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Center for
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Sustainability Assessment Tools

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This paper primarily examines corporate sustainability reporting frameworks, which cover corporate strategy and operations broadly and are used by major corporations worldwide.

As a secondary matter, this paper provides summaries of risk assessment tools associated with certain environmental and social factors, and additionally discusses natural capital accounting, a practice designed to place full values on natural resources.

Sustainability Reporting Frameworks

GRI (the Global Reporting Initiative) describes a sustainability report as “a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities.”

In addition to the transparency associated with the issuance of a sustainability report, a great deal of its value to the reporting firm can be derived, like a good strategic planning exercise, from the process itself. The sustainability reporting process is designed to enable organizations to consider their impacts on sustainability issues and to understand, as well, the risks and opportunities they face from a set of factors that are often missing from day-to-day decision-making and even from longer-term planning considerations. In that respect, the report can be thought of as a forward-looking risk-management tool. Ernst & Young reports that 95% of the world’s 250 largest companies issue sustainability reports.

Whereas financial reporting is subject to a defined and accepted set of rules and principles -- GAAP in the US and the International Financial Reporting Standards (IFRS) elsewhere, and the two systems are converging -- the far newer concept of sustainability reporting does not enjoy such uniformity. In fact, KPMG, in its “Carrots & Sticks” survey of reporting practices and requirements in 71 countries, found nearly 400 sustainability-related reporting instruments.

The three sets of standards in widest use are:

- The Global Reporting Initiative (GRI), an international NGO whose first standards were issued in 2000;
- The International Integrated Reporting Council (IIRC) framework, driven by major accounting firms and financial regulators and first issued in 2013; and
- The Sustainability Accounting Standards Board (SASB) guidelines, released in phases from 2013 to 2016.

In addition to these “big three” of sustainability reporting, which are described in more detail below, other prominent efforts include CDP (formerly the Carbon Disclosure Project), the Climate Disclosure Standards Board (CDSB) and the Climate-Related Financial Disclosures from the Financial Stability Board (FSB). These additional efforts are all focused on environmental disclosure, with a certain amount of competition between them. While there is also a very broad literature on corporate best-practices with regard to both social and governance matters, including a variety of assessment guidelines, they do not seem to be triggering comparable levels of competition within the sustainability framework (as compared to the various environmental instruments).

The various reporting standards don’t all try to do exactly the same thing, but there is

very significant overlap, leading to many calls for harmonization, or standardization, of the various frameworks and standards. In fact, there are multiple collective efforts to harmonize the standards, including:

- The Corporate Reporting Dialogue, organized by the IIRC and including GRI and SASB, along with CDP, CDSB, the Financial Accounting Standards Board (FASB), the International Accounting Standards Board (IASB) and the International Organization for Standardization; and
- The Consistency Project, organized by CDSB and including GRI, OECD and UNCTAD.

The CSR Reporting website summarized the state of affairs in a 2014 article titled, “GRI vs. IIRC vs. SASB: Round Nine. All lose.” Greenbiz calls it, “Battle of Giants: GRI vs. SASB vs. IR” (March 14, 2016). Triple Pundit asks, “Is Competition Between Sustainability Reporting Standards Healthy?” (June 2, 2016). The CDSB summed up the situation in a May 2016 report titled, “Lost in the Right Direction,” noting that the increasing interest and emphasis on sustainability reporting means that disclosure and practice are headed in the right direction, but the fragmented reporting landscape is confusing and can be self-defeating, as it leads to non-comparable information from company to company.

Although the various efforts essentially all have Boards and Advisory panels that include representatives from the business, academic and NGO sectors, the approach they take seems to primarily fall into one of two categories:

- investor-oriented or
- stakeholder-oriented.

Among the major three reporting formats, SASB and the IIRC are more directed towards reporting to investors. The GRI is directed towards a wider audience of stakeholders, although perhaps to the NGO community most particularly.

An analysis by Greenbiz shows that GRI, which pioneered the concept of sustainability reporting, remains the most commonly used framework, but that the much newer investor-oriented approach of the IIRC and SASB is growing more rapidly.¹

The investor-oriented frameworks were created to place more discipline on the sustainability reporting process. An analysis by SASB, for instance, found that more than 40% of 10-K sustainability disclosures consisted of boilerplate language.² If the analysis is sometimes conducted as a rote exercise, the risks are nonetheless quite real. As described in Climate Change News:

What are the risks? It depends on your business. For oil and gas companies, the main issue is that climate policies will slash fossil fuel demand. That means investment in finding more hydrocarbons may be wasted. For agricultural businesses, changing weather patterns could hit crop yields. For banks and other financial institutions, it's about limiting exposure to these risks in their portfolios.³

¹ <https://www.greenbiz.com/article/battle-giants-gri-vs-sasb-vs-ir>

² July 1, 2016 letter from SASB to SEC

³ <http://www.climatechangenews.com/2016/02/09/bloomberg-climate-risk-initiative-targets-secret-polluters/>

Current Reporting Requirements -- Specific CSR reporting requirements vary in nature and by country, and whereas all of the reporting frameworks would encourage disclosure of the types of risks described above, SASB, in particular, is designed to fit squarely into an enforceable regulatory framework -- existing SEC reporting requirements. In the US, GAAP requires an assessment of whether the value of corporate assets, such as mineral reserves and equipment, are impaired. ESG factors could impact the useful life of assets, for instance climate change could lead to stranded assets for companies operating in the fossil fuel industry. The SEC also requires the Form 10-K for public companies to disclose information that describes “known trends, events, demands, commitments and uncertainties that are reasonably likely to have a material effect on financial condition or operating performance.” This guidance was further clarified in 2010 through an SEC interpretation concluding these disclosures cover the effects of climate change.

The EU has similar regulations. IFRS, like US GAAP, requires the write-off of unproductive assets. And in 2014, the European Parliament adopted a new Directive that mandates large publically held companies to issue sustainability information outside their regular financial reports. The information can be provided in “the most useful” manner and under any appropriate international, European or national guidelines.

In addition, there are specific national requirements, such as:

- UK securities laws require a strategic report that discloses principal risks and uncertainties;
- South Africa, under King III in 2009, **mandated** sustainability reporting along with 3rd party assurance; and
- France in 2012 passed the Grenelle II Act requiring companies to include ESG information in their annual reports.

In 2009, stock exchanges around the world agreed to participate in the UN Sustainability Stock Exchange Initiative (SSE) to explore how exchanges can promote responsible investment for sustainable development. The number of participating exchanges has grown from 5 original members in 2012 to 57 today. During this period of time some of the exchanges, including Brazil and Johannesburg, have required sustainability reporting as a listing requirement. More exchanges, including Nasdaq, are undertaking to adopt similar rules. And as reported by Ceres, there are some 180 laws and regulatory standards in 45 countries calling for various aspects of corporate sustainability reporting.

Reporting Frameworks to Guide Company Reporting -- Reporting frameworks developed as the need for environmental information grew due to concerns around climate change and goals set by the Kyoto Initiative. The role of companies and their impact on the environment became the focus rather than specific country compliance. The CDP began requesting information in 2003 and today is a repository of environmental information for over 2000 companies worldwide. Their initial focus was on gas emissions but has evolved to include water and deforestation.

Around the same time, the Global Reporting Initiative launched its GRI Reporting Guidelines, offering a broad platform of ESG factors. The framework has been refined over the years and includes both quantitative and qualitative information. The most recent version, titled the GRI Sustainability Reporting Standards, was released in October 2016.

GRI addresses the needs of a wide range of constituents – investors, suppliers, customers, employees, policy makers, analysts, activists, NGOs -- and therefore the framework is quite comprehensive. The GRI Standards include:

- “Universal” Standards, which apply to every reporting organization and include a description of the organization and its reporting process. Disclosures under these standards include organizations’ strategic approach to addressing sustainability issues, stakeholder engagement and approach to governance, ethics and integrity.
- “Topic-specific” Standards include descriptions of management’s approach to material economic, environmental and social issues, including why it is material, how the impact is being managed, and how management’s approach is being evaluated. This also includes quantitative measures for the material topics.

The IR framework was developed to foster the integration of sustainable development and financial reporting. The goal was to provide concise reporting of a company’s ability to create value over the short term, medium term and long term. The focus is on how a firm resources and utilizes capital (financial, manufacturing, intellectual, human, social and natural capital) and how it can communicate its value on strategy, governance, performance and prospects over time. The guidance provided is around Guiding Principles and Content with a focus on process as opposed to the specific economic, environmental and social issues laid out by GRI.

SASB is more aligned with IR in that it focuses on the investor need to evaluate the financial aspects of ESG factors, but also attempts to lessen the burden of reporting by providing a more prescriptive approach. SASB has developed detailed Materiality Maps in consultation with companies, investors, consulting firms and other industry participants. The maps provide guidance on sustainability issues for 79 industries clustered into 10 sectors of the economy, and using the maps typically results in a company disclosing between 5-8 material factors. The information is intended to be included in a company’s Management Discussion and Analysis (MD&A) section of its financial reports.

Each reporting framework uses a different definition of materiality. The GRI definition is information that “may reasonably be considered important for reflecting the organization’s economic, environmental and social impacts, or influencing the decisions of stakeholders”, and is clearly geared toward multiple stakeholders. The IR definition is, “A matter is material if it is of such relevance and importance that it could substantively influence the assessments of providers of financial capital with regard to the organization’s ability to create value over the short, medium and long term.” Here the focus is on materiality from an investor’s (debt and equity) perspective. SASB’s definition also focuses on investors, but is based on a legal concept. Here information is deemed material if there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”⁴ I.e., had the investors known it, they might have done something different.

The differing definitions of materiality reflect the differing orientations of the three frameworks. The GRI Standards are designed, in the first instance, to enable a company to determine and report the company’s impact on a range of economic, environmental

⁴ U.S. Supreme Court definition, *TSC Industries, Inc. v. Northway, Inc.*, 426 U.S. 438 (1976) and *Basic v. Levinson*, 485 U.S. 224 (1988)

and social issues, whereas the SASB and IIRC formats are designed enable a company to examine and disclose its exposure to this same range of factors (i.e., the potential impact of ESG factors on the company).

In the 2015 survey of Corporate Responsibility reporting by KPMG, GRI was found to be the most commonly used framework (60% of all reports in the survey from 45 countries referenced GRI). This is perhaps due to the fact that GRI was first to market and was developed specifically for stand-alone sustainability reporting. IR and SASB are geared to providing information in financial reports to be used for investor decision making, as discussed above. The adoption of reporting in financial reports has been slow. More than 90% of the largest 250 companies provide CR reports, while only 10% of companies in the KPMG review provide integrated reporting. The authors expect this number of integrated reports to increase as countries and stock market exchanges continue to implement regulations and guidance mandating more disclosure. This trend will likely increase the utilization of IR and SASB frameworks for reporting.

To minimize confusion by companies having to interpret the various formats, GRI, IR and SASB have, as referenced above, agreed to work together. And in January 2014, IIRC and SASB agreed to “more closely collaborate to advance the evolution of corporate disclosures and communicate value to investors.” How these agreements will impact the reporting standards going forward is yet to be seen.

Conclusion -- The growing investor and other stakeholder need for information, the quantitative as well as qualitative nature of sustainability factors, and the volumes of information now being provided by companies, governments and NGOs make navigating the reporting landscape a challenge. It is clear, however, that sustainability reporting is a necessity—to manage risk and to address stakeholder concerns. And many agree that continued regulation and guidance by governments and stock exchanges will likely lead to more mandatory and consistent reporting.

But since the majority of reporting today is voluntary, the decision on how and what to report is currently up to the company. The need for separate CR reporting and/or integrated reporting will depend on the demands of various constituents and the type of information needed to manage sustainability issues. The ability to offer “comprehensive” disclosure will in part depend on the ease of access to accurate data and cost of compiling.

Ultimately, the goal of integrating non-financial ESG measures with financial reporting is for the information to be used in decision-making, and this is not just limited to investors. Successful sustainability reporting should enable companies to measure and manage what’s most important from an economic, environmental and social perspective with a goal to improve operating performance, create new opportunities and reduce risk. The framework should facilitate reporting, to senior management and the Board, the effectiveness of the company processes for identifying, measuring and managing sustainability issues. Truly integrated reporting should support enlightened decision making around capital allocation and governance that creates value – for shareholders, employees, business partners, communities – and ensures a company’s “license to operate” and sustainability for the long term.

Risk Assessment Tools

Risk assessment tools are designed to enable a company to assess its exposure to specific sustainability matters. At this point, risk assessment tools appear to largely fall

into two broad categories:

- Environmental risks, often associated with stranded assets; and
- Human rights and labor standards, often in corporate supply chains.

Environmental Risk Assessment Tools. Stranded assets are defined as assets that must be written down or written off at a loss or which become obsolete in advance of their expected useful life. Carbon-related investments are most commonly associated with the stranded asset concept, with coal, as one of the dirtiest of the fossil fuels, as well as one of the more dangerous to extract, leading the way. As pollutants from coal burning exceed clean air standards and as prices drop for cleaner fuels, coal is plunging in value and those who have invested in coal are increasingly finding themselves as the owners of an asset of uncertain value, and potentially no value – a stranded asset.

Oil and gas reserves are perhaps the largest potential stranded assets, as the known reserves (including coal) are already 5 times larger than the amount of fossil fuels scientists estimate we can burn and still keep global warming within 2 degrees Celsius.⁵ Writing down that level of assets would certainly be calamitous for the energy companies and would presumably send major waves throughout the economy, with some companies and some economic sectors more at risk than others.

Water is the other major environmentally-related creator of stranded assets. Whereas with fossil fuels the stranded asset is associated with excess supply, with water, the stranded assets are associated with scarcity. It is typically the loss of access to a water supply – or the loss of ready access to under-priced sources of fresh water – that can make a factory or product line lose its value and become stranded.

Coca-Cola, which was forced to close a bottling plant in Kerala, India, due to water supply concerns, seems to be the most commonly cited example of water-related risk. Because Coca-Cola is dependent on the availability of plentiful supplies of clean and low-cost water, it has implemented a far-ranging water supply plan, requiring each of its 900+ bottling plants around the world to create a water risk plan, including contributing to local water supply solutions, such as helping local farmers reduce their water use, supporting reforestation of local headwaters, or capturing rainwater and recharging aquifers.⁶

Natural capital valuation tools, described more fully below, can be used to evaluate environmental risks. GIST, for instance, is designed to help companies identify current and future water stresses, such as scarcity or pollution within the watersheds in which they operate and then determine the financial, environmental and social costs of their investments in the watershed.⁷

There are other tools that are specifically designed for the common stranded asset risks:

- Bloomberg Carbon Risk Valuation Tool, which is designed to illustrate the potential impact on earnings and share price of companies, particularly those in extractive industries, under carbon pollution constraints. The tool models fuel cost increases and drops in cash flow potentially associated with carbon pollution

⁵ <http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>

⁶ <https://www.theguardian.com/sustainable-business/world-water-day-corporate-water-risk-tools>

⁷ https://www.theguardian.com/sustainable-business/2016/mar/13/value-of-nature-earth-genome-environment-sustainability?CMP=share_btn_tw

constraints.⁸

- Tools designed for water risk, in addition to GIST, include Ceres Aqua Gauge,⁹ Bloomberg's Water Risk Valuation Tool¹⁰ and the Global Environmental Management Initiative (GEMI) local water tool. These tools help companies assess external impacts, business risks and opportunities, manage water-related issues at specific sites, and provide information to stakeholders.¹¹
- Aqueduct is a water resource mapping tool from the World Resources Institute, working with GE, Goldman Sachs, Shell and other major corporations, as well as major academic institutions including Columbia and Yale, and major non-profits including The Nature Conservancy and National Geographic.

Human Rights Assessment Tools. While global markets have created new opportunities in developing countries and helped lift millions of people out of poverty, global competitive pressures can also lead to significant labor abuses, particularly in countries lacking enforceable protections. This type of "race to the bottom" is a form of market failure and includes not only very low wages, but also such practices as exposure to toxic substances and other unsafe conditions, use of child labor, and debt bondage and other forms of modern near-slavery, where workers have little bargaining power and few practical alternatives.

The better known examples of these types of abuses include the leak of toxic gases from a Union Carbide chemical plant in Bhopal, India in 1984, leading to approximately 15,000 deaths,¹² the 2013 collapse of a garment factory in Bangladesh, killing over 1,100,¹³ poor working conditions and excessive hours at factories making iPhones,¹⁴ and the use of child labor by Nike.¹⁵ Nike was one of the first American companies to outsource production to low-cost factories in developing countries, shifting orders from factory to factory, as it pitted factory owners "against one another in search of rock-bottom prices," as described in the Wall Street Journal.¹⁶ Nike's CEO, Phil Knight, came to acknowledge that Nike had "become synonymous with slave wages, forced overtime and arbitrary abuse."¹⁷

With these and many other examples as a backdrop, a 2014 survey of over 800 senior corporate executives by the Economist found that 83% agree that human rights is a business concern.¹⁸ Reasons cited in support of this position included building sustainable relationships with local communities; protecting company brand and

⁸ http://www.bbhub.io/bnef/sites/4/2013/12/BNEF_WP_2013-11-25_Carbon-Risk-Valuation-Tool.pdf

⁹ <http://www.ceres.org/issues/water/corporate-water-stewardship/aqua-gauge/aqua-gauge>

¹⁰ <https://www.bloomberg.com/bcause/new-tool-integrates-water-risk-considerations-in-equity-valuation-process>

¹¹ <http://gemi.org/localwatertool/>

¹² <http://www.theatlantic.com/photo/2014/12/bhopal-the-worlds-worst-industrial-disaster-30-years-later/100864/>

¹³ <http://www.npr.org/sections/goatsandsoda/2015/04/24/401917197/2-years-later-garment-factory-collapse-has-sparked-little-change>

¹⁴ <https://www.cnet.com/news/riots-suicides-and-other-issues-in-foxconn-iphone-factories/>

¹⁵ <http://www.laborrights.org/in-the-news/six-cents-hour>

¹⁶ <http://www.wsj.com/articles/SB10001424052702303873604579493502231397942>

¹⁷ *ibid*

¹⁸ The Economist Intelligence Unit; *The Road from Principles to Practice: Today's Challenges for Business in Respecting Human Rights*; 2015

reputation; meeting employee expectations; and moral/ethical considerations.¹⁹ Among other factors, these reasons directly or implicitly acknowledge that employees, consumers and investors care about these issues, and that a company's positions and actions on these issues are likely to be discovered and disseminated.

Tools to assess and guide corporate behavior with regard to human rights include:

- The UN Guiding Principles on Business and Human Rights, published in 2011. As the name suggests, these Guiding Principles are at a high level and call for companies to adopt policies and procedures to respect human rights, to actively conduct due diligence, not only within the firm, but also with regard to business partners and within the company's supply chain; to track the effectiveness of their measures; remediate, as appropriate; and to communicate their results externally.²⁰

Shift, an NGO dedicated to building respect for human rights as a standard business practice, has built a UN Guiding Principles Reporting Framework. In addition, Shift, along with the Global Compact Network Netherlands and Oxfam, has produced "Doing Business with Respect for Human Rights," a tool that builds on the UN Principles, providing specific guidance for implementing the Principles.²¹

- Corporate Human Rights Benchmark, which was developed by investors and NGOs in consultation with companies, academics and legal experts, was released in 2016 and is designed to be a publically available scorecard. It is based on the concept that transparency will trigger a "race to the top."²²

In addition to these specific tools, companies can be guided by such documents as the conventions of the International Labor Organization and the Universal Declaration of Human Rights.

As one example, Coca-Cola has commissioned a series of studies, country by country, looking at the issues of child labor, forced labor and land rights in its sugar supply chain. The land rights issue is one of sugar cane growers essentially stealing land, often from indigenous populations, to expand production. Studies conducted to date, in Colombia, Guatemala and other countries, have found certain issues to address.²³

Among its considerations in commissioning these studies, Coca-Cola was motivated by a public campaign organized by Oxfam, titled "Nothing Sweet About It," and Oxfam has functioned as an independent observer as Coca-Cola has released its various reports.²⁴

¹⁹ *ibid*

²⁰ UN Guiding Principles on Business and Human Rights, 2011

²¹ http://www.ungpreporting.org/wp-content/uploads/2015/03/UNGPRReportingFramework_Feb2015.pdf; <https://www.businessrespecthumanrights.org>

²² https://business-humanrights.org/sites/default/files/CHRB_report_06_singles.pdf

²³ <http://www.coca-colacompany.com/content/dam/journey/us/en/private/fileassets/pdf/human-and-workplace-rights/Country-Sugar-Study-Methodology-Overview.pdf>; <http://www.coca-colacompany.com/content/dam/journey/us/en/private/fileassets/pdf/2013/11/proposal-to-oxfam-on-land-tenure-and-sugar.pdf>; <http://www.coca-colacompany.com/coca-cola-unbottled/sustainability/2015/building-a-framework-for-action-progress-on-coca-colas-country-studies>

²⁴ <https://www.oxfam.org/en/pressroom/pressreleases/2013-11-08/coca-cola-company-declares-zero-tolerance-land-grabs-supply-chain>; <http://politicsofpoverty.oxfamamerica.org/2015/03/is-coca-cola-getting-serious-about-its-zero-tolerance-for-global-land-grabs/>

Valuation Models

Natural capital accounting is a valuation system that sets a basis for considering and addressing a wide range of sustainability issues.

The WAVES partnership (Wealth Accounting and the Valuation of Ecosystem Services), led by the World Bank, defines natural capital as:

Natural capital includes all of the resources that we easily recognize and measure, like minerals, energy, timber, agricultural land, fisheries and water. It also includes the ecosystem services that are often “invisible” to most people, such as air and water filtration, flood protection, carbon storage, pollination of crops, and habitats for wildlife.²⁵

The Natural Capital Coalition, a global multi-stakeholder collaboration of over 200 organizations, additionally notes that, “Natural capital supports ... a healthy planet and underpins thriving societies and prosperous economies.”²⁶

WAVES describes natural capital accounting as:

Natural capital accounting integrates natural resources and economic analysis, providing a broader picture of development progress than standard measures such as GDP. Natural capital accounts are a set of objective data showing how natural resources contribute to the economy and how the economy affects natural resources. They can provide detailed statistics for better management of the economy, like accounts for the sectoral inputs of water and energy, and outputs of pollution that are needed to model green growth scenarios.²⁷

Quoting Joseph Stiglitz, WAVES notes that whereas corporations account for income and accumulated assets via income statements and balance sheets, respectively, countries typically track income alone, via GDP. This results in the undervaluation and depletion of assets. Forests provide a good example, where the timber value may be known, but the value of carbon sequestration and air and water filtration is rarely accounted for. With these values ignored in economic calculations, the ability of forests to provide these services tends to diminish as the forests are exploited solely for timber.

A natural capital accounting system will value these ecological services. Examples, from WAVES, include:

- Land and water accounts can help countries interested in increasing hydropower capacity to assess the value of competing land uses and the optimal way to meet this goal.
- Natural capital accounts can help countries rich in biodiversity design a management strategy that maximizes the contribution to economic growth while balancing tradeoffs among ecotourism, agriculture, subsistence

²⁵https://www.wavespartnership.org/sites/waves/files/images/NCA%20FAQs_Jan%202016.pdf

²⁶<http://naturalcapitalcoalition.org/natural-capital/>

²⁷<https://www.wavespartnership.org/en/natural-capital-accounting>

livelihoods and other ecosystem services like flood protection and groundwater recharge.²⁸

Natural capital accounting is built off the UN System of Economic and Environmental Accounts (SEEA), which was originally developed in 1993 and was most recently updated in 2012. In addition to the UN, the SEEA central framework was released under the names of the European Commission; the FAO; the IMF; the OECD and the World Bank.

The SEEA Central Framework describes itself as follows. It:

- Is a multipurpose conceptual framework for understanding the interactions between the economy and the environment, and for describing stocks and changes in stocks of environmental assets;
- Provides information in relation to a broad spectrum of environmental and economic issues. Particular examples include the assessment of trends in the use and availability of natural resources, the extent of emissions and discharges to the environment resulting from economic activity, and the amount of economic activity undertaken for environmental purposes.
- Provides guidance on the valuation of renewable and non-renewable natural resources and land;
- Brings together, in a single measurement system, information on water, minerals, energy, timber, fish, soil, land and ecosystems, pollution and waste, production, consumption and accumulation.²⁹

Examples of SEEA-based natural capital accounting include:

- Philippines: Water accounts for Lake Laguna (Metro Manila area) will inform water pricing, and broader ecosystem accounts will inform upstream land use management for water quality.³⁰
- Australia: A new study determined that a particular forest in the state of Victoria would generate more economic value as a park than it does under its current use for logging.³¹

WAVES additionally argues that natural capital accounting can help governments address issues of economic and environmental justice:

Knowing the total value of natural capital can also help to address poverty issues. Conversely, not knowing the value of natural capital can result in losses that negatively affect the poor. For example:

- Failing to value the coastal protection services provided by mangroves can lead to massive conversion of mangroves into shrimp farms, at the cost of livelihoods (from loss of fish habitat and other mangrove products) and increased damage from storms.

²⁸ *ibid*

²⁹ System of Environmental-Economic Accounting Central Framework, 2012

http://unstats.un.org/unsd/envaccounting/White_cover.pdf

³⁰ <https://www.wavespartnership.org/en/natural-capital-accounting>

³¹ <http://phys.org/news/2016-06-victoria-forests-worth-national-timber.html>

- Lack of information about the value of forests for maintaining downstream water resources, grazing for livestock, and soil retention, can lead to clear-cutting and the loss of these services.

The key is to measure not just the total value of natural assets, but also how these benefits are distributed, how much goes to each stakeholder group, and the extent to which each group – especially the poor - depends on them.³²

There are, at this point, a number of different natural capital valuation tools in addition to the SEEA. They include:

- InVEST, a model produced by the Natural Capital Project, which is a collaboration of Stanford, the University of Minnesota, the Nature Conservancy and the World Wildlife Fund.
- The Green Infrastructure Support Tool (GIST), produced by the Earth Genome, a non-profit co-founded by Steve McCormick, former president of the Gordon and Betty Moore Foundation and The Nature Conservancy. The first release of GIST evaluates water costs and stresses. Future releases will address agricultural supply chains.
- The Natural Capital Protocol, produced by the Natural Capital Coalition, a global multi-stakeholder collaboration of over 200 organizations, and designed for use by businesses to understand costs and risks to businesses models associated with the use and dependency on natural resources.

A 2016 report from GreenBiz and Trucost found that the number of companies participating in natural capital initiatives grew 71%, or from 357 to 611, between 2014 and 2015.³³

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Additional Sources:

<http://www.ey.com/US/en/Services/Specialty-Services/Climate-Change-and-Sustainability-Services/Value-of-sustainability-reporting>

<http://www.sasb.org/wp-content/uploads/2016/06/SASB-AnnualReport-060116.pdf>

³²https://www.wavespartnership.org/sites/waves/files/images/NCA%20FAQs_Jan%202016.pdf

³³https://www.theguardian.com/sustainable-business/2016/mar/13/value-of-nature-earth-genome-environment-sustainability?CMP=share_btn_tw

<http://www.erevalue.com/lawyers-see-esg-risks-as-central-to-clients-interests/>

<https://assets.kpmg.com/content/dam/kpmg/pdf/2016/05/carrots-and-sticks-may-2016.pdf>

<http://www.triplepundit.com/2016/06/competition-sustainability-reporting-standards-healthy/#>

Sustainability Assessment Methodologies

<http://www.oecd.org/greengrowth/39925248.pdf>

<https://www.pwc.com/us/en/corporate-sustainability-climate-change/assets/pwc-sustainability-risk-management-2012.pdf>

http://www.swissre.com/corporate_responsibility/managing_env_risks.html

<https://www.theguardian.com/sustainable-business/world-water-day-corporate-water-risk-tools>

<http://sloanreview.mit.edu/article/sustainability-reporting-as-a-tool-for-better-risk-management/>

<http://csr-reporting.blogspot.com/2014/01/gri-vs-iirc-vs-sasb-round-nine-all-lose.html>

<https://www.greenbiz.com/article/battle-giants-gri-vs-sasb-vs-ir>

<https://www.greenbiz.com/article/battle-continues-gri-vs-sasb-vs-ir>

http://www.triplepundit.com/2016/06/competition-sustainability-reporting-standards-healthy/?utm_source=Daily+Email+List&utm_campaign=3e91609c7b-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_9dedefcee3-3e91609c7b-220389161#

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