, etc.; there should be tangible actions and initiatives that can be demonstrated by the producer either on the production site or by participation in a group that is active in environmental support schemes looking at habitat quality and habitat elements; the contents and objectives of the conservation plan imply compatibility with sustainable agriculture and demonstrate a reduced environmental impact; there is a commitment within the conservation plan to undertake a base line audit of the current levels, location, condition, etc. of the fauna and flora on farm so as to enable actions to be planned; the effects of agricultural production on fauna and flora should be audited and serve as the basis for the action plan; within the conservation plan there is a clear list of priorities and actions to rectify damaged or deteriorated habitats on the farm; within the conservation plan there is a clear list of priorities and actions to enhance habitats for fauna and flora where viable and increase biodiversity on the farm; there should be a plan to convert unproductive sites and identified areas which give priority to ecology into conservation areas where viable.</p>
<p>Marine Stewardship Council (MSC) – aims to recognise well-managed fisheries via a certification programme and to harness consumer preference for seafood products bearing the MSC label of approval.</p> <p>www.msc.org</p>	<p>The principles and criteria used in certification reflect a recognition that a sustainable fishery should be based upon: the maintenance and re-establishment of healthy populations of targeted species; the maintenance of the integrity of ecosystems; the development and maintenance of effective fisheries management systems, taking into account all relevant biological, technological, economic, social, environmental and commercial aspects; and compliance with relevant local and national local laws and standards and international understandings and agreements.</p>

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>Rainforest Alliance – formed a coalition of leading conservation groups (Sustainable Agriculture Network - SAN) that links responsible farmers with conscientious consumers by means of the Rainforest Alliance Certified seal of approval. Currently they have social and environmental standards for coffee, bananas, cocoa, citrus, ferns and cut flowers.</p> <p>www.rainforest-alliance.org/agriculture.cfm?id=san</p>	<p>SAN standards provide guidelines for the protection of wildlife and forests and other valuable habitats in and around farms. Contains comprehensive requirements relating to biodiversity and ecosystem services. Requirements include: all existing natural ecosystems, both aquatic and terrestrial, must be identified, protected and restored through a conservation programme. The programme must include the restoration of natural ecosystems or the reforestation of areas within the farm that are unsuitable for agriculture; maintenance of integrity of aquatic or terrestrial ecosystems inside and outside farm; hunting, capturing, extracting and trafficking wild animals must be prohibited on the farm (unless sustainable harvesting by cultural or ethnic groups permitted by law).</p>
<p>Roundtable on Sustainable Biofuels - voluntary – has developed a generic standard for sustainable biofuels production – ‘Version Zero’.</p> <p>www.cgse.epfl.ch/page65660.html</p>	<p>Principle 7 states ‘Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and areas of High Conservation Value.’ The principles include commitments to 1) identify and protect High Conservation Value areas, native ecosystems, ecological corridors and other public and private biological conservation areas prior to any new project through participatory processes, 2) preserve ecosystem functions and services, 3) protect or create buffer zones, e.g. riparian areas and slopes, and 4) protect or restore ecological corridors. It also includes requirements to maintain water resources, preserve soil quality, prevent release of greenhouse gas emissions from land conversion.</p>
<p>Roundtable on Sustainable Palm Oil – voluntary – principles and criteria for sustainable growth of palm oil with associated certification system.</p> <p>www.rspo.org</p>	<p>Most mature of the roundtables, the principles and criteria were approved in 2007 and certification of producers against them has already commenced. Supply is still limited. The principles and criteria have to be adapted for national use; this has been done for Indonesia and Malaysia and is under way for Papua New Guinea and Colombia. Commitments include: environmental responsibility and conservation of natural resources and biodiversity which address integrated pest management, careful use of fertilisers, soil quality maintenance, water resource management, and commitments that new plantings since Nov 2005 have not replaced primary forest or high conservation value areas.</p>

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>Roundtable on Responsible Soy – voluntary – set of principles and criteria that set out better agricultural management practices for the soya industry.</p> <p>www.responsiblesoy.org/about_us.php</p>	<p>Principles and criteria were approved in May 2009 for field testing for a year. Following that a full version will be made available for use. Countries will have to produce a national interpretation based on this, against which companies will be certified. Companies must not cultivate soya on land cleared of native habitat after May 2009 unless they can demonstrate absence of primary forest, high conservation areas and local people's lands. Payments for ecosystem services will be explored. Other relevant commitments include: maintenance of natural vegetation around water courses, quality and supply of surface and ground water maintained or improved. A verification mechanism is being produced in parallel.</p>
<p>Soya Moratorium – voluntary – code of conduct with ongoing monitoring and high-profile associated campaign through Greenpeace.</p>	<p>Commits companies not to source soya beans from newly deforested land in the Amazon from the date 24 July 2006. The Brazilian soy traders' associations (ABIOVE and ANEC), which typically make funding available to farmers to help them grow soy, have committed to restrict the finances of growers who have contravened the ban.</p>
<p>Sustainable Agriculture Initiative platform (SAI platform) – a platform created by the food industry to actively support the development of and to communicate worldwide about sustainable agriculture involving the different stakeholders of the food chain. Aims to define and implement commodity-specific guidelines for sustainable agriculture that are harmonised throughout the food chain.</p> <p>www.saiplatform.org</p>	<p>Initiative commits to 'Protect and possibly improve the natural environment and resources', by minimising any adverse effects from agricultural activities on soil, water, air and biodiversity, by optimising the use of renewable resources and caring for animal welfare. Produced sustainable agriculture guidelines for cereals, fruit and vegetables and coffee.</p>

Appendix 2 Finance sector initiatives relevant to biodiversity and ecosystem services

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>Carbon Disclosure Project (CDP) – to collect and distribute high-quality information that motivates investors, corporations and governments to take action to prevent dangerous climate change. www.cdproject.net</p>	<p>Although the focus is on climate change and not BES, lessons can be learnt on how the changing climate and new regulatory frameworks could affect access to resources and the cost of doing business in the long term. Through annual climate change information requests issued on behalf of 475 institutional investors, more than 35 purchasing organisations and UK government bodies to more than 3,700 corporations across the globe, CDP plays a vital role in encouraging private and public sector organisations to measure, manage and reduce emissions and climate change impacts. The data collected by CDP provides valuable insight into the strategies deployed by many of the largest companies in the world in relation to climate change.</p>
<p>Equator Principles (EP) – set of environmental and social benchmarks for managing environmental and social issues in development project finance globally. www.equator-principles.com</p>	<p>The Equator Principles (EPs) provide a voluntary framework for addressing social and environmental issues in project financing. It requires project sponsors to assess a project's impacts on biodiversity (including, specifically, impacts to ecosystem services and natural habitats, the introduction of invasive alien species, sustainable use, and social impacts). Importantly, the EPs stipulate circumstances where biodiversity impacts would be so significant as to preclude the banks' involvement. Such circumstances include: impacts to critical natural habitats (such as protected areas); significant loss or conversion of natural habitats; the introduction of invasive alien species as a direct or indirect consequence of the project; significant impacts to habitats or endangered species that might be apparent through supply chains (e.g. in forestry or fisheries projects). This places the onus on project sponsors to assess potential biodiversity impacts, avoid impacts where possible and mitigate remaining impacts through habitat and species management plans, offsets or other mechanisms.</p>

Initiative	Status and relevance to Biodiversity and Ecosystem Services
<p>Green Economy Programme (UNEP) – to communicate a global plan for a green industrial revolution. www.unep.org/greeneconomy</p>	<p>The Green Economy initiative will make recommendations for proactive investments including greening national economies, for creating new green jobs and greening existing jobs, and for a just transition from a brown to a green economy for enterprises and workers in the fields of Ecosystems (or environmental infrastructure) and Biodiversity-based products and services (such as organic foods). The project will reinforce the work on environmental governance and the need for a long-term global climate change response, by showing commitments to, and enforcement of, the United Nations Framework Convention on Climate Change and other Multilateral Environmental Agreements.</p>
<p>Finance Alliance for Sustainable Trade (FAST) – brings together lenders and producers to increase the number of producers in developing nations who can successfully access quality trade finance, tailored to their business needs, as they enter sustainable markets. www.fastinternational.org</p>	<p>Launched in 2007, FAST is a member driven, non profit organization. Its 137 members in 26 countries include sustainable small and medium enterprises, commercial and socially oriented lenders, development focused non governmental organizations, and others involved sustainable trade. FAST’s mission is to facilitate a global collaborative effort among its members to ensure continued growth of the sustainable trade sector. FAST works to ensure continued growth of sustainable production and trade by improving access and availability of affordable finance to sustainable producers in developing nations.</p>
<p>Forest Footprint Disclosure Project (FFD) – to help investors identify how an organisation’s activities and supply chains contribute to tropical deforestation, and link this ‘forest footprint’ to their value. www.forestdisclosure.com</p>	<p>A ‘forest footprint’ is the total amount of deforestation caused directly or indirectly by an individual, organisation or product. Modelled on the Carbon Disclosure Project (see above), companies will be asked on behalf of investors to disclose how their operations and supply chains are impacting forests worldwide. The aim is to provide high-quality market analysis for investors by helping businesses with a number of steps: recognition, measurement and management of their forest footprint.</p>
<p>IFC Biodiversity and Agricultural Commodities Programme (BACP) – supports private sector-led initiatives to mainstream the adoption of better management practices (BMPs) into four target commodity markets: palm oil, cocoa, soybean and sugarcane. www.ifc.org/ifcext/sustainability.nsf/Content/Biodiversity_BACP</p>	<p>Seeks to reduce the threats posed by the expansion of agriculture by leveraging market forces at all levels of the value chain. BACP will work in partnership with major players in four commodity markets who are willing to adopt more sustainable practices. The commodities concerned are palm oil, cocoa, sugarcane and soybeans, which today cover approximately 132 million hectares globally. Initially, BACP will work in Indonesia, Malaysia, Brazil, Ghana and Côte d’Ivoire, which are major producers and exporters of these commodities.</p>

Initiative

Status and relevance to Biodiversity and Ecosystem Services

The Economics of Ecosystems and Biodiversity (TEEB)

– a study to evaluate the costs of the loss of biodiversity and the associated decline in ecosystem services worldwide, and compare them with the costs of effective conservation and sustainable use. www.ec.europa.eu/environment/nature/biodiversity/economics

The biodiversity equivalent of the ‘Stern Review on the Economics of Climate Change’. In May 2008, an interim report of the study was presented at the 9th Conference of the Parties to the Convention on Biological Diversity, which was held in Bonn, Germany (see the report: www.unep.org/greeneconomy/docs/TEEB_English.pdf).

The second phase of TEEB – ‘TEEB II’ – has commenced and will continue until 2010. It will build on the results of TEEB I and has the overarching aim of addressing the continued and rapid decline of biodiversity and degradation of ecosystems at the global level, as documented in the Millennium Ecosystem Assessment.

The D3 report focuses on the business end-user and aims to encourage and enable the assessment of the impacts of business/ production activities on biodiversity and ecosystems. D3 will include guidance on how to assess and manage the risks of biodiversity and economic loss in existing business sectors (e.g. reduced availability of key production inputs, risk to brand reputation). It also aims to help business leaders identify and seize new opportunities linked to conservation and sustainable use of biological resources (e.g. new market niches, entirely new industries, brand building)

UNEP Finance Initiative Biodiversity and Ecosystem Services Workstream

– to assist the financial services sector in addressing the challenges arising from the loss of biodiversity and the degradation of ecosystem services. www.unepfi.org/work_streams/biodiversity/index.html

Driven by a range of financial institutions and other key partners, the work stream objectives are to: raise awareness on the business implications of loss or degradation of ecosystems and the services they provide; strengthen the business case for action and provide the financial sector with information and analysis tools for adequate management of ecosystem services; open dialogue between financial institutions (both public and private) and policy makers for identifying and acting on areas where the framework conditions under which business operates can be better aligned with ecosystems stewardship. Key projects include: Bloom or Bust Report and CEO Briefing on biodiversity and ecosystem services; contributing to TEEB (see above); working on FFD (see above), the Natural Value Initiative and Biodiversity Offsets International Legislation mapping

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- 1 <http://www.cbd.int/convention/articles.shtml?a=cbd-02> [accessed 10 August 2009]
- 2 WRI, Meridian Institute, and WBCSD (2008) *The Corporate Ecosystem Services Review*. Washington DC: World Resources Institute.
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- 4 Grigg, A., Cullen, Z., Foxall, J., Crosbie, L., Jamison, L., and Brito, R. (2009) *The Ecosystem Services Benchmark. A Guidance Document*. Fauna & Flora International, United Nations Environment Programme Finance Initiative and Fundação Getulio Vargas – FGV.
- 5 Adapted from WRI et al (2008) which states that companies are exposed to the following risks: operational, regulatory and legal, financing, market and product reputation
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- 7 *AccountAbility* (2008) AA1000 Assurance Standard 2008
- 8 European Communities (2008) *The economics of ecosystems and biodiversity. An interim report*.
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- 11 International Finance Corporation (2006) Performance Standard 6 Biodiversity Conservation and Sustainable Natural Resource Management
- 12 As at April 2008
- 13 http://www.fandc.com/FundNets_FileLibrary/File/co_aboutus_biodiversity.pdf
- 14 http://www.insightinvestment.com/uk/responsibleinvestment/riandcg/engagement/natural_resource_mgmt/
- 15 UNEP FI's *Bloom or Bust?* Report from 2008 sets out finance sector responses to the issue of BES in detail. In the last six months Eurosif and Oekom have developed a briefing paper for investors on biodiversity and ecosystem services and Rabobank released a Soy supply chain policy in 2008 that set out requirements of clients and guidance on how to avoid corporate social responsibility issues. Rabobank states an intention to develop similar policies on palm oil, sugar, cotton and fish.
- 16 Figure is composed of the following: Aviva Investors (€ 222.1 billion as at 30 June 2009), F&C investments (€ 101 billion as at 30 June 2009), Grupo Santander Brasil (€ 1.3 billion as at 30 June 2009) Insight Investment (€ 125.2 billion as at 31 March 2009), Pax World (€ 1.6 billion as at 30 June 2009) and VicSuper (€ 3.4 billion as at 1 May 2009). Currency figures are calculated based on historic rates at the date stated for each company's assets under management.
- 17 The food, beverage and tobacco sectors were identified as having risks associated with BES by both the United Nations Environment Programme Finance Initiative (UNEP FI) and F&C Investments (F&C Asset Management 2004). Most companies in these sectors were categorized as high-risk, whilst beverage and tobacco companies were seen as medium risk sectors.
- 18 Greenpeace (2009) *Slaughtering the Amazon*
- 19 Grigg, A. et al (2009)
- 20 Global Reporting Initiative (2006) *G3 Sustainability Reporting Guidelines*. Version 3
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- 22 <http://www.wbcd.org/templates/TemplateWBCSD5/layout.asp?type=p&MenuId=MTUxNQ&doOpen=1&ClickMenu=LeftMenu=LeftMenu>
- 23 <http://www.ibatforbusiness.org/>

- 24 In March 2007, a commitment was made at the G8+5 meeting of Environment Ministers in Potsdam to undertake a Review on the Economics of Biodiversity Loss. The review will evaluate the costs of the loss of biodiversity and the associated decline in ecosystem services worldwide. Called TEEB (The Economics of Ecosystems & Biodiversity), initial findings from the study indicate that from 2000 and 2050, society will use ecosystem services with a total equivalent value of around £ 40 billion from land based ecosystems alone. The final results of the study will be presented at CBD COP-10 in October 2010.
- 25 Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Opportunities and Challenges for Business and Industry*. World Resources Institute, Washington, DC.
- 26 See 24
- 27 <http://www.un.org/millenniumgoals/>
- 28 <http://www.cbd.int/2010-target/>
- 29 FFI is the world's first established international conservation body, founded in 1903. FFI acts to conserve threatened species and ecosystems worldwide, choosing solutions that are sustainable, are based on sound science and take account of human needs. <http://www.fauna-flora.org/business.php>
- 30 The United Nations Environment Programme (UNEP) Finance Initiative is a strategic public-private partnership between the UNEP and the global financial sector. UNEP FI works with over 170 financial institutions that are signatories to the UNEP FI Statements, and a range of partner organisations to develop and promote linkages between the environment, sustainability and financial performance. <http://www.unepfi.org>
- 31 The Fundação Getulio Vargas (FGV) is one of the main centres for business education in Brazil, research and consultancy in the country, as well as in South America. The Centre for Sustainability Studies (GVces) aims to disseminate the concept and practices of sustainability through educational activities, training, research, publications and communication. <http://www.ces.fgvsp.br>
- 32 Article 2, the Convention on Biological Diversity.
- 33 World Resources Institute, the Meridian Institute, and the World Business Council for Sustainable Development (2008)
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- 40 FAO (2006) *World Agriculture, towards 2030/2050*. FAO, Rome. Available online at: <http://www.fao.org/es/ESD/AT2050web.pdf> [accessed 20 January 2009]
- 41 See Fauna & Flora International (2008) http://www.naturalvalueinitiative.org/download/documents/Publications/Business_case_for_managing_ecosystem_services.pdf
- 42 Eurosif & Oekom (2009) *Biodiversity. Theme report – 2nd in a series*.
- 43 The first EC legislation whose main objectives include the application of the 'polluter pays' principle, this Directive establishes a common framework for liability with a view to preventing and remedying damage to animals, plants, natural habitats and water resources, and damage affecting the land. The liability scheme applies to certain specified occupational activities and to other activities in cases where the operator is at fault or negligent. The public authorities are also responsible for ensuring that the operators responsible take or finance the necessary preventive or remedial measures themselves. http://europa.eu/legislation_summaries/enterprise/interaction_with_other_policies/l28120_en.htm
- 44 <http://www.mma.gov.br/sitio/index.php?ido=conteudo.monta&idEstrutura=5>
- 45 <http://www.un-redd.org/>
- 46 PRI (2009) *Annual report of the PRI initiative 2009*. UNEP FI and UN Global Compact.

- 47 <http://www.corpwatch.org/article.php?id=11756>
- 48 United Nations Environment Programme Finance Initiative (2008)
- 49 United Nations Environment Programme Finance Initiative (2008)
- 50 United Nations Environment Programme Finance Initiative (2008)
- 51 International Finance Corporation (2006) Performance Standard 6 Biodiversity Conservation and Sustainable Natural Resource Management
- 52 <http://www.equator-principles.com/>
- 53 As at April 2008
- 54 <http://forestdisclosure.com/>
- 55 Grigg, A. and ten Kate, K. (2004)
- 56 World Resources Institute, the Meridian Institute, and the World Business Council for Sustainable Development (2008)
- 57 http://www.rspo.org/Key_documents.aspx
- 58 International Finance Corporation (2006)
- 59 Nellemann, C., et al (2009).
- 60 Greenpeace (2009)
- 61 http://www.unepfi.org/work_streams/biodiversity/index.html
- 62 F&C Asset Management (2004)
- 63 Foxall, J. et al (2005)
- 64 <http://www.responsiblesoy.org/>
- 65 <http://www.rspo.org/>
- 66 <http://cgse.epfl.ch/page65660-en.html>
- 67 <http://www.greenpeace.org/raw/content/france/presse/dossiers-documents/amazon-cattle-footprint.pdf>
- 68 <http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#ancor> FAO 2007 statistics
- 69 Clay, Jason W. (2004) World Agriculture and the environment: a commodity-by-commodity guide to impacts and practices / Jason Clay. World Wildlife Fund
- 70 There is no current accepted definition of 'sensitive sites', but the term is often understood to mean sites of high biodiversity value, by virtue of high levels of biodiversity, endemism, rarity, vulnerability, threat or particularly important associated social or cultural values.
- 71 <http://www.batbiodiversity.org/>
- 72 http://www.bat.com/group/sites/uk_3mnfen.nsf/vwPagesWebLive/DO726HDM?opendocument&SKN=1
- 73 http://www.batbiodiversity.org/download/bulletin/Q2_2008Bulletin.pdf
- 74 Global Reporting Initiative (2006) *G3 Sustainability Reporting Guidelines*. Version 3
- 75 Clay, J. (2004)
- 76 The CEO Water Mandate is a public-private initiative designed to assist companies in the development, implementation and disclosure of water sustainability policies and practices. See Appendix 1 for further information.
- 77 Although some of the companies have their operations certified against ISO 14001 or use the Supplier Ethical Data Exchange (SEDEX) supply chain management system, neither of these systems are guarantees of appropriate coverage of BES impacts. ISO14001 could act as an effective framework for managing BES issues, provided the aspects and impacts assessment incorporates consideration of impacts and dependence on ecosystem services. Similarly, SEDEX could act as an effective framework for evaluating supplier impacts and dependence on ecosystem services and biodiversity but these issues do not yet fall within the scope of the

SEDEX analysis. See <http://www.sedex.org.uk>.

- 78 In a 2006 report *Eating up the Amazon*, Greenpeace highlighted the role that the soya industry plays in deforestation <http://www.greenpeace.org/international/press/reports/eating-up-the-amazon>
- 79 In 2008 Greenpeace launched a campaign to highlight the role of palm oil in forest destruction in Indonesia. <http://www.greenpeace.org.uk/blog/forests/orang-utans-swing-into-action-to-stop-dove-destroying-rainforests-for-palm-oil-20080421>
- 80 <http://www.operationbumblebee.co.uk>
- 81 http://www.businessandbiodiversity.org/action_company_bap.html
- 82 www.sedex.org.uk
- 83 http://www.aim.be/Documents/Positions_sus/aim_progress.pdf
- 84 www.isealliance.org
- 85 <http://bbop.forest-trends.org>
- 86 Willer, H. and Klicher, L. (Eds.), (2009): *The World of Organic Agriculture. Statistics and Emerging Trends 2009*. IfOM, Bonn, FiBL, Frick, ITC, Geneva www.organic-world.net
- 87 F&C Asset Management (2004)
- 88 United Nations Environment Programme Finance Initiative (2008)

The investors collaborating on this initiative include:



Aviva Investors (<http://www.avivainvestors.co.uk>)

Aviva Investors is a global asset management business dedicated to building and providing clients with focused investment solutions. Wholly owned by Aviva plc, the world's fifth-largest insurance group with assets under management in excess of € 222.1 billion across a range of equity, fixed income, property, money market and alternative funds as at 30 June 2009, Aviva Investors' client base ranges from among the largest financial institutions to individuals saving for the future.



Grupo Santander Brazil (<http://www.santander.com.br>)

Grupo Santander Brasil, which includes banks Santander and Real is the largest commercial bank in Brazil. Grupo Santander Brasil is part of Banco Santander (SAN.MC, STD.N), a commercial bank based in Spain. It is the largest financial group in Spain and Latin America, with leadership positions in the UK and Portugal and has a large presence in Europe through its Santander Consumer Finance unit. In the first half of 2009, Santander recorded a net attributable profit of € 4.519 billion and as at 30th June 2009 has € 1.271 billion of assets under management.



F&C Investments (<http://www.fandc.com>)

F&C is an active fund manager with £88.3 billion (€ 101.1 billion) of assets under management at 30 June 2009. F&C invests globally and is a worldwide leader in Sustainable Investment strategies. F&C uses its influence as one of Europe's largest shareholders to engage companies, promoting the adoption of better environmental, social and governance practices to improve long-term business performance. Areas of engagement include biodiversity and ecosystem services, and F&C has published 3 research reports on this theme.



Insight Investment (www.insightinvestment.com)

Insight Investment is a UK-based asset manager with £116.6bn in assets under management (as at 31 March 2009). Insight has had a commitment to Responsible Investment since it was launched in 2002. Insight has published two benchmarks of biodiversity management within the extractive industry and a research report on biodiversity offsets as part of its programme of engagement on ecosystem management.

Pax World (<http://www.paxworld.com/>)

Pax World Investments is a leader in the field of Sustainable Investing with \$2.2bn of assets under management as at 30 June 2009. The Pax World investment process combines rigorous financial analysis with equally rigorous ESG analysis in order to identify leading companies that are financially strong and meet positive standards of corporate responsibility and sustainability. By constructing investment portfolios made up of such companies, Pax seeks to deliver – to individuals, financial advisors and institutional investors – higher returns with lower risk over the long term.



VicSuper (<http://www.vicsuper.com/>)

VicSuper Pty Ltd is the Trustee of VicSuper Fund; one of Australia's fastest-growing public-offer superannuation funds with over 247,000 members and AUD6 billion in net assets as at 31 May 2009. Sustainability is VicSuper's central operating principle and guides every decision. At VicSuper, sustainability investing is a long-term approach that, when applied to investments in company shares and other assets, considers the implications of economic, governance, financial, strategic, environmental and social challenges on long-term profitability and shareholder value.



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