

NEW NATURE OF BUSINESS

HOW BUSINESS PIONEERS SUPPORT BIODIVERSITY AND ECOSYSTEM SERVICES

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SYNTHESIS CENTER

▶ COVER IMAGE: SUPERTREE GROVE, GARDENS BY THE BAY, SINGAPORE

DEFINITIONS

▶ BIODIVERSITY

Biodiversity is the variability among living organisms within and between species and ecosystems. This variability underpins the proper functioning of ecosystems and ensures the delivery of ecosystem services. Examples include variability within lions, between species of parrots and between algae on land (lichens) and in the sea (seaweed).

▶ ECOSYSTEM

An ecosystem is plant, animal and micro-organism communities and their environment interacting as a functional unit, e.g., a coral reef, a rain forest or a desert oasis.

▶ ECOSYSTEM SERVICES

Ecosystem services are the benefits that nature provides. Those benefits include goods, such as food and fiber; services, such as flood control and air filtration; and attributes of cultural significance, such as recreation and spiritual values.¹

FOREWORD

Distracted by global transformations and local crises, business has overlooked environmental degradation and the consequent destruction of biodiversity. Business needs to make two urgent responses to these environmental challenges; reduce its adverse impact and increase its favourable impact on the environment.

Many companies are actively addressing environmental challenges by reducing their carbon footprint, reducing water consumption and recycling waste. However, while important, those activities do not prevent the loss of natural resources, the destruction of areas of unique natural beauty or the extinction of species.

The challenges to Biodiversity and Ecosystems Services require urgent attention. The United Nations Millennium Development Goals acknowledge the environment requires critical attention. The UN Sustainable Development Goals, which will succeed the Millennium Development Goals for the period 2016-2030, recognize Biodiversity and Ecosystems Services as one of 10 global priorities.

In 2012, a project was established under the US National Science Foundation's SESYNC program to build business awareness of the challenges confronting Biodiversity and Ecosystems and to motivate business to action. Reflecting its global focus, project members and contributors include business leaders, environmental

advocacy groups, government regulators and university researchers from more than 15 countries.

The project's first contribution is this report, *New Nature of Business*. Based on natural science and the experiences of pioneering companies, it addresses the key issues of uncertainty constraining business responses: the meaning of biodiversity and ecosystems services; their challenges; the current response to these challenges; and future responses.

This report shows that degradation of the natural environment and destruction of biodiversity can be reduced. It needs business executives to demonstrate leadership and to create a *New Nature of Business* in which our natural resources are nurtured and protected. To secure natural resources for the future and to leave a sustainable environment for our children will require the best efforts of business, government and societal groups working in collaboration over our lifetimes. Like every journey, creating a sustainable relationship with our natural environment begins with a first step. The *New Nature of Business* combines directions from pioneering business leaders and advice from experts in the field to present a compelling case for business leaders to take that essential first step.

MATTHEW TUKAKI
*Director of the Board,
UN Global Compact*



image credit

EXECUTIVE SUMMARY

The New Nature of Business highlights the necessity for a new approach by business to the environment.

The degradation of the natural world has impacted dangerously on the availability of everything from clear air to food, water and natural resources that were once abundant. Destruction of habitats is leading to declines in species and, increasingly, to extinctions. Climate change is a major contributor to these threats to ecosystems and biodiversity world-wide.

Why is this an issue for business? Because business-as-usual is a major cause of environmental degradation. Prevailing business practices are polluting the air, water and land. Excessive harvesting of food stocks are exhausting the land's capacity to recover. Land clearing is destroying the natural forests that convert carbon to oxygen. Above all, current business practices are contributing to global warming.

While being the major cause of environmental degradation, business can, however, also be a major driver of environmental recovery. Transforming from business-as-usual to a new approach of business-as-the-solution is critically important to reduce the rate at which the

environment is degraded. Business leaders need to establish a new relationship with nature where business nurtures and replenishes, instead of consuming and destroying.

The New Nature of Business describes: Biodiversity and Ecosystems Services; what pioneering companies are doing about the challenges to these issues and why they are doing it; and what could be done if a critical mass of businesses globally followed the lead of those pioneers.

As the 21st Century proceeds, the case for business action becomes stronger while nature's degradation becomes increasingly severe. Every business leader needs to take urgent action to address these challenges to nature. Initially, the motivation for business responses may be the necessity to manage future risk. If business does not heed the warnings, all too soon the motivation will be to survive the consequences of inaction.

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INTRODUCTION

OUR LAND IS OUR LIFE

Galarrwuy Yunupingu²



▲ *Indigenous cultures have long recognised the need for ecological balance.*

“I’m a finance guy and knew nothing about this area. So in 2005 I started reading up on the science and talking to people. Increasingly, over the next year, I became convinced that environmental and ecological issues will be the defining issues for humanity in the next 25-30 years.”

*Anurag Behar, Global Head of Wipro Infrastructure Engineering,
Chief Sustainability Officer, Wipro³*

The most basic human needs of survival - air, water, food and shelter - are entirely derived, directly or indirectly, from our natural environment and its biodiversity. Yet in many countries, we have built our institutions, traditions and nearly every social construct in a way that separates us from, and often places us above, the biodiversity and ecosystem services upon which we so completely depend.

Business is no different. From the fertility of soil for food production, to the raw materials of oil, gas, timber and ores used to fuel the products and services that drive our modern economy, the reliance on nature is total. Yet all but a few businesses operate on the theory that ‘natural resources’ are simply inexhaustible inputs, to be accounted for in the expense column.

While much attention has been given to greenhouse gas emissions and the threats associated with climate change, the earth’s variety of life - its biodiversity, and the benefits derived from nature - ecosystem services, have been deteriorating rapidly on every level, from local to global.

Two stories of deterioration illustrate our dangerous trajectory. The decimation of pollinating bee populations, through habitat destruction and exposure to man-made chemicals, now poses a threat to global agriculture and the world’s food supply. The North Sea is the latest in a long line of fisheries exploited to the point of actual collapse causing irreversible damage to the marine environment and the communities dependent on it.

Should we continue on this path, pressure will continue to increase on food and water security. Degraded environments will impact entire supply chains. Extreme climate events will create debilitating setbacks for industry and trade. Draconian policy solutions will spark social discord and consumer backlash. So why has business not identified or responded to these risks? Many leaders remain unaware of their existence. Others are uncertain about how best to respond. Whilst the broad concept of sustainability, particularly around water and energy efficiency, has gained traction, the subsets of biodiversity and ecosystem services, on the whole, have not been grasped by business.

INTRODUCTION

This Report aims to address the lack of awareness, review the challenges businesses face, and present a persuasive case for action. It draws from examples of pioneering companies around the world that have responded successfully to this critical issue. It was produced through an international project funded by the US National Science Foundation through its National Socio-Environmental Synthesis Center (SESYNC). This report is sponsored by the University of Sydney Business School. Members and contributors include business leaders, regulators, environmental advocacy groups and university researchers from developed and developing countries.

This document is available for download at : www.newnatureofbusiness.org

Use the site as your ongoing source of information, and a place to collaborate, contribute and share your experiences with biodiversity and ecosystem services (BES).



“By financial measures, the returns on our investments to preserve biodiversity and ecosystem services have been very positive and we believe they will grow even more in the future. But our objective was not just to be financially successful; it was to preserve the environment. How can businesses continue into the future if they cannot respond to the world’s environmental problems? It is a simple fact that consumer awareness will lead to less profitability in the long run for those who do not practice sustainability”

Ng Swee Hwa, Founder, Siloso Beach Resort, Singapore ⁴



image credit

▲ *Tourism has been an early adopter, but now is time for all business to consider BES.*

RISK VERSUS REWARD

“We are continually faced with great opportunities which are brilliantly disguised as unsolvable problems.”

Margaret Mead ⁵

Many business leaders remain unaware of the existence and potential impact of degraded biodiversity and ecosystem services (BES). Even among those with awareness, few perceive it as a business issue. Others are uncertain how best to respond to such a global challenge. The result is, many firms remain trapped in a narrow short-term view of value creation, sitting on the fence between action and inaction.

Profound system change rarely happens without a champion, usually at or near the top of the company, regardless of size. Someone has to move BES-based strategies to the top of the company priority list, thereby giving permission to the whole company to change its operations. The champion effect is critical and emerges from ethical beliefs, passion, and a desire to meet new and daunting challenges. It requires leadership and creativity, and recognition and acceptance that the journey will not be linear, it will not be along known paths, and much of it will be challenging.

▶ WHAT IF...

We change our systems and the costs turn out to be too high?

We lose customers because we don't adapt to their new demands?

Alternative suppliers price us out of the market?

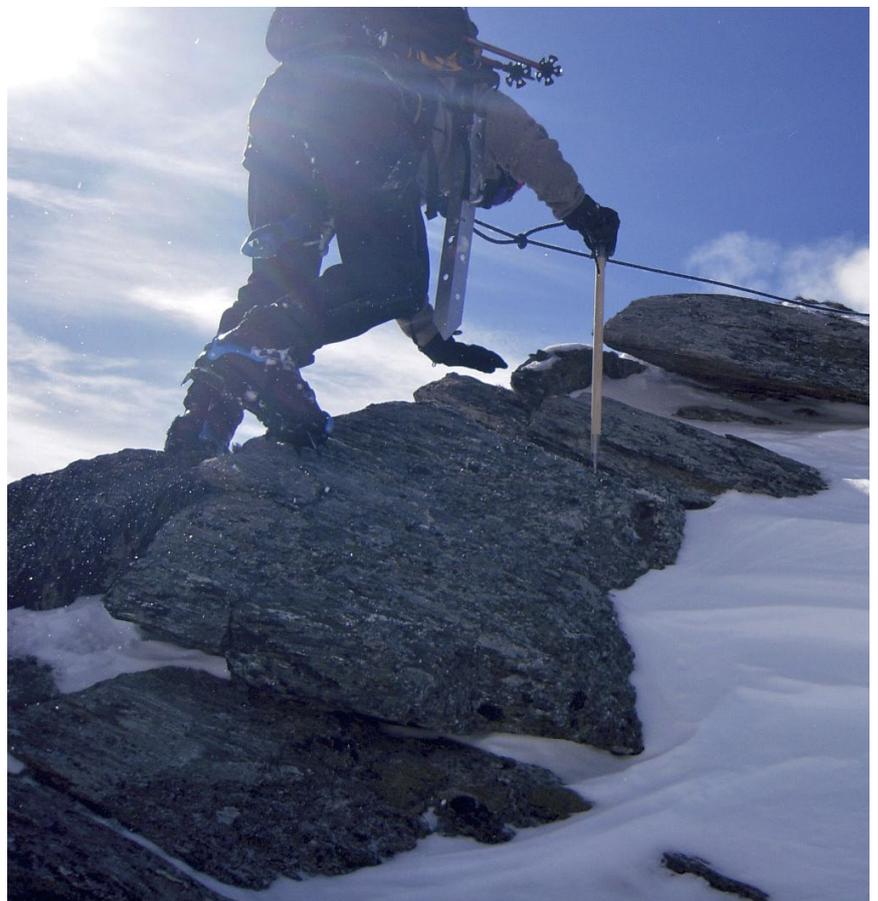
Competitors leave us behind through innovation?

We continue business as usual and our supplies run out?

We lose our license to operate in foreign waters or lands?

We adopt BES strategies and can't measure our achievements credibly?

We don't and regulators measure them instead?



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RISK VERSUS REWARD

“These environmental challenges do not necessarily affect our core business directly, but if not managed properly they can lead to reputation problems, privilege/license to operate issues and significant additional costs, notably access to water, or potential scheduling delays because of not taking into consideration biodiversity issues.”

Sustainability Expert, Natural Resources Company ⁶

Our in-depth case analysis of pioneering companies has found that once a company, or division, begins to contemplate biodiversity and environmental services, and how it might implement responsive changes, leadership arrives sequentially at a set of insights, outlined adjacent.

Grasping the full scope of the BES challenge is pivotal to successful company-wide change. Without understanding just how profoundly environmental sustainability issues are going to affect our lives and businesses, just how holistic and system-wide the response needs to be, managers, strategic planners and employees will simply not have the necessary information or motivation for change.

▶ LEADERSHIP INSIGHTS

It's really complicated, in fact revolutionary.

Everything connects to everything else. Every aspect of internal management, external supply, distribution, and marketing is interwoven.

In order to properly manage risk and provide credible accounting, many new things need to be measured.

Given all of the above, it becomes necessary to reboot and undertake both broad-based and detailed strategic planning, from a completely changed perspective.

Big picture perspectives are essential for management to grasp the full scope of the BES challenge



RISK VERSUS REWARD

“We identify the key environmental challenges through our risk processes, which cover both current risks (issues which occur now which may affect our business operations now) and strategic risks (issues which are being talked about but not in policy or regulations and may affect our business operations in 5-10+ years time).”

Mark Johnston, Group Ecology Expert, British Petroleum ⁴

Risk management will always be the underlying driver and motivator for business change. The first step for business should be to fully understand these risks in order to mitigate for them most effectively. Equally important is to detect unexpected opportunities for business longevity and prosperity. A typology of business risks relating to declining biodiversity was presented at the World Economic Forum (2010)⁷. Major categories of risk include:

REPUTATION

Consumer influence has been a market force since commerce began, and now more than ever thanks to the spread and influence of social media. Corporations can no longer simply ‘push’ their marketing messages in isolation, but instead need to ‘share the air’ with consumers, be they advocate or enemy. To add fuel to the fire, issues such as climate change and globalization have placed greater scrutiny on corporations, particularly around issues of sustainability, which raise environmental and community accountability. For those even suspected of misconduct, social

media’s reach can play reputational judge, jury and executioner. The sentence: cancellation of the company’s ‘social license’ to operate.

Forward-thinking companies recognize this shift in consumer preference. High rates of customer churn may be expected in companies that do not respond to changing customer demands. BES activity is as integral to operations as it is to marketing communications in order to engage the new consumer. But BES goes beyond positioning for purchasing preference. Great companies need great people, and top graduates - tomorrow’s leaders - are increasingly selecting their employers based on their BES reputation. In the new business environment BES-based performance may well decide the success or failure of a company.

SUPPLY CHAIN

Natural resources, long considered an inexhaustible expense, are in fact finite if not managed sustainably. Food, lumber, minerals, medicinals, energy and paper all draw down the earth’s biodiversity. Increasingly, availability of key resources will

be limited due to over-harvesting and climate change, or will be effectively restricted by regulation or societal pressure. Ongoing scarcity will push prices up, likely reducing productivity and disrupting operations. Persistent degradation, coupled with extreme climate events, will place business in an extremely vulnerable position.

On the flip-side, necessity drives invention. Those businesses that successfully embrace innovation will mitigate risk and may gain a competitive edge. Product design will continue to see deeper consideration of content, pollution, waste water, energy, and end-use. New approaches to sourcing, volume, recycling, and suppliers will also result. Walmart, one of the largest companies in the world, saw the potential for demanding sustainable practices up and down its immense supply chain. Walmart chose to act on emerging trends in consumer preference long before other large firms were willing to take the risk.⁸ Similar experiences may apply to pioneers responding to biodiversity and ecosystems services.

EMPLOYEE ENGAGEMENT

Pfizer (USA) created its own internal Wildlife Management Team and won the Wildlife Habitat Council's Corporate Habitat of the Year award for their efforts to restore and enhance wildlife habitat on the company's 2,200-plus acre Kalamazoo manufacturing site. Centrepiece of the project is the nest box program, where employees monitor bird nesting boxes during breeding season, and up to 350 tree swallows, eastern bluebirds, and house wrens are fledged each year.⁹

RISK VERSUS REWARD

REGULATORY

As BES issues gain recognition around the globe, regulators will be identifying options for protecting air, water, and threatened species from related impacts. This will include a variety of measures including restricted access to land and resources, reduced quotas, pricing and compensation regimes, all with associated litigation. Experimental carbon taxes are only the thin end of the wedge. Laggards will face catch-up costs and penalties.

European Union member countries responding to the EU's Biodiversity Action Plan (2010)¹⁰ are creating a regulatory environment for ecosystems and biodiversity similar to the EU's environmental regulation, with increased incentives for business, large and small, to change their current practices to protect biodiversity and ecosystems.

Some national governments have begun to explore and implement broad policies that will affect biodiversity and ecosystem service provision. In England, the government has established a comprehensive vision for incorporating more holistic environmental management goals into its conservation strategy. The plan focuses on a regional, landscape-level systems approach to managing ecosystem services, moving away from the piecemeal approach to conservation that so often characterizes environmental management. Their plan emphasizes the need to better evaluate ecosystem health for the benefit of people, through access to natural areas, an improved economy, and

better health. It also acknowledges the importance of non-governmental actors, including the private sector.¹¹

The India Companies Act 2013 has instituted a 'CSR' mandate, stating that "at least 2 per cent of the average net profits of the company made during the three immediately preceding financial years" must be spent on CSR activities, to include environmental sustainability. If the company fails to spend this amount on CSR, the company's board must disclose why in its annual report. The legislation is too new to evaluate effects yet, but the intent is clear.¹²

The biggest cost of all comes with choosing to do nothing.

STAKEHOLDER AND EMPLOYEE ENGAGEMENT

Even the best BES programs devised by the most astute company leader will fall flat without internal support. From managers implementing new systems to employees in contact with customers, clarifying the risk and reward of BES with all employees is essential.

Customers and neighbors are now both global and local, and both are making new demands on companies to put the planet first. Yet they need not be seen as barriers to business. Many are ready to work with companies to define and implement shared value strategies. This might involve water conservation, or co-initiatives around recycling or buying local. It might involve cleaning up thousands of acres of damaged habitat. It could mean voluntarily changing business standards, with stakeholder input.

FINANCIAL

Changing business practices, conducting environmental remediation, and gathering data all have associated costs. Reducing energy use, emissions, waste and other resources, whilst positives on the ledger, require investment to establish the necessary programs. Identifying new supply sources, redesigning products, and adapting manufacturing, transport and delivery to conform with BES goals are all costly exercises.

Pioneering companies with executive commitment and a track record of support for BES may be able to justify their commitments solely on the basis of good corporate citizenship. Those companies just beginning their journey, however, may need their plans to demonstrate more tangible and financial business value.

COLLABORATIVE SOLUTIONS

Eugene Water and Electric Board (Oregon, USA), a public utility, partnered with landowners and local government entities to change land management practices rather than build a water treatment plant, requiring higher rate charges. In the scheme, Eugene Water pays dividends to local landowners that meet riparian forest and wetland habitat standards.⁹



STRATEGIC PLANNING

A business case for biodiversity occurs when the conservation of biological diversity is combined with strengthening a company's competitive advantage and success.¹³

Successful businesses will approach their responses to declining biodiversity and degraded ecosystems with strategic intent. Their objective will be to achieve maximum positive impact from their responses. Their vision and mission, their purpose for being in business, will all be reconsidered. Commitments to the natural environment, in particular that of biodiversity and ecosystems, will be integral to forming a new vision and mission. In doing so, the organization will be transformed from a short-term market-focused corporation into a medium to long-term focused corporate citizen, that acknowledges and integrates its economic, environmental and societal objectives.

Business models will be revised to present new value propositions, driven by dynamic customer demands to be increasingly responsive to BES issues, such as threats to food and water security, degraded ecosystems and threatened species. New customer segments will reflect customer concerns for specific threats. Relationships will be maintained and improved through demonstrated corporate commitment to shared issues of concern. Productivity improvements may be achieved by thinking creatively and strategically about improving current practices. Considering biodiversity as an enabler of productivity improvements may appear to be a radical solution, but it actually works!



image credit

▲ *“An opportunity to protect and increase biodiversity in agricultural landscapes lies in the quality of edge habitat. Proactively managing field margins provides new habitat e.g. for pollinating insects. This helps farmers to enhance biodiversity and at the same time improve yield and quality of their crop.”*

Romano DeVivo, Head of Sustainable Agriculture and Stewardship, Europe, Africa and Middle East, Syngenta⁴

Critical costs will be affected. Key resources will be obtained through environmentally sensitive value chains with a focus on addressing degrading ecosystems and threatened biodiversity. Firms will compete successfully in unregulated markets as they address customer demand. Regulated markets, such as the EU with its mandate for energy saving electronic products, will exclude companies that cannot demonstrate environmentally sensitive value chain strategies.

The evolution of the business model will necessitate change in the organization. The creation of new value propositions, products and services, channels to reach customers, partners and resources may all require new organizational structures for their implementation, operation and management. Such change will be a challenge for many companies, as significant change always is.

A global survey of 2,500 business executives on their

experiences with organizational change found that less than one-third achieved their business objectives in full, one-quarter experienced negative or uncertain outcomes, and the balance partially met their objectives.¹⁴ The global survey found that the most successful organizations described their broad business objectives, defined their intended high-level organizational structure, developed a clear communication plan for internal and external stakeholders, explained to employees how the new design would work, ensured that systems and processes supported the change, and motivated employees to support it. Contrary to common perception that a staged, evolutionary process was necessary, taking quick decisive action and then aligning people behind the change was the preferred approach by companies with successful change programs. The shorter period of disruption helped to overcome resistance to change and to avoid organizational fatigue.

STRATEGIC PLANNING

When planning for BES-based strategies, there will be opportunities, even requirements, to think completely outside the box, outside the industry, and outside of current politics.

▶ *NEW OPPORTUNITIES, POSSIBILITIES*

Industry sectors have long thrived on competition with each other. They may now need to consider collaboration.

Certain businesses have typically operated in sector silos, forcing customers to do the connective work. They may now need to consider clustering, and cross-industry alliances, and collaborations with stakeholders.

Industry has rarely taken kindly to environmental or social advocacy to change its practices. It may now need to consider collaborative approaches and consider how NGOs can help them engage with new shared value allies.

Companies taking the lead in the BES challenge have harnessed their own self-determination, strategic and tactical skill sets, and relative nimbleness to gain their unique pioneering position. By undertaking voluntary change they are far better prepared to manage under new regulations than those companies postponing the inevitable. Even further ahead are companies testing public-private partnerships, or novel relationships with NGOs, to help interact with concerned, relevant social groups.



STRATEGIC PLANNING

Shared value has the potential to reshape whole industries and sectors and their relationships to society, as well as enhancing the credentials of the business community. A number of companies are already pioneering partnerships creating fundamental change in the social contract between customers and business. While not all societal problems can be solved through shared value solutions, shared value approaches recognize the demands of environmental sustainability as a necessity for business survival.



Creating 'shared value' with multiple stakeholders can generate economic value as well as addressing the needs and challenges of society. Shared value will drive the next wave of innovation and productivity growth.¹⁵

▶ *CREATING SHARED VALUE*

Holistically reconceiving products and markets

Redefining productivity in the value chain

Building supportive industry and stakeholder clusters at company locations

BEING A GOOD NEIGHBOUR

Bordering on Intel's Leixlip facility in Ireland, Rye Water, a tributary of the River Liffey and a traditional trout and salmon spawning ground, had become so heavily silted, shallow, and overgrown that it no longer provided the habitat essential for fish to reproduce. In 1994, Intel partnered with the University College Dublin, AQUENS Ltd., Inland Fisheries Ireland, and the Office of Public Works to begin full-scale rehabilitation of Rye Water. Consistent measurement and annual reporting show restored populations improving along with water quality. Salmon, trout, and white-clawed crayfish – one of Ireland's few protected aquatic species – now thrive in restored and enhanced habitat. Many other species also flourish, including important bioindicators for water quality. Intel's motivation for its contributions over a 15-year period? It's all part of being a good neighbour! ⁹

MAKING DECISIONS, MAKING CHANGE

Business has both the incentive to conserve and protect the natural resources on which it depends, and the capability to implement its strategies globally. Pioneering companies have changed their business through a series of stages, commencing with building awareness of issues and their potential relevance to the company and progressing through building internal capabilities for

environmentally driven change, to seeking market opportunities based on those new capabilities. A decision-making framework, based on their experiences, describing the stages in corporate development, is detailed below. Using it by no means guarantees a successful outcome, but rather it serves as a starting point and agenda for executives to determine how best to progress towards a corporate goal.

DECISION-MAKING FRAMEWORK – STAGES OF DEVELOPMENT¹⁶ ▼

Stage	Title	Activity	Business Agenda for Decision-making
1	Awareness	Becoming aware of issue	Become aware of Biodiversity and Ecosystems Services (BES) issues; potential relevance to organisation may be unclear
2	Investigation	Identifying, scoping and investigating potentially relevant issues	Identifying BES issues with potential relevance to the business; investigate motivations & outcomes by other businesses; investigate business' impact on BES; advise & engage staff
3	Determination	Determining response	Determine motivation for business' initial response; identify & examine potential response; prepare jurisdiction/business case; approve action; advise & engage staff
4	Action	Preparing, implementing & monitoring response	Prepare capabilities to manage and implement initial response by acquisition, development or collaborations; implement response; advise & engage staff
5	Evaluation	Evaluating response(s)	Review approaches for evaluating initial outcome(s); determine appropriate organisation-wide metrics and evaluation processes; determine actual contributions; develop informed business cases; internal reporting
6	Proliferation	Determining championing & implementing organisation-wide responses	Proactively determine & implement organisation-wide strategies for meaningful impact on BES; engage staff; internal & external reporting
7	Integration	Integrating organisation-wide responses	Integrate responses across organisation; seek innovative responses for more meaningful impacts; implement BES management systems; internal and external reporting
8	Business Opportunity	Seeking business development & other market/societal opportunities	Seek business & societal opportunities with current and new customers, products, markets & collaborators to increase meaningful improvements in challenges to BES; internal and external advocacy and reporting

It is recommended that executives study the examples contained within this document for those with relevance for their own company as the first stage in their company’s progress towards a meaningful response to improve BES. These examples may provide senior executives with context to more openly and creatively contemplate ‘what can we do, why and how?’

Throughout the process of

change, it is important to remember successful responses are a journey, not an isolated event, and that every journey commences with a single step. The longer a response is delayed, the greater the response will need to be as conditions deteriorate and competitors extend their lead.

Pioneering companies have also learned that successful programs of organizational change cannot

be based on individual actions in isolation, but require mobilising the company and its staff as a whole. Some pioneers have built networks of internal groups to empower staff across different sites and functional areas to build a corporate culture of commitment to improving BES. Once achieved, it is important to publicise your successes within the organization as a means of building further support.

DECISION-MAKING FRAMEWORK – AN INSIDER VIEW ▼

Stage	Comment by Decision-maker
1	“Every business must come to realise their unique major impacts on the environment and society and focus on customized ways to reduce them in a manner that would make financial sense over time.” Sylvain Richer de Forges, Sustainability Director, Siloso Beach Resort. ⁴
2	“In some senses it’s not just a change in how to value nature, it’s a change in how we will be doing business.” Mark Weick, Director of Sustainability Programs and Enterprise Risk Management, The Dow Chemical Company ⁴
3	“Our buildings were constructed with three simple guidelines: preservation of the terrain; preservation of all the trees; and maximizing open spaces. These simple guidelines played a critical role in the preservation of the biodiversity. Very specific and innovative construction techniques had to be used.” Sylvain Richer de Forges, Sustainability Director, Siloso Beach Resort. ⁴
4	“We are focused on collaboration and coordinated efforts at a local scale to enhance biodiversity and ecosystem services. These collaborative efforts involve a diversity of stakeholders such as industry partners, government bodies, NGOs, and universities which are each critical for longer term success. It’s going to take everyone working together to make it happen.” Jeff Peters, Technical Manager for Sustainability, Syngenta Crop Protection, U.S.A. ⁴
5	“ In an ideal world, all business decision-makers would have access to models regarding the future values of ecosystem services that can be easily included into existing tools. We still need to develop the tools and make the case effectively across the company.” Mark Weick, Director of Sustainability Programs and Enterprise Risk Management, The Dow Chemical Company ⁴
6	“Group is responsible for oversight of all environmental challenges. Group-defined practices, for all major projects and activities, have to comply with 25 different Environmental & Social indicators. These practices set a standard across our projects. New projects are required to go through a full screening process.” Mark Johnston, Group Ecology Expert, British Petroleum ⁴
7	“We start by defining ecological sustainability and targets at the organizational level. These are then discussed and debated with each division in a collaborative manner - such that they see the value in the whole process and willingly assume ownership of that program. This is then formalized as part of the division’s goals.” PS Narayan: Vice President Sustainability, Wipro ³
8	“Companies often see sustainability as an obstacle to development when in fact it is an opportunity to drive new business growth in the medium to long term. It is a long term financially profitable challenge, not an obstacle.” Sylvain Richer de Forges, Sustainability Director, Siloso Beach Resort ⁴

"NATURE IS PART OF EVERYTHING WE DO."

One of the many things we learnt is the importance of engaging all your employees. We had regular communications to build awareness, employee eco-chapters at our sites, and employees proposing improvements in their areas and taking responsibility for them. In isolation, these may not seem significant, but the fact is employee engagement and ownership are critical, they create the corporate environment and build the culture."

Anurag Behar, Global Head of Wipro Infrastructure Engineering,
Chief Sustainability Officer, Wipro ³



RESOURCES

We encourage you to use www.newnatureofbusiness.org as an ongoing source of information, and a place to collaborate, contribute and share your experiences with BES. Following are a series of hyperlinks that will take you directly to specific areas of interest in the website.

We are also inviting companies to participate in developing and testing the Decision-making Framework. To register your interest or to be kept abreast of BES news visit www.newnatureofbusiness.org

▶ **EVALUATING, MEASURING, MONITORING AND BENCHMARKING - LINK**

One of the biggest challenges for companies is the need to know what to measure and why, then how to analyse, benchmark, and report outcomes. Meeting this challenge is essential for credibility.

▶ **LIFE CYCLE ASSESSMENT (LCA) - LINK**

Also known as life-cycle analysis, ecobalance, and cradle-to-grave analysis, LCA is an approach to environmental impact assessment that addresses all stages of product life from raw material extraction to final disposal or recycling. In compiling energy and material inputs and releases, and evaluating their impacts, LCA broadens the perspective on environmental sustainability.

▶ **MEASURING AND REPORTING ECOLOGICAL, SOCIAL, ECONOMIC OUTCOMES - LINK**

Determining the most appropriate measures for an initiative's approved outcomes may be a critical factor in its success. This section considers the types of information that companies may wish to utilise in specific situations. The purpose is to place options on the agendas for business decision-making.

USEFUL LINKS

- ▶ *ASHOKA TRUST FOR RESEARCH IN ECOLOGY AND THE ENVIRONMENT: ATREE*
www.atree.org
- ▶ *BUSINESS AND BIODIVERSITY*
www.businessandbiodiversity.org/index.html
- ▶ *BIODIVERSITY IN GOOD COMPANY*
www.business-and-biodiversity.de/en
- ▶ *BUSINESS FOR SOCIAL RESPONSIBILITY*
www.bsr.org
- ▶ *CONVENTION ON BIOLOGICAL DIVERSITY (CBD)*
www.cbd.int
- ▶ *DEFENDERS OF WILDLIFE*
www.defenders.org
- ▶ *ECOMETRIX SOLUTIONS*
www.ecometrixsolutions.com
- ▶ *FOREST FRACTAL*
forestfractal.com
- ▶ *THE INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES (IPBES)*
www.ipbes.net
- ▶ *INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN)*
www.iucn.org
- ▶ *NATURESERVE*
www.natureserve.org
- ▶ *THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY (TEEB)*
www.teebweb.org
- ▶ *THE NATURE CONSERVANCY*
www.nature.org
- ▶ *UNITED NATIONS ENVIRONMENT PROGRAMME*
<http://www.unep.org>
- ▶ *UNITED NATIONS GLOBAL COMPACT*
www.unglobalcompact.org
- ▶ *WILDLIFE HABITAT COUNCIL*
www.wildlifehc.org
- ▶ *WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT (WBCSD)*
www.wbcsd.org

GLOSSARY

- ▶ **BES**
Biodiversity and Ecosystems Services
- ▶ **BIODIVERSITY**
The variability among living organisms within and between species and ecosystems. This variability underpins the proper functioning of ecosystems and ensures the delivery of ecosystem services.
- ▶ **BUSINESS CASE**
A business case presents the rationale for initiating a project or task. The inherent logic is that if business resources like money or effort are to be consumed then this should be in anticipation of specified business benefits. Anticipated business benefits may be quantifiable or non-quantifiable. A business case may include a null option: the costs and risk of doing nothing. The drivers of a business case are the factors motivating action. Inhibitors are factors resisting action.
- ▶ **CAP AND TRADE**
A cap and trade system sets an aggregate cap on pollution or resource use. Tradable allowances (or permits) take the form of individual quota shares of the aggregate cap. These permits are assigned or auctioned to polluters or resource users who are then allowed to buy and sell allowances such that their actual pollution or resource uses is equal to or less than the allowances held.
- ▶ **CARBON TAX**
A tax levied on the carbon content of fuels. A form of carbon pricing that offers a potentially cost-effective means of reducing greenhouse gas emissions. Already implemented in a number of countries.
- ▶ **CONSERVATION BANK**
A land account that is drawn on to compensate for adverse environmental impacts elsewhere.
- ▶ **CONVENTION ON BIOLOGICAL DIVERSITY (CBD)**
The United Nations' Convention on Biological Diversity is a formal commitment to support the environment. It was launched in 1992 and now has 168 nations as signatories. It has three goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources (www.cbd.int).
- ▶ **ECOSYSTEM**
An ecosystem is plant, animal and micro-organism communities and their environment interacting as a functional unit, e.g., a coral reef, a rain forest or a desert oasis.
- ▶ **ECOSYSTEM SERVICES**
The benefits that nature provides. Those benefits include goods, such as food and fiber; services, such as flood control and air filtration; and attributes of cultural significance, such as recreation and spiritual values.
- ▶ **ECOSYSTEM SERVICES MARKETS**
Ecosystem service markets include the full spectrum of regulatory, quasi-regulatory (cap-and-trade) and voluntary markets, such as wetland mitigation banking, habitat/conservation banking, water quality trading, environmental water transactions and carbon markets.

GLOSSARY

▶ ECOSYSTEM SERVICES TOOLS

Ecosystem services tools (including models) are designed to assess and/or evaluate current and potential ecosystem services. They range widely in scale, scope, and effectiveness, and are continually under development as the field evolves.

▶ EMAS (ECO MANAGEMENT AND AUDIT SCHEME)

A system developed by the European Union with components of environmental management and environmental auditing. The goal of the system is to continuously improve the environmental performance of organizations.
http://ec.europa.eu/environment/emas/index_en.htm

▶ HABITAT

Place where a microorganism, a plant or an animal lives.

▶ IMPACT FACTORS

Conditions that affect biodiversity such as habitat transformation, climate change, invasive species, overexploitation and pollution.

▶ INVASIVE SPECIES

These are species that, whether directly or indirectly as a result of human intervention, occur in a geographic space in which they were not native previously and that cause adverse impacts to ecosystems (for more information see: www.europe-aliens.org). Not all non-native species are invasive, and as climate changes species previously considered non-native may be more successful than those in place historically.

▶ MITIGATION

A well-accepted mitigation hierarchy is avoidance, minimization, and offset. Mitigation is generally required by specific regulations that seek to limit or compensate for adverse impacts. Some programs seek no-net-loss while others require a net gain.

▶ MONOCULTURE

A large area covered by a single species of plant, typically through human cultivation.

▶ OFFSETS

Programs intended to compensate the residual, unavoidable harm to biodiversity. Their objective is to ensure no net loss of biodiversity or net ecological benefit. (Resources that require mitigation are by definition at risk or in decline. No net loss is a status quo standard.)

▶ OUT OF KIND

Mitigation activities where the habitat functions and values created are not an exact equivalent to the impacted habitat functions and values being mitigated.

▶ PAYMENTS FOR ECOSYSTEM SERVICES (PES)

A way to protect and enhance ecosystems by linking beneficiaries and providers through various payment options and voluntary supply arrangements. PES is an incentive-based approach to protecting and restoring the environment, with the potential to provide economic benefits such as revenue for landowner-providers and cost savings for buyers.

GLOSSARY

▶ **PAYMENT IN LIEU**

In place of requiring a regulated entity from providing a mitigation project or mitigation credits, a payment in lieu program allows the entity to make a payment. Thus In lieu is a form of mitigation. The payment is usually made to a state fund or agency, or to an authorized or contracted non-profit. The recipient is then responsible for funding projects or transaction that provide the required mitigation.

▶ **POLLUTION**

A harmful factor that affects the environment (people, animals, plants, soil, water, atmosphere). Examples for pollution are air or water pollution, noise, light, heat or over-fertilization.

▶ **SUPPLY CHAIN MANAGEMENT**

System of suppliers of goods and/or services at several levels that have agreed to work together to serve customer needs along the value chain.

▶ **SUSTAINABLE USE**

The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

END NOTES

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