
Hard truths about soft commodities

Boosting resilience through natural capital disclosure



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Executive Summary

Businesses and investors are paying increasing attention to the erosion of the world's natural capital – the ecosystems which provide the natural goods and services that we rely on, such as food crops, fresh water and timber, and climate regulation and biodiversity. By some estimates, the global economy is incurring unpriced natural capital costs of \$7.3 trillion/year, or 13% of global output.

Since 2000, CDP has been requesting on behalf of our investor signatories that companies report their impacts on natural capital, starting with climate, then moving into water and forest-risk commodities. This disclosure helps investors assess corporate exposures to environmental risks, and helps companies better understand and manage these exposures.

Our existing programs cover some 79% of the costs of depletion of natural capital. However, by further developing disclosure within the food, beverage and agriculture value chain, we can increase that figure to 90%.

This value chain is of particular importance. Not only is food supply fundamental to the operation of the wider economy, it is also the only sector where the costs of maintaining the natural capital it depends on exceed the sector's earnings – posing particular risk.

While some companies are beginning to address their vulnerabilities to the erosion of natural capital, these exposures are already making themselves felt, with drought in particular hitting revenues and earnings.

CDP is therefore proposing to use a 'soft commodities lens' to examine natural capital risks in the food, beverage and agriculture value chain. Rather than seeking disclosure around hard-to-quantify factors such as biodiversity or soil erosion, we are to launch a pilot disclosure exercise around soft commodities.

We will ask companies to answer questions on the consumption, traceability, risk assessment and governance of six agricultural and marine commodities, namely cotton, sugar, wheat, rice, wild caught fish and farmed fish.

This exercise will help push the issue of natural capital erosion further up the boardroom agenda. We are confident that, as with our existing climate, water and forest-risk commodity approach, it will help investors better understand the issues at stake, and help companies reduce their impacts and become more resilient to supply chain exposures.

Natural capital under pressure

All economic activity ultimately depends upon a steady flow of natural goods and services, such as fresh water, timber and food crops, or climate regulation and flood control. These goods and services can be considered the 'income' generated by the world's natural capital, the assets upon which the global economy rests.

However, as is becoming increasingly clear, we are eroding that natural capital base. Rather than living off the income, we are eating into the principal. Too often, today's economic returns are being made at the expense of those of tomorrow. And the results are already being felt – in terms of more expensive or volatile commodity inputs, business interruption, or ever-more costly regulatory responses.

According to Trucost, in a study on behalf of the TEEB for Business Coalition, the global economy is incurring unpriced natural capital costs of \$7.3 trillion/year – some 13% of global economic output.¹

Forward-looking businesses are beginning to address this erosion of natural capital. They are seeking to make their businesses more resilient by better protecting the sources of the natural inputs upon which they depend.

Similarly, some leading investors are beginning to ask questions of the companies in which they invest. They want to ensure that company managers understand the risks involved and are responding appropriately.

Through our existing disclosure system, and on behalf of our investor signatories, CDP is already helping thousands of companies report many of their natural capital exposures and their responses to environmental risk. Disclosure is fundamental in helping both companies and investors understand the risks and the responses involved.

Even those concerned only about bottom lines ... must now begin to realise that the sustainability of business itself depends on the long-term availability of natural capital.

**Jochen Zeitz,
Chairman and CEO, PUMA**

The more investors grapple with natural capital risks, the more it becomes clear that the biggest risks are highly sector-specific. Without comparable data against carefully defined sector-specific metrics, we can't properly identify the winners and losers for a range of key natural capital issues.

**Craig Mackenzie,
Investment Director,
Aberdeen Asset Management**

Disclosure driving performance

The investors that comprise CDP's signatory base have come together to request that companies disclose investment-relevant information on environmental risk. The initial focus was on climate and carbon emissions. Disclosure was extended to water risk in 2010, and in 2013 CDP incorporated the Forest Footprint Disclosure Project², thus capturing risks associated with deforestation.

Improved corporate disclosure on natural capital risks helps investors to:

- Make a more standardized assessment of the environmental risks companies face;
- Gauge companies' relative understanding of their exposure to changes in natural capital;
- Understand the different relationship with natural capital of different industry sectors; and
- Minimize the potential impact on their portfolios of declining natural capital resources.

Disclosure also helps improve corporate performance, in both environmental and financial terms. Requests from investors for information on natural capital push the issue up the boardroom agenda. It encourages companies who are not tracking these issues to begin measuring and monitoring them. It drives efficiencies and helps companies identify opportunities.

Good disclosure not only minimizes risk to investor value, it drives the creation of value. Our work over the last 14 years has generated clear evidence of the link between disclosure and improved performance:

- CDP's two leadership indexes – which comprise leading companies in terms of climate performance and disclosure – have substantially outperformed the broader market.³
- Companies that identify climate risks to their business are three times more likely to deliver emissions reductions than those that don't.⁴
- Our website carries numerous examples of how companies ranging from Dell to Walmart have benefitted from measuring and disclosing their greenhouse gas emissions, water use and consumption of forest-risk commodities.⁵

Soft commodity producers are not really addressing issues around natural capital to the extent that they should be. Increased disclosure will allow investors to differentiate between companies in terms of how they are managing these exposures.

**Sonia Kowal,
Director of Socially Responsible
Investing, Zevin Asset Management**

² CDP's forests program was first pioneered by the Global Canopy Programme (www.globalcanopy.org) which remains a prime funder for the program and acts as the principal advisor on forests and forest risk commodities to CDP.

³ See Global 500 Climate Change Report 2013, page 17, for further detail. <https://www.cdp.net/CDPResults/CDP-Global-500-Climate-Change-Report-2013.pdf>

⁴ See Collaborative Action on Climate Risk, Supply Chain Report 2013-14, CDP 2014, page 17. www.cdp.net/cdpresults/cdp-supply-chain-report-2014.pdf

⁵ See <https://www.cdp.net/en-us/results/pages/case-studies.aspx>

Capturing wider natural capital risks

The three themes covered by CDP's existing disclosure programs – climate, water, and forest-risk commodities (i.e. biofuels, soy, palm oil, beef & leather and timber) – account for 79% of the cost of depletion of natural capital, according to our analysis of the Trucost data.

We estimate that we can capture a further 11% of the natural capital at risk by extending our disclosure to impacts on natural capital by the production of soft commodities, through the food, beverage and agriculture value chain. That value chain erodes natural capital through its effects on the climate, biodiversity, soil quality and water quality and availability. At the same time, it relies on natural capital, and the goods and services it generates, to maintain its productivity.

▾▾ *Population growth, economic prosperity in emerging economies, limited opportunities for expansion of agricultural land, declining productivity gains, and growing demand for biofuels pose serious challenges to ensuring food security.*

RobecoSAM





Why the food, beverage and agriculture value chain?

Crucially, the food, beverage and agriculture value chain faces the greatest risk from natural capital depletion, in that the costs of maintaining the natural capital on which it depends are greater than the revenues it generates.

The Trucost study identified 31 economic activities where natural capital costs are greater than the revenues earned: almost all related to the production of soft commodities, that is, commodities such as wheat, corn, fruit, coffee etc. that are grown rather than extracted.

KPMG reached similar conclusions in research comparing external environmental cost footprints against earnings for 11 key sectors. It found that food producers have the highest environmental cost footprint, and food is the only sector where the cost of its environmental footprint exceeds earnings (representing 224% of earnings before interest, tax, depreciation and amortization). It is also the only one where the environmental footprint costs are growing faster than earnings⁶.

A review of CDP responses from companies in the food, beverage and agriculture industries illustrates that, beyond a high level perception of resource scarcity, the core assets – sites of commodity production – are not subject to the same scrutiny as, say, cash flow or sales figures.

This is despite growing evidence of economic losses linked to natural capital exposures:

- ▶ The US drought of 2011-12 decimated corn and soy crops, leading to the mothballing of bioethanol plants. For example, in October 2012, Valero Energy reported quarterly losses of \$73 million on its ethanol business.⁷
- ▶ The same drought hurt the US cattle industry, which by 2013 was at its lowest level since 1952, leading to overcapacity and feedlot closures. For example, Cargill Beef idled a slaughterhouse in Plainview, Texas, laying off 2,000 workers and causing an economic loss to the region of \$1.1 billion.⁸ Overall, the 2011 drought cost the Texan agriculture sector alone \$7.6 billion.⁹

- ▶ Commodity trader Bunge reported a \$56 million quarterly loss in 2010 in its sugar and bioenergy business, primarily due to drought in its growing areas.¹⁰
- ▶ Drought in Brazil's coffee-growing regions in late 2013 and early 2014 pushed coffee prices up 50% and "destroyed yields".¹¹
- ▶ Wildfires and drought in Russia in 2010 led that country to temporarily ban all grain exports, pushing global wheat prices higher and hitting the share prices of buyers such as General Mills and Ralcorp Holdings, while some agribusiness giants such as Bunge and Archer Daniel Midlands rose on anticipated trading profits.¹²
- ▶ The CEO of Unilever, Paul Polman, said the company now loses €300 million a year as a result of extreme weather events.¹³

Such natural capital exposures have profound implications for particular sub-sectors and individual companies, and their investors. But they also pose systemic risks. Food supply is, as with other primary economic sectors such as energy or extractives, fundamental to the sustainable operation of the wider economy, and to everyday life. Large-scale disruption to the functioning of the value chain can have profound economic and societal implications.

Leading companies recognize these issues. They are aware that current practices of production and harvesting of soft commodities are themselves degrading the capacity to produce in the future, presenting a security of supply risk. For example, Coca-Cola notes that destabilization of the climate is likely to affect the assured supply of key inputs such as sugar, fruit, and vegetables.¹⁴ Campbell Soups recognizes future risks in its ability to source ingredients and that deterioration in ingredient quality disrupts production.¹⁵

And some companies are addressing this risk. Unilever and Mars have both committed to source 100% of their agricultural raw materials from sustainable sources by 2020. General Mills has identified 10 priority ingredients that it will source sustainably by 2020. And furniture retailer IKEA has helped found the Better Cotton Initiative, to increase the sustainability of its cotton supply chain (see box).

With six billion people and more arriving every day, we are beginning to really strain against physical limits in a way that was never the case before. Increasing scarcity of natural capital is already a constraint for many companies, and is becoming one for many more.

**Julie Fox Gorte,
Senior Vice President for
Sustainable Investing, Pax World Management**

6 Expect the Unexpected: Building business value in a changing world, KPMG, 2012 See <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/building-business-value.pdf>

7 www.valero.com/newsroom/pages/pr_20121030_0.aspx

8 Feedlots, meatpackers closing with fewer cows, Associated Press, 24 February 2013 <http://bigstory.ap.org/article/feedlots-meatpackers-closing-fewer-us-cows>

9 Cited in Value Chain Climate Resilience, PREP, July 2012. www.oxfamamerica.org/static/oa4/valuechainclimateresilience.pdf

10 Earnings call, cited in Physical Risks from Climate Change, Oxfam America, Calvert Investments and Ceres. www.calvert.com/NRC/literature/documents/sr_Physical-Risks-from-Climate-Change.pdf

11 Worst drought in decades hits Brazil coffee belt as buyers brace for price rise, Washington Post www.theguardian.com/world/2014/feb/25/brazil-drought-threatens-coffee-crops

12 Russian Export Ban Raises Global Food Fears, Wall Street Journal <http://online.wsj.com/news/articles/SB10001424052748703748904575410740617512592>

13 Climate action is 'only way' to grow economy – Unilever CEO, Responding to Climate Change. www.rtcc.org/2014/04/08/climate-action-is-only-way-to-grow-economy-unilever-ceo/

14 Coca-Cola Amatil 2013, Disclosure to CDP, Climate change 5.1c

15 Campbell Soups Inc 2013, Disclosure to CDP, Climate change 5.1c



Cotton production utilizes approximately 25% of the world's insecticides and over 11% of the world's pesticides.¹⁶ Often grown in water scarce regions, cotton is an extremely “thirsty” crop, with over 53% of cotton fields requiring irrigation.¹⁷

Furniture retail giant IKEA consumes around 0.6% of all cotton grown around the world – buying 114,000 tonnes in the 2013 financial year. It has become keenly aware of the immense global impacts of this supply chain – and the risks it poses to the company, in terms of price volatility and brand vulnerabilities.

In an effort to improve the sustainability and resilience of its cotton supply chain, IKEA has partnered with conservation group WWF to found the Better Cotton Initiative (BCI), which trains farmers in more efficient practices with the aim of reducing resource use and costs and enhancing soil quality.

IKEA- WWF Joint Project Results 2013:

| | India | Pakistan |
|--|--------------|-----------------|
| farmers active in IKEA-WWF project | 6,000 | 37,000 |
| average reduction in pesticide use | 38% | 37% |
| average reduction in water use | 24% | 21% |
| average reduction in chemical fertilizer use | 29% | 22% |
| increase of farmers' gross margins | 45% | 29% |

IKEA has a target of sourcing 100% of its cotton from more sustainable sources by the end of 2015. To make ‘Better Cotton’ a sustainable mainstream commodity, IKEA is creating three times the capacity needed, leaving substantial quantities on the market, thereby preventing Better Cotton from commanding premium prices. Availability of Better Cotton is increasing rapidly, and production could be large enough to make it a mainstream global commodity, traded without a premium, before 2020.

16 WWF, The 2050 Criteria (p29)
17 Ibid

How to understand natural capital risks in the value chain

Asset owners or pension trustees should not assume fund managers have accurately gauged resource dependency as a risk factor. Fund managers have not previously had to contend with the risk presented from declining natural capital, e.g., the reliance of cotton on diminishing water supplies. Good disclosure provides fund managers and investors with a standardized means of assessing risk, but also drives improvements and better practices within companies themselves.”

**Richard Burrett,
Earth Capital Partners, and former
Co-Chair UNEP Finance Initiative**

The food, beverage and agriculture value chain requires sufficient water, healthy soil, and adequate biodiversity (not to mention benign climatic conditions). However, it is often difficult – if not impossible – to quantify and express these elements of natural capital in terms that are easily understandable by business and investors.

So, as with CDP’s work around deforestation, we will examine these environmental risks through a commodity lens – specifically seeking corporate disclosure around six soft commodities, namely cotton, sugar, wheat, rice, wild caught fish and farmed fish (see box).

For companies in the food, beverage and agriculture industries, soft commodities are the basic building blocks of value. They have been priced and traded for centuries. And companies readily recognize the risks posed by squeezed supply and higher prices.

Many soft commodities face production constraints due to the limits of the physical world. These limits are tightening due to the following ‘megatrends’:

- ▶ Global demand is growing on both an absolute and a per capita basis;
- ▶ Incremental yield increases are becoming harder to achieve in many parts of the world;
- ▶ Competition is increasing for certain agricultural commodities from bioenergy producers;
- ▶ Soft commodities are increasingly being used in a highly inefficient manner in the livestock industry (e.g. the use of 8 kilograms of cattle feed to produce each kilogram of beef); and
- ▶ Agricultural losses from extreme weather events are increasing.

These changes in supply relative to demand have major implications for the cost of doing business. The concern is that many companies are not adequately taking them into account because:

- ▶ Long and opaque supply chains create a disconnect between a company and the ultimate source of its value – the health and productive capacity of sites of soft-commodity production.
- ▶ The natural assets on which soft-commodity production depends are changing fast, whether as a result of land-use change, climate change or ocean acidification. These changes are outpacing the ability of companies and the financial system to adapt.

Resilience and security of supply will be principal concerns of companies and investors in the future. By examining and disclosing their consumption of and risk management around key soft commodities, companies and their shareholders will be better able to address these concerns.

Soft commodities under scrutiny

CDP proposes to prioritize cotton, sugar, wheat, rice and fish (wild and farmed) for disclosure, based on the following four criteria:

- Environmental impact;
- Economic importance;
- Extent of regulatory and reputational risk; and
- Evidence from leading companies.

1

Cotton

Despite its water intensity, requiring 7,000-29,000 liters per kilogram¹⁸, 57% of cotton is grown in areas of high or extreme water risk¹⁹, with about 73% of cotton globally dependent on irrigation. Planted on just 2.4% of the world's arable land, cotton is a major user of insecticides and pesticides, consumes around 4% of the world's nitrogen-based fertilizers, according to the Carbon Trust, and has a disproportionate impact on water pollution.

2

Sugar

Sugar cane is another thirsty crop, requiring 1,500-3,000 liters per kilogram²⁰, yet 31% of global sugar cane is grown in areas exposed to high or extreme water risk²¹. It also has a high chemical footprint (in terms of fertilizer, pesticide and herbicide use), making it a highly polluting crop, sensitive to tightening water quality regulations.

3

Wheat

As wheat is a major staple grain, disruption to supplies has ramifications across global supply chains. The 2010 drought in Russia and subsequent four-month grain export ban pushed global prices up by more than 50%. 43% of wheat is grown in areas now classified as facing high to extreme water risk²².

4

Rice

Rice cultivation is a major source of methane emissions, a far more potent greenhouse gas than carbon dioxide. It is also highly water intensive, using an average of 3,000-5,000 liters of water per kilogram²³ of crop. Almost 30% of rice is grown in areas now classified as exposed to high to extreme water risk²⁴, presenting production and regulatory risks.

5

Wild caught fish

Global production of capture fisheries in 2008 was about 90 million tonnes, with an estimated first-sale value of \$93.9 billion²⁵. If other directly related sectors such as boat building and canning are considered, the global economic activity supported by marine fisheries is three times the catch value²⁶. As 87% of global fisheries are fully or over-exploited²⁷, much of this value is at risk.

6

Farmed fish

It can take three kilograms of wild fish to grow one kilogram of farmed salmon and, by 2018, more than half of all fish consumed globally will come from aquaculture²⁸. Managed well, aquaculture can be a tool for sustainability but, managed badly, it can have a devastating impact on wild fish stocks and a significant impact on the future productive capacity of both farmed and wild caught fish.

¹⁸ WWF, Thirsty Crops (p9)

¹⁹ WRI Aqueduct Commodities, accessed 10th March 2014 <http://www.wri.org/applications/maps/agriculturemap>

²⁰ WWF, Thirsty Crops (p9)

²¹ WRI Aqueduct Commodities, accessed 10th March 2014 <http://www.wri.org/applications/maps/agriculturemap>

²² WRI Aqueduct Commodities, accessed 10th March 2014 <http://www.wri.org/applications/maps/agriculturemap>

²³ WWF, Thirsty Crops (p9)

²⁴ WRI Aqueduct Commodities, accessed 10th March 2014 <http://www.wri.org/applications/maps/agriculturemap>

²⁵ The State of World Fisheries and Aquaculture; The Food and Agriculture Organisation, 2010, page 5

²⁶ Marine Fisheries and the World Economy, the Pew Environment Group, 2010, page 1

²⁷ The State of World Fisheries and Aquaculture; The Food and Agriculture Organisation, 2010, page 11

²⁸ Aquaculture Stewardship Council www.asc-aqua.org/index.cfm?act=tekst.item&iid=2&iids=39&lng=1 accessed 21st March 2014



Next steps: keeping score

Over recent months, we have been working with companies in the food, beverage and agriculture value chain to draft a soft commodity disclosure request. Drawing on our experience of disclosure of forest risk commodities, the questionnaire will cover the following areas:

- ▼ Soft commodity consumption;
- ▼ Risk assessment;
- ▼ Traceability, supplier engagement and support;
- ▼ Commitments and targets;
- ▼ Standards used;
- ▼ Coverage by procurement spend;
- ▼ Governance;
- ▼ Risks and opportunities; and
- ▼ Challenges.

CDP is seeking to engage with up to 20 listed and non-listed companies for an initial pilot to trial and develop this information request. In 2015, CDP aims to expand this group to 100 companies for a larger scale pilot. Companies will be invited to participate in the pilot with the goal of achieving:

- ▼ Broad coverage of commodities and sub-industries;
- ▼ Coverage of different stages in the value chain;
- ▼ A broad geographical spread; and
- ▼ Coverage of a significant share of the market volume and value of different soft commodities.

CDP will provide companies with the option to select the soft commodities they wish to disclose on and will publish guidelines to help companies select those that are most relevant.

The process will be iterative and consultative. There is considerable scope to work with our partners and signatories in this effort, in order to ensure harmonization and non-duplication, and benefit from the broadest collective wisdom possible.

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