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**Biodiversity: Corporate Challenges,
Opportunities and Strategies**

Trabajo de Conclusión de Carrera (T.C.C.) presentado como requisito parcial para la obtención del grado de Ingeniería Comercial en Comercio Exterior de la Facultad de Negocios y Economía especialización mayor Negocios Internacionales especialización menor Marketing y ventas

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Resumen: Comprende la afectación de la pérdida de la biodiversidad a la comunidad de los negocios y el bienestar humano. Pero más importante, cómo sacar provecho y manejar sustentablemente el uso de los recursos indispensables de nuestro ecosistema. Entenderemos esa importante unión entre los negocios y la biodiversidad, los riesgos que las empresas enfrentan debido a su paulatina pérdida así como la importancia y beneficios de integrar la biodiversidad como principal estrategia de negocio. Veremos como todo tipo y tamaño de empresa puede involucrarse en el manejo y gestión de una biodiversidad sustentable y responsable teniendo en cuenta las estrategias, riesgos, retos y oportunidades.

Palabras claves: Oportunidad, estrategia, riesgo

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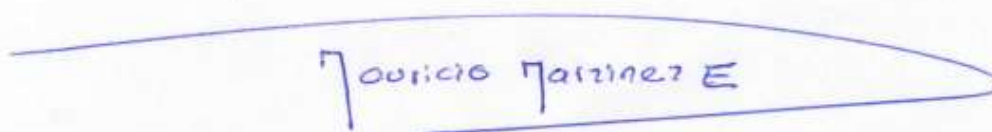
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List of Abbreviations

BAP	Biodiversity Action Plan
CBD	Convention on Biological Diversity
CII	Critical information infrastructure
IUCN	The World Conservation Union
LBAPs	Local Biodiversity Action Plans
LBPs	Local Biodiversity Partnerships
MA	Millennium Ecosystem Assessment
NGO	Non-Governmental Organization
UNCED	United Nations Conference on Environment and Development
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute
WWF	World Wide Fund For Nature

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I. INTRODUCTION

The each time increasing danger of loosing the ecosystems, species and genes, which all of us are already feeling the consequences all over the world, motivates me to get involve more deeply in the topic of how does biodiversity loss affect the human-well being and principally the business community. But more important, how can we profit of it and manage sustainable the use of the indispensable ecosystem resources.

This document summarizes some key issues, indicators and drivers, to understand the linkage of business and biodiversity, the risks businesses face due to biodiversity loss, but also the benefits and the importance of integrating biodiversity issues inside a company's core sustainable strategy. The document will show how can all tipe and size of businesses, get involved in sustainable and responsible biodiversity management, going through strategies, challenges, risks and opportunities.

Mitigate the impact of biodiversity loss and lots better, to impliment reclamation processes, strategies and solutions for conservation and improvement of biodiversity, is responsibility from a natural person to a small and big company because "biodiversity is everywhere and it is everyone's business."¹

There is a lack of aware, from most of the companies, in ecosystem management and sustainable use of biological resources, and therefore less engagement and doubt about the opportunities that the responsible practice can bring. Incorporating these biodiversity opportunities into the companies' bussines strategies is essential for a lasting commercial success and en-

¹ Abbott C., et al. (2002), p. 8

hance of its performance, as biodiversity is at the core of sustainable development. As there are opportunities and rewards for businesses of getting involved in biodiversity conservation, there are also risks. Nevertheless there can be a 'win-win' business case for biodiversity and the strategies of the companies can make a positive contribution.

II. BIODIVERSITY AND SUSTAINABLE DEVELOPMENT

“Global warming may dominate headlines today. Ecosystem degradation will do so tomorrow.” (Hanson C. et al, 2012, Foreword)

The world's heads of state re-emphasized the need for biodiversity conservation in their commitment at the World Summit on Sustainable Development in Johannesburg in 2002¹ to the achievement by 2010 of a significant reduction in the current rate of loss of biological diversity.²

Biodiversity loss results mainly from habitat conversion and disruption, often caused by activities associated with economic development.

Habitat loss cannot be avoided entirely, but compensating efforts can be made to protect, restore and enhance natural ecosystems.

Many of the interviewed for the study “Biodiversity Offsets: Views, experience and business case”, broader principles and the context of sustainable development as they spoke of biodiversity offsets. They talked about the conception of a “social contract” between business and society, where companies are allowed to operate in sensitive areas if they can demonstrate a

¹ Ten Kate K. et al. (2004), p. 10

² Secretariat of the Convention on Biological Diversity (2010), p. 5

commitment to “best practice” including the concept of “no net loss” and the need to find “win-win” solutions that can provide net benefits for biodiversity and people.¹

II.A Biodiversity definition

Biodiversity is defined by the Convention of on Biological Diversity (CBD) as “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.”²

Biodiversity makes reference to the variety of life on Earth.³

The word “Biodiversity” is relatively new and was originated from the contraction of the term “biological diversity” in 1985 and then popularized by a number of authors.⁴ Combined it refers to the multiple and varied forms which life manifest itself on earth.

Biodiversity provides us with a number of benefits that we take every day, thanks to this we find sustenance and our culture flourishes because biodiversity is everywhere; on our plates, as in the way we dress, in the heart of our traditions and in our genetic code.⁵ Every detail of our lives is marked by the relationships that connect us with plants, animals, fungi

¹ Ten Kate K. et al. (2004), 10 f.

² Hawksworth D. (1996), p. 6

³ Abbott C. et al. (2002), p. 13

⁴ Z. X. Chen, S. Y. Chen, Donald Ward (2004), p. 439

⁵ The World Conservation Union, (2008), Vol 38, No.1, p. 5

and micro-organisms. We need each other to preserve our identity, to improve our lives and especially to continue with our existence.¹

II.B Biodiversity risks

Most people do not develop yet a sense of urgency about biodiversity crisis and they do not understand its risk magnitude.²

In the report “Global Risks 2010” from the World Economic Forum, are outlined some of the top issues most likely to come to the fore of the global risks landscape, it shows the interconnections between biodiversity loss and other global risks.³ Biodiversity loss, connected with the other global risks, brings estimated severities in dollar terms ranging from tens of billions for inland flooding and infectious disease, to many hundreds of billions for food price volatility and chronic disease. (Figure 1)

¹ Natural Resource Management Ministerial Council, (2010), p. 3

² Chivian E. (2008), xii

³ World Economic Forum (2010) p. 4

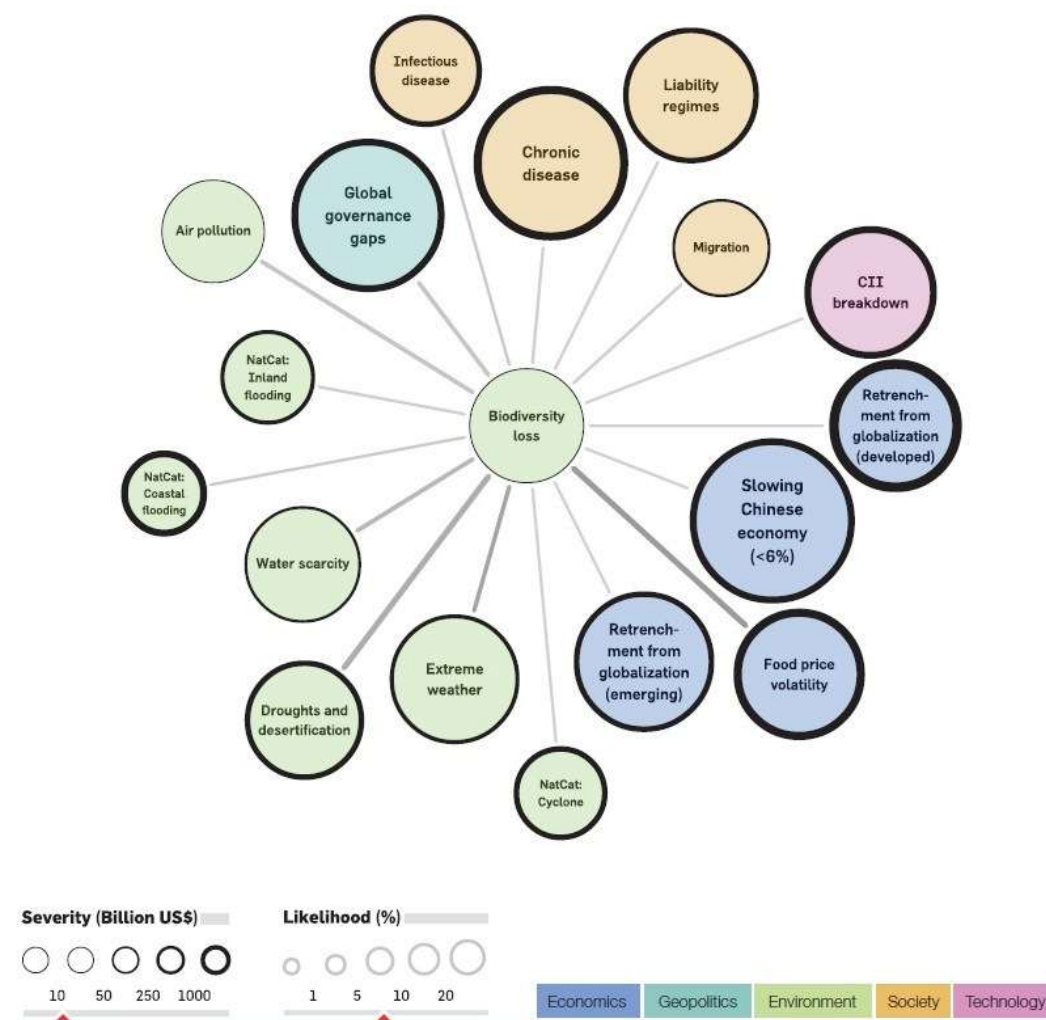


Figure 1: Biodiversity loss and interconnected risks

Source: World Economic Forum (2010), p. 30

In the analysis is underlined that Biodiversity risks currently feature less prominently on the Global Risks Landscape but suggest that they should not be forgotten in the focus on an integrated and longer term view of risks.¹

The other risks discussed in the report are, like the biodiversity risk, equally systemic in nature and also require better global governance as we can notice in the Figure 1. The themes also link the need for better governance and in particular, institutions and mechanisms to

¹ World Economic Forum (2010), p.29 f.

share information and for long-term thinking as to their impact. These are not emerging risks but all demand greater attention of leaders and greater collaboration on solutions. Top priority is to redress imbalances, change incentives and improve global understanding and cooperation.

The benefits people receive from biodiversity have not been taken into consideration and have been left out from global decision making processes. As a consequence, approximately 60% of the earth's recognized ecosystem services have been degraded in the last 50 years.¹

II.B.1 Biodiversity and health

The Harvard biology Professor Edward O. Wilson said about ants, "We need them to survive, but they don't need us at all"

People act as if we are totally independent from the nature. Regrettably, human beings are an inseparable part of the natural world, and our health depends completely on the health of its species and on the natural functioning of its ecosystems.²

Loosing plants, animals and microbial diversity, we are losing the opportunity to discover new medicines that could end the suffering of lots of people and save national economies billions of dollars each year.³

Furthermore, the risk of catching infectious diseases may rise for humans, animals and plants, as the number of species declines due to habitat loss, pollution and climate change.⁴

¹ World Economic Forum (2010), p. 30

² Chivian E. (2008) xi

³ The World Conservation Union (2008), p. 5

⁴ Ramanujan K., (URL)

II.B.2 Biodiversity and climate change

Natural or human-induced climate change, exert additional pressure and have already begun to affect biodiversity.¹

Although in the past, ecosystems have adapted to varying conditions, current changes are occurring at rates not seen before and the faster the climate changes, the greater the impact on people and ecosystems.²

It already demonstrates that the composition of the atmosphere is changing [e.g., the increasing atmospheric concentrations of greenhouse gases], as is also the Earth's climate (e.g., temperature, precipitation, sea level, sea ice, and in some regions extreme climatic events, like heat waves, heavy precipitation events, and droughts). Consequently potential effects and changes on biodiversity are the concentration of CO₂ in the atmosphere that affects the rate and efficiencies of both the productivity of plants and other ecosystem processes. Plant and animal productivity and other ecosystem functions are affected by climatic factors.³

Future models predict an average global temperature increase of 1.4 to 5.8 degrees C by the year 2100.⁴ Some predicted impacts associated with such a temperature increase include a further rise in global mean sea level of 9 to 88 cm, more precipitation in temperate regions and Southeast Asia, associated with a higher probability of floods, less precipitation in Central Asia, the Mediterranean region, Africa, parts of Australia and New Zealand, associated with a greater probability of droughts, more frequent and powerful extreme climatic events, such as heat waves, storms, and hurricanes, an expanded range of some dangerous diseases

¹ Gitay H., Suárez A., Watson R. (2002), p. 1

² Convention on Biological Diversity (2007), p. 7

³ Gitay H., Suárez A., Watson R. (2002), p. 4

⁴ McCarthy J. et al. (2001), p. 83

such as malaria, and further warming of the Arctic and Antarctic, leading to more sea-ice disappearance.

Conserve the living resources of the planet will be strictly tied to the ability to manage climate change and to manage the biotic changes associated with it.¹

II.B.3 Biodiversity and the economy

Due to the complexity of the interconnections, it is difficult to get a full picture of the costs and implications of biodiversity loss, but the consequences of these ongoing losses will not only affect businesses dealing directly with natural resources, but will also touch the supply chains and growth objectives of most industry sectors in the developed and developing world.²



Figure 2: Apr. 21st 2005 Panama City, The Economist print edition

¹ Lovejoy T., Lee H (2005), p. 4

² World Economic Forum (2010), p. 30

It is estimated that the cost of increasing the building and maintenance for a more comprehensive network of global protected areas, from the current 12.5%-14% to 15% of all land and from 1% to 30% of the seas, would be \$45bn a year, while the benefits of preserving the species richness within these zones would be worth \$4-5tn a year. Another report for the UN claimed the combined cost of damage to the environment by the world's 3,000 biggest companies was \$2.2tn in 2008.¹

Progressively the economy is being affected by the biodiversity loss. In 2007, it was calculated that the collapse of bee colonies, cost US agricultural producers US\$15 billion. Coral reefs are in extreme danger: if they disappear, they take with them around US\$ 152 billion of annual economic revenues.²

Since local people began to be paid to stop eating the sea turtles on Tanzania's Mafia Island, the numbers of them have surged. „Anybody who finds and reports a nest gets a fixed payment up front, followed by a second payment depending on how many eggs hatch - as an incentive not to poach them.“ (Jowitz J, URL2)

Over the year 2004 the number of hatchlings increased from 1,200 to more than 10,000, although this probably includes the effect of higher discovery rates too.³

Studies also show that investing in ecological infrastructure is not only cost-effective, but also indispensable for effective climate change adaptation and mitigation strategies.⁴

¹ Jowitz J. (URL)

² World Economic Forum (2010), p. 30

³ Jowitz J. (URL2)

⁴ World Economic Forum (2010), p. 30

III. BUSINESS CASE FOR BIODIVERSITY

Biodiversity is the vein of resources for society's activities. It sets the limits for resources availability and absorption of wastes, and it is the needs and wants of the biological entities that we call "customers" that determine the products and services that business supplies.¹

The United Nations Conference on Environment and Development (UNCED) enacted the Convention on Biological Diversity (CBD) to limit the global loss of genetic diversity, species and habitats.

The CBD, concerned over the loss of biodiversity and the recognition of its important role in supporting human life, pursues 3 objectives (Figure 3):

- The conservation of biodiversity;
- The sustainable use of biodiversity;
- The fair and equitable sharing of the benefits arising from of the use of genetic resources.²

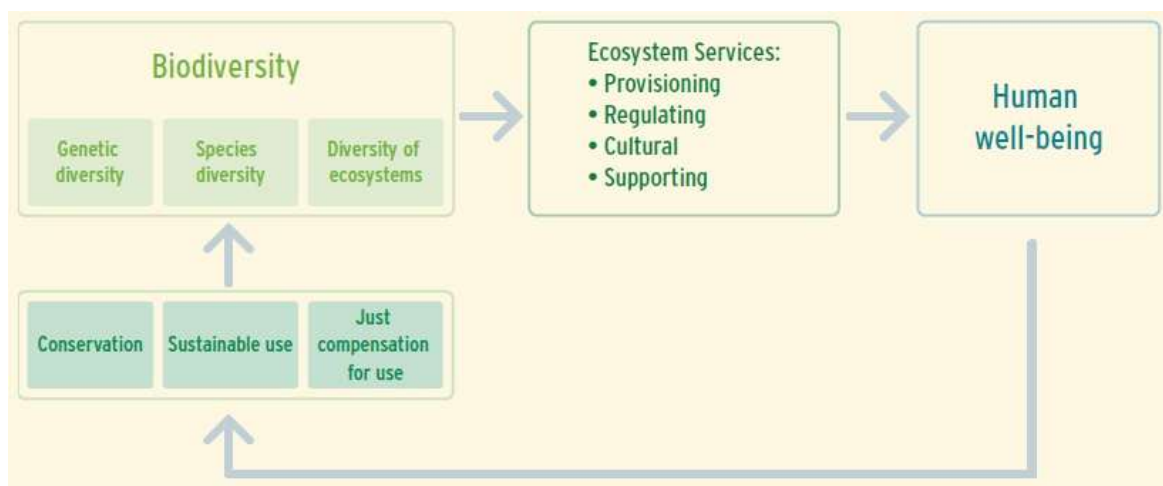


Figure 3: Biodiversity and its conservation.

Source: Schaltegger S. (2012), p. 19

¹ Everard M. (2009), p. 15

² Schaltegger S. (2012), p.19

“The complete dependence of businesses on biological diversity does not appear to be fully appreciated.” (Everard M, 2009)

In 2002 the world’s Governments agreed to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty mitigation and to the benefit of all life on Earth”. But after reviewed all available evidence the CBD concludes that this goal has not been met. ¹

The first step is to demonstrate to businesses and governance, the value of biodiversity and its functions in relevant and outstanding ways.²

III.A. Link between business and biodiversity

Businesses interact with ecosystems and ecosystem services in two ways. They use services and they contribute to ecosystem and biodiversity change. People and businesses everywhere rely on ecosystems and the services they provide.³At a fundamental level, all economies and all businesses depend, directly or indirectly, on biodiversity and its component resources.⁴

The demand for these services, products and resources is increasing and consequently changes on ecosystems are shown more rapidly and extensively than in any comparable period in human history and many of the world’s ecosystems are now in serious decline, and the con-

¹ Secretariat of the Convention on Biological Diversity (2010), p. 9

² Everard M. (2009), p. 29

³ Millennium Ecosystem Assessment (2005), p. 2 ff.

⁴ Bishop J. et al (2008), p. 17

tinuing supply of ecosystem services is in danger. Biodiversity loss is a significant risk factor in business development and a threat to long term economic sustainability.¹

III.A.1. Use in business and industry

Business and industry have benefited from the use of the biodiversity as an indispensable source of microbes, plants and animals for food, fiber, pharmaceuticals, cosmetics and also construction materials like dyes, oil, rubber, and other vital products for centuries.²

Biodiversity provide also its resources, water, timber, paper, fiber and food.

If current unconscious trends continue, ecosystem services that are freely available today will cease to be available or become more costly for future generations.³

III.A.2. Role of business within the biodiversity

“Business has an important role to play in protecting biodiversity.” (The Union for Ethical BioTrade, 2012, p.1)

As we already know, all businesses depend upon biodiversity and are impacting it and ecosystem services so that many businesses nowadays are facing increased risks connected with natural resource scarcity,⁴ so on the one hand, businesses depend on the goods and services provided by biodiversity as resources for their products and processes; on the other, they cooperate to ecosystem change by generating impacts through their core operations, supply chains or investment choices. Taking that into consideration, businesses have an important role in successfully managing biodiversity, both to ensure that their activities do not generate

¹ Millennium Ecosystem Assessment, (2005), p. 2 f.f.

² Earthwatch Institute, IUCN, WBCSD, WRI (2006), p. 10

³ Millennium Ecosystem Assessment (2005), p. 2

⁴ World Business Council for Sustainable Development (2010), p. 4

negative environmental impacts, and also to ensure that their impacts, direct and indirect, do not negatively affect their own business operations or investments.¹ The awareness of the business impacts of biodiversity loss and ecosystem degradation is growing and is slowly leading businesses to measure and manage the associated risks and to scale up mitigation, offsetting and sustainable use approaches.²

“The WBCSD believes that business has a major role to play in reducing and ultimately reversing this loss of biodiversity and also that new policies are required to correct the market failures which contribute to this loss.” (World Business Council for Sustainable Development, 2010, p.4)

There are some policies which influence the businesses role in the management of earth’s natural capital. Businesses should also participate more actively in helping to shape them. Also, to ensure that when policies are developed they work correctly is necessary a framework for closer collaboration between business and the policy makers: governments and international organizations. Businesses should collaborate in the design and implementation of the policies and so this collaboration can significantly improve the chances of delivering policies that work.³

Although businesses from all sectors have already begun to incorporate biodiversity practices into their business strategies, there is more to be done.⁴

¹ UN Global Compact, IUCN (2012), p. 7

² World Business Council for Sustainable Development (2010), p. 4

³ World Business Council for Sustainable Development (2010), p. 3-4

⁴ UN Global Compact, IUCN (2012), p. 7

Business must have a seat at the table and be allowed to have a constructive role in the design and implementation of sustainable policy solutions with governments so that it can be significant and important driver of biodiversity.

Regional and national involvement of business is extremely variable and also do not have a clearly defined role in the process of discussing and creating international policy solutions.¹

To bring any serious hope of stopping and reversing the current loss of biodiversity and degradation of critical ecosystems, government and business will need to form partnerships. Effective partnerships can provide environmental policies and regulations that: establish a level playing field; influence market forces; set realistic objectives that are predictive, transparent, consistent and time tabled; and create appropriate incentives for sustainable use.

Developing policy mechanisms that take advantage of market forces and create economic incentives for conservation will help to drive the incorporation of biodiversity and ecosystem value in business decision making and will level the playing field between businesses who are taking their responsibilities seriously and those who are not.

III.A.3. Negative impacts on biodiversity

Over the past 50 years, 60% of the world's ecosystem services have been degraded², do to human activities to meet fast-growing demands for food, fresh water, timber, fiber, and fuel, ecosystems have changed more rapidly and extensively than in any other period in human history.³

¹ Griffiths J. (URL)

² World Business Council for Sustainable Development (2012), p. 3

³ Millennium Ecosystem Assessment (2005), p. 6

Biodiversity is declining through habitat loss or damage, pollution, overexploitation, invasive species and climate change. For example, around 45 per cent of the forests of the world have now been cut down. Because forests store the carbon, the destruction of it accounts for 20 per cent of global carbon emissions. Half of the world's mangroves have gone and therefore make coastal areas highly vulnerable to the impact of storms. Many of the planet's fisheries have collapsed because are being unsustainably exploited. It is estimated that around 850 species have become extinct in recent years, but many, more will have unknowingly disappeared. Actually, some 34,000 plant and 5,000 animal species face extinction.¹

The costs of ecosystem degradation can not be priced, but approximately, as an example, just from deforestation US\$ 2 to US\$ 5 trillion in ecosystem services are lost each year.²

In the table 1 is showed the actual global status of ecosystem services evaluated in the Millennium Ecosystem Assessment (MA). Where, until now, only 4 ecosystem services out of 24 have been enhanced in the past 50 years, 3 of which involve food production: crops, livestock, and aquaculture.³

The benefits we have taken from the ecosystem changes, that we have self made, have contributed to substantial net gains in human well-being and economic development. However, at the same time, this changes and gain services, increased more the risks of abrupt and harmful changes in ecosystems, and harm to some groups of people.

¹ Two Tomorrows, Biocensus (2010), p. 3

² World Business Council for Sustainable Development (2012), p. 3

³ Millennium Ecosystem Assessment (2005), p. 6

An upwards arrow indicates that the condition of the service globally has been enhanced and a downwards arrow that it has been degraded. Definitions of "enhanced" and "degraded" for the three categories of ecosystem services shown in the table are provided in the note below. Supporting services, such as soil formation and photosynthesis, are not included here as they are not used directly by people.

Service	Sub-category	Status	Notes
Provisioning Services			
Food	crops	▲	substantial production increase
	livestock	▲	substantial production increase
	capture fisheries	▼	declining production due to overharvest
	aquaculture	▲	substantial production increase
	wild foods	▼	declining production
Fiber	timber	+/-	forest loss in some regions, growth in others
	cotton, hemp, silk	+/-	declining production of some fibers, growth in others
	wood fuel	▼	declining production
Genetic resources		▼	lost through extinction and crop genetic resource loss
Biochemicals, natural medicines, pharmaceuticals		▼	lost through extinction, overharvest
Fresh water		▼	unsustainable use for drinking, industry, and irrigation; amount of hydro energy unchanged, but dams increase ability to use that energy
Regulating Services			
Air quality regulation		▼	decline in ability of atmosphere to cleanse itself
Climate regulation	global	▲	net source of carbon sequestration since mid-century
	regional and local	▼	preponderance of negative impacts
Water regulation		+/-	varies depending on ecosystem change and location
Erosion regulation		▼	increased soil degradation
Water purification and waste treatment		▼	declining water quality
Disease regulation		+/-	varies depending on ecosystem change
Pest regulation		▼	natural control degraded through pesticide use
Pollination		▼*	apparent global decline in abundance of pollinators
Natural hazard regulation		▼	loss of natural buffers (wetlands, mangroves)
Cultural Services			
Spiritual and religious values		▼	rapid decline in sacred groves and species
Aesthetic values		▼	decline in quantity and quality of natural lands
Recreation and ecotourism		+/-	more areas accessible but many degraded
<p>Note: For provisioning services, we define enhancement to mean increased production of the service through changes in area over which the service is provided (e.g., spread of agricultural or increased production per unit area). We judge the production to be degraded if the current use exceeds sustainable levels. For regulating services, enhancement refers to a change in the service that leads to greater benefits for people (e.g., the service of disease regulation could be improved by eradication of a vector known to transmit a disease to people). Degradation of regulating services means a reduction in the benefits obtained from the service, either through a change in the service (e.g., mangrove loss reducing the storm protection benefits of an ecosystem) or through human pressures on the service exceeding its limits (e.g., excessive pollution exceeding the capability of ecosystems to maintain water quality). For cultural services, degradation refers to a change in the ecosystem features that decreases the cultural (recreational, aesthetic, spiritual, etc.) benefits provided by the ecosystem.</p> <p>* Indicates low to medium certainty. All other trends are medium to high certainty.</p>			

Table 1: Global Status of Ecosystem Services Evaluated in the MA

Source: Millennium Ecosystem Assessment, 2005, p. 7

III.B. How business can expand biodiversity opportunities

To enhance biodiversity opportunities, the business community needs understand the importance of investing in staff and training. They need to support organizations, including scientific bodies that can deal with and advise on biodiversity issues. Generally speaking, to bring changes in behavior and lifestyles, is also necessary a long-term process of public education. Better biodiversity education would meet one of the goals set out in the Convention.¹

Businesses can also become “bio-positive” and contribute to the “expansion” of biodiversity by identifying and valuing ecosystem services on which they depend. Evaluating the likelihood of ecosystem decline and resilience to this. Measuring and reporting the indirect and direct impacts on biodiversity and ecosystems, across the value chain of the business. Setting strategies and long-term goals of ecological neutrality or “zero impact” on biodiversity. Increasing biodiversity on company controlled areas and work with business peers and stakeholders in government, NGOs and civil society to preserve or enhance ecosystem health on larger scales.²

III.B.1. What are we to do about biodiversity

There are different ways of achieve the conservation of each country’s biological diversity. One of it, and the primary means of conservation, is "In-situ" conservation. It focuses on conserving genes, species and ecosystems in their natural surroundings, for example by establishing protected areas, rehabilitating degraded ecosystems, and adopting legislation to protect threatened species. The other one is "Ex-situ" conservation which uses zoos, botanical gardens and gene banks to conserve species.

¹ Secretariat of the Convention on Biological Diversity (2000), p.18

² PricewaterhouseCoopers (2011), p.15

Encouraging the sustainable use of biodiversity will be of growing importance for maintaining biodiversity in the future years.¹

Governments should play a leadership role and all other sectors of society need to be actively involved. After all, it is the choice and action of all of us that will determine whether biodiversity is conserved and used sustainably, mostly in an era where economics is a dominant force in world matters and it is more important than ever to have business involved in environmental protection and the sustainable use of nature and biodiversity.²

The influence of some companies is really huge, as some of them have revenues far greater than those of entire countries. A growing number of companies have fortunately already decided to apply the principles of sustainable development to their operations. For example, some forestry companies have now less destructive forms of timber harvesting. Also more and more companies have found ways to make a profit while reducing their causing environmental damage.

Local communities have a major impact on ecosystems and biodiversity, as they are the true “managers” from where they live in and thus, they play a key role supporting its conservation. In recent years, with the valuable support and assistance of NGOs and intergovernmental organizations, many projects which involve the participation of local communities in the sustainable management of biodiversity have been successfully developed.

But, after all, the ultimate decision-maker for biodiversity is the individual citizen.

The small choices that the individuals make, sum up to a large impact because it is personal consumption that boosts development, which in turn uses and pollutes nature. By choosing the products they buy and consume and the government policies that they support, the public

¹ Secretariat of the Convention on Biological Diversity (2000), p.10

² Secretariat of the Convention on Biological Diversity (2000), p.19

can begin to lead the world towards sustainable development. Governments, companies, and other organizations have the responsibility to guide and inform the public, but finally it is individual choices, made billions of times a day, that count the most.

III.B.2. Positive impact of companies on biodiversity

All companies have an impact on biodiversity in a direct or indirect form. They use their resources to produce or consume products, own and manage areas of land, or finance other activities. Therefore businesses are now developing interest in ensuring ecosystems continuous properly functioning to deliver business and societal value.

Each day businesses are contributing more through their own actions, helping to deliver improved conservation outcomes with activities that include investment in conservation-related research and development, through the creation and strengthening of sustainable supply chains and through programs which build capacity, transfer technology and enhance monitoring and reporting performance.

Some businesses are, on a voluntary basis, increasingly becoming positive agents of change and are also often the source of innovation, helping to create new ecosystem friendly markets and developing more sustainable technologies and business practices. With the help of policy interventions, some of these innovations can be extended and applied more broadly.¹

Another very important point how businesses can contribute positively to biodiversity is with the information they own. Businesses are a source and providers of information and can therefore contribute to the generation and assessment of knowledge: for example, companies often collect data which include conservation values and ecosystem function and hold in-

¹ World Business Council for Sustainable Development (2010), p. 3 f.

house data-sets. Good practices developed by business for sustainable use of biodiversity are also valuable sources of knowledge to be assessed.

Businesses are prepared to work more closely with policy makers on the design and implementation of biodiversity and ecosystem related policy and this collaboration can significantly improve the chances of delivering policies that work and so contribute to shape a positive impact on biodiversity.

III.C. Motivation for companies to engage in biodiversity

“The challenge is to find economic policies that motivate conservation and sustainable use by creating financial incentives for those who would otherwise over-use or damage the resource.” (Secretariat of the Convention on Biological Diversity, 2000, p.7)

Although exist no price for the Mother Nature’s services, there is a growing trend to consider ecosystem services as assets with a market value to encourage their sustainable use. The financial value of global ecosystem services is therefore probably overwhelming and astonishing.¹ A study made in 1997 valued 17 different fundamental ecosystem services provided by the planet at a minimum average of \$33 trillion/yr., almost double the GNP of the entire world which is around \$18 trillion/yr.² After establishing a financial value to ecosystem services, biodiversity should be placed at the centre of national economic planning and business thinking.

¹ Two Tomorrows, Biocensus (2010), p. 2

² Costanza R. et al (1987), p. 253

In most places, actions to address biodiversity issues have not been taken on sufficient scale. The underlying drivers of biodiversity loss have not been addressed significantly and there has been poor integration of biodiversity actions into policies, strategies and programs. Much more importance is given to activities aimed at promoting infrastructure and industrial developments as actions to promote the conservation and sustainable use of biodiversity which receive a tiny fraction of funding. Anyway, usually biodiversity considerations are often disregarded when such developments are designed, and opportunities to plan in ways that minimize unnecessary negative impacts on biodiversity are missed.¹

Like said before, the goals set up to be reached for 2010, named the International Year of Biodiversity, were not met. Therefore there should be new motivational biodiversity and ecosystem policies and regulations based on sound principles and successful examples of other policy areas and should try to leverage and extend the successful voluntary private sector initiatives in the field of biodiversity and ecosystem conservation. The principles should include:

- Provide clear signals for business
- Create a leveled playing field
- Recognize the importance of property rights
- Be aware of potential economic and social impacts and adaptable to cultural differences between nations.²

Businesses can take lots of advantages from addressing biodiversity correctly and of course those advantages and benefits are at the same time motivations for some, to start engaging and for others to keep doing it. One proved working strategy is doing positive partnerships. Businesses

¹ Secretariat of the Convention on Biological Diversity (2010), p. 9 f.

² World Business Council for Sustainable Development (2010), p. 3

working together with Local Biodiversity Partnerships (LBPs) can help to develop and implement strategies to reverse the trend of biodiversity degeneration. The potential benefits of businesses engagement are broad and varied, ranging from developing capacity of the partnerships through to gaining access to sites and resources. Positive outcomes were reported for the Local Biodiversity Action Plans (LBAPs) from many LBPs which have worked with the business sector.¹

In an online Q&A discussion from the British newspaper ‘The Guardian’, Chris Knight from PwC's Sustainability and Climate Change team wrote²: “We think there are huge opportunities for companies to secure their supply chains, form long term positive partnerships with local government bodies and NGOs and communities, if they can be supported to help actively manage their surrounding ecosystems. There are also companies launching new products and services to respond to these trends - and not just consultants!”

III.C.1. Business risks from losing biodiversity

Hyderabad, Sept. 27 2012 Business Line : News : "If we lose biodiversity, we will lose jobs, food, medicines, and our livelihood will be under threat. Unless the decline is halted, the negative impact on daily lives will grow exponentially," says Braulio F. de Souza Dias, Executive Secretary, Convention on Biological Diversity (CBD).³

Chris Knight from PwC's Sustainability and Climate Change added that “more so than climate change and some of the other sustainability challenges, biodiversity loss and ecosystem

¹ Earthwatch Institute (n.d), p. 5

² Bristow R, (URL)

³ Somasekhar M. (URL)

degradation can present a confusingly complex and seemingly technical set of issues which many companies will no doubt prefer to avoid.“ (Bristow R., URL)

According to the population institute, from the year 1999 to 2011 the world population has grown from 6 billion to 7 billion, and given the trends, the global population is predicted to grow from this 7 billion today to around 9 billion by 2042.¹ The ‘Living Planet Index’, which reflects the state of the planet’s ecosystems, show around a 30 per cent global decline in biodiversity health since 1970 (Figure 4). The ‘Ecological Footprint’ which indicates the Humanity’s demand on the planet’s living, shows a consistent trend of overconsumption. The footprint exceeded the Earth’s biocapacity which means that the demanded resources exceeds the planet’s regenerative capacity by about 50 per cent (Figure 5). This means at the same time, that it takes 1.5 years for the Earth to regenerate the renewable resources that people use, and absorb the CO2 waste they produce, in that same year.²

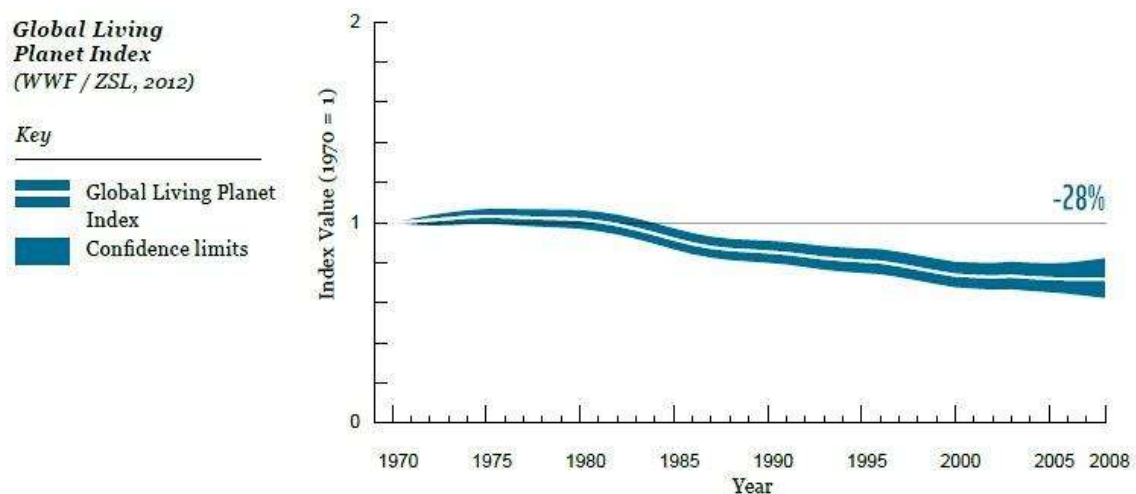


Figure 4: Global Living Planet Index.

¹ Population Institute (URL), p.1

² WWF (2012), p. 8-38

Source: WWF, 2012, p. 18

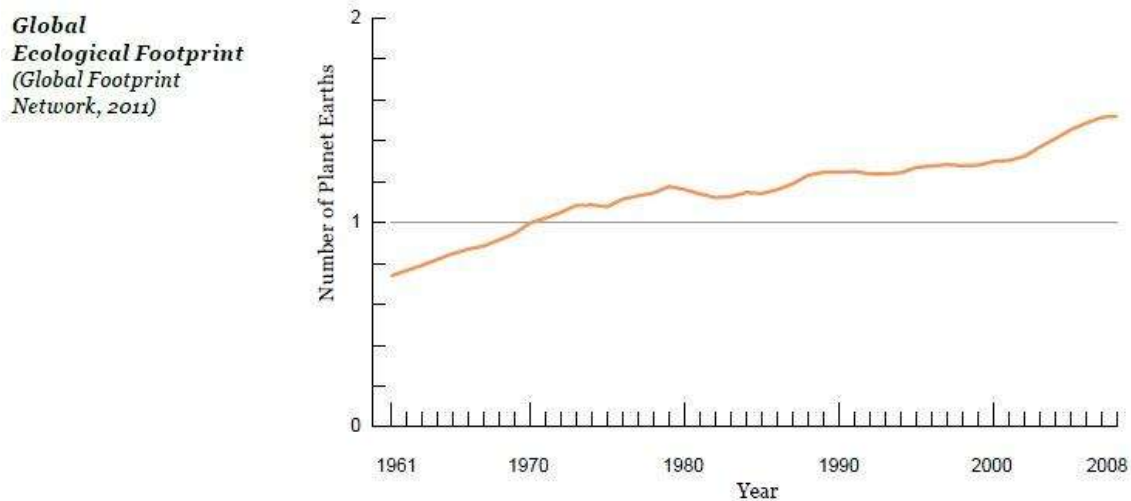


Figure 5: Global Ecological Footprint. Living Planet Report 2012

Source: WWF, 2012, p. 8

In the report from the WWF ‘Living Planet Report 2012’ according to these index they set up the question: How can this be possible when there is only one Earth?

As is also possible, easy and faster to withdraw the money from a bank account, before wait for the interest that this money generates. So are the renewable resources that can be harvested faster than they can be re-grown. But just like overdrawing from a bank account, the Earth’s resources will also be depleted, and the fast consumption rates will generate that some ecosystems collapse even before the resource is completely gone.¹

Difficult challenges must be confronted, as the demand for the services provided by ecosystems grow and the ability of these systems to meet these demand is wearing out. For example:

¹ WWF (2012), p. 40

The demand for food is projected to increase by 70–80% in 50 years. How do we meet this growing demand without harming the environment or the supply chain?

Given the unequal distributed supply of fresh water, how do we meet agricultural, industrial, and consumptive needs around the world?

The increase in demands for energy bring also the question, what are the most efficient and effective strategies to produce energy while also minimizing impacts to air quality and climate?

How can we balance the conservation of biodiversity with economic development associated with alteration or conversion of habitats?

How can be balanced the increasing demand for seafood, while promoting the health of fresh and coastal waters and restoring depleted wild fisheries?¹

The continued biodiversity degradation has major consequences for current and future human well-being. The most relevant threatened ecosystem services dispense to affect all life on Earth are the provision of food, fibre, medicines and fresh water, pollination of crops, filtration of pollutants, and protection from natural disasters. Apart from these services, are others declining like cultural services such as spiritual and religious values, opportunities for knowledge and education, as well as recreational and aesthetic values.

With this decline of ecosystem services are associated high levels of extinctions and loss of habitats which are important for human well-being and and projections predict will continuing decline.

For example:

¹ Millennium Ecosystem Assessment (2005), p.5

- Tropical forests would continue to be exploited in favor of crops and pastures, and potentially for biofuel production.
- Freshwater biodiversity and the services it underpins, is put on pressure due to climate change, the introduction of invasive alien species, pollution and dam construction.
- Overfishing will lead to the collapse of fish populations and damage of the marine ecosystems that will lead to the failure and reduced productivity of fisheries.

By the end of the 21st century, with ranges moving from hundreds to thousands of kilometres towards the poles, the geographical distribution of species and vegetation types is projected to shift radically.

All kind of societies and communities would suffer, but especially the poor would face the earliest and more severe impacts. Agricultural production will be affected as the Amazon forest could move into a self-perpetuating cycle of more frequent fires and intense droughts leading to a shift to savanna-like vegetation. That will lead to the loss of recreation opportunities, tourism income, and health risks. The combined impacts of ocean acidification, warmer sea temperatures and other human induced stresses make tropical coral reef ecosystems vulnerable to collapse.¹ Particularly, continueing with the increase in greenhouse gas emissions, will irreversibly commit the world to a global average temperature rise of well over 2°C, which will severely disrupt the functioning of almost all global ecosystems and dramatically affect human development and well-being.²

Business and ecosystem services depend from each other. The pharmaceutical industry uses the nature's providing genetic resources; agribusiness depends on nature's pollination, pest

¹ Secretariat of the Convention on Biological Diversity (2010), p. 9 f.

² WWF (2012), p. 11

control and erosion regulation services, the tourism benefits from cultural services, and the insurance industry profits from the natural hazard protections that some ecosystems provide.

These inter-relationships, pose significant risks to companies, as well as to their suppliers, customers and investors, including:

Operational – increased shortage and cost of raw materials such as freshwater, higher insurance costs for disasters such as flooding, and breakdowns to business operations caused by natural hazards;

Regulatory – implementation of new government policies such as taxes on extractive activities;

Reputational – media and nongovernmental organization (NGO) damage campaigns to corporate reputation, shareholder resolutions and changing customer preferences;

Access to capital – the financial community adopts more rigorous investment and lending policies leading to restrictions.

Six interconnected challenges were also identified that are of particular concern for business as these further affect the integrity of ecosystems and their capacity to provide services: ¹

- Water scarcity
- Climate change
- Habitat change
- Biodiversity loss and invasive species
- Overexploitation of oceans
- Nutrient overloading

¹ Earthwatch Institute, IUCN, WBCSD, WRI (2006), p. 2

All these analyses indicate that continuing with “business as usual” will have serious, and potentially catastrophic, consequences,¹ threaten the livelihoods and food security of hundreds of millions of people.²

III.C.2. Policies and Initiatives

Continuous international agreements and national strategies have committed governments to entering the wave of halting the biodiversity loss. There is the need to reduce the biodiversity footprint through government regulations, binding voluntary agreements or under pressure from NGO advocacy campaign. The main decision-making powers, like laws and policies are develop at national level with member states, but international agreements support them for a better development and action plan.³

Existing approaches to conservation set by the governments are not sufficient. The challenge now is to to make biodiversity conservation a viable business proposition by reorienting and restructuring the economic incentives that drive private investment, production and consumption.⁴ Relevant policies and initiatives that address biodiversity activities include:

- **Ecosystem Valuation Initiative (EVI)** allows companies to value their impacts and dependencies on ecosystem services to enable better business decision making.
- **The Economics of Ecosystems and Biodiversity (TEEB)** is a global international study to draw attention to the economic benefits of biodiversity, to highlight the

¹ WWF (2012), p. 11

² Secretariat of the Convention on Biological Diversity (2010), p. 9 f

³ Abbott C. et al (2002), p. 12

⁴ Bishop J. (2008), p. 10 ff.

growing costs of the loss of biodiversity and the failure to take protective measures versus the costs of effective conservation.

- **The Millennium Ecosystem Assessment (MA)** was a major global study providing a scientific based evaluation of the condition and trends in the world's ecosystems, the services they provide and the options to restore, conserve or enhance the conservation and sustainable use of ecosystems.
- **Business and biodiversity initiative** aims to increase the engagement of the private sector in the protection and sustainable use of biodiversity and achieving the objectives of the Convention on Biological Diversity (CBD).

The CBD provides business a global policy platform and guidance on developing voluntary corporate biodiversity strategies and action plans. More than 180 countries are Parties to the Convention on Biological Diversity, whose objective is to encourage and enable all countries to preserve biodiversity, use its components sustainably, and share equitably the benefits arising from its utilisation.¹

Just to name as examples some of the many initiatives put into action to integrate the objectives of conservation and sustainable use:

- Uganda adopted a program under which protected wildlife areas shared part of their tourism revenues with local people. This approach is now being used in several African countries.

¹ Abbott C. et al (2002), p. 12

- Costa Rica's Forestry Law includes provisions to compensate private landowners and forest , in recognition of the important environmental services that forests provide to the nation.¹
- Northumbrian Water has developed a Biodiversity Action Plan (BAP) that has been designed in accordance with national and local policies for conservation across the company's activities and sphere influence.²
- In the fisheries sector, the Marine Stewardship Council (MSC) was established through a partnership between Unilever and WWF to create incentives for sustainable fisheries practices. The MSC has developed a label for the seafood with the 'Fish Forever' logo which lets consumers know that it comes from well-managed, sustainable fisheries.³

Companies that learn to build constructive cross-sector partnerships with NGO's gain competitive advantage in new markets, as well as make an active contribution to development.⁴ For example Local Biodiversity Partnerships (LBPs) can play a key role in engaging biodiversity conservation up the business. Working at community level with different sectors has been essential for developing and delivering action plans. Working with LBPs allows a company to be informed and updated of local issues and become involved in the community where it operates. Businesses can take advantage of LBPs which help provide them with efficient and effective means to realise a number of different business benefits. However, many LBPs have felt that their capacity to approach and work with businesses is limited, but as a number of reciprocal benefits which can be derived from working in partnership with busi-

¹ Secretariat of the Convention on Biological Diversity (2000), p. 10 f.

² Abbott C. (2002), p. 44

³ Abbott C. (2002), p. 19

⁴ WBCSD, IBLF (2004), p. 6

nesses are emerging, more LBPs are expressing an interest in engaging businesses in biodiversity. From these association with each other, companies and LBPs can potentially extend long-term benefits far beyond the biodiversity outcomes, gain publicity and credibility.¹

Businesses are paying greater attention to biodiversity issues thanks to NGO activism, increasingly stringent environmental regulations, strengthened liability laws, and shifting consumer preference.² Despite the efforts, the CBD 2010 biodiversity target to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth, was not met, but helped to stimulate important action to safeguard biodiversity, such as creating more protected areas on land and in coastal waters, the conservation of particular species, and initiatives to mitigate some of the direct causes of ecosystem damage, such as pollution and alien species invasions.³

Missing or weak policy is one of the main obstacles to biodiversity business. Solutions to address this problem would be to identify and promote opportunities to develop appropriate policy, legal and fiscal regimes for biodiversity business, as well as addressing issues such as trade barriers, biodiversity metrics and indicators, and the evaluation of technical assistance delivery mechanisms.⁴

By 2020, new targets to achieve were proposed by the CBD. These new 20 targets include targets on the reform of environmentally harmful subsidies, the extent of protected area cov-

¹ Earthwatch Institute (n.d), p. 4 f.

² The World Conservation Union (2008), p.23

³ Secretariat of the Convention on Biological Diversity (2010), p. 9

⁴ Bishop J. (2008), p. 135

erage and the inclusion of biodiversity values in national accounts. To become the implementation support from business, these 2020 biodiversity targets need to be adapted to a business context. As mentioned, some of the targets are difficult to measure and assign accountability for. If the strategic objectives are to be met, then the process of setting targets should take into account the realities of implementation, and new policy proposals must be aligned with strategic goals.¹

For supporting the creation of better policies and trade and finance mechanisms that will encourage private sector investment in “greener” technologies, industry methods and product design and manufacture, is important to build an effective baseline through a cost-benefit analysis.²

Businesses that anticipate these kinds of changes and tendencies, and pioneer new technologies or integrative business strategies, will gain competitive advantage when new policies are put in place. “First-mover” companies can shape this policy environment in ways that help solve environmental problems but also create advantage by “raising the bar” for competition.³

III.D. Who should participate?

Biodiversity is all around the world and it is everyone’s business.

Most businesses are not global or multinational, therefore all kind of companies, even those located in urban areas, can make a positive contribution to biodiversity. It is essential to engage domestic businesses; small and medium-sized enterprises (SMEs), and artisanal opera-

¹ World Business Council for Sustainable Development (2010), p. 3

² World Economic Forum, (2010), p. 30

³ Millennium Ecosystem Assessment (2005) p. 23

tions in biodiversity issues. In the developing world especially, the key to conserving biodiversity may be the local companies and SMEs. It is hoped that companies and business communities will be motivated to ‘think globally’ and ‘act locally’ with respect to biodiversity.¹

Companies with a direct impact on ecosystems (oil and gas, mining, and construction) and companies with major indirect impacts through their supply chains (retail food sector), both are more exposed to biodiversity risks than other business sectors. Also companies in the tourism, fisheries, forestry and agricultural sectors, are also exposed to biodiversity risk, and more because they depend directly on ecosystem services for their profitability. Companies such as financial institutions including retail and commercial banks, asset managers, institutional investors and insurance, which finance the other kind of businesses are also exposed to biodiversity-related risks.²

Regardless of its activity or size, all kind of business will be more competitive if it bases decisions about strategic direction, product offerings, production, transportation, and marketing on the best available information about the current and projected condition of ecosystems and ecosystem services.³

III.E. Corporate biodiversity management and strategies

Effective environmental stewardship is becoming part of the sustainability business agenda that companies are increasingly integrating, seeking opportunities and innovations that contribute to corporate and investor success, while at the same time delivering societal value and

¹ Abbott C. et al (2002), p. 8

² The World Conservation Union (2008), p. 24

³ Millennium Ecosystem Assessment (2005), p. 4

developing innovative and transformative solutions. In other words, the goal of an effective management and strategy is to ensure business success while protecting biodiversity. The corporate strategies must be based on an environmental management approach that includes the sustainable and equitable use and conservation of biodiversity ecosystem services to manage related impacts and dependencies.¹

“(…) it seems to me vital that they map the landscapes that their products derive from. Obviously this is much easier for a company with a single key product than a companies with a wide range of products and complexity in the supply chain. Either way, a starting point is to identify the most important products and to map them back to their landscapes of origin, in order to start to identify the key biodiversity and sustainability risks in those landscapes.”
(Bristow, URL)

Each business will implement different strategies, depending on their specific impacts and relative dependency on biodiversity. However, regardless of those levels of impact and dependency, there are some common elements that should be present in any biodiversity strategy which will enable a company to make real progress toward effective management of biodiversity issues. These elements are summarized in the following recommendations for developing an effective biodiversity strategy:²

1. Identify and value the business’s direct dependencies, and direct and indirect impacts on biodiversity and ecosystem services.
2. Avoid, minimize and rehabilitate the negative impacts and then offset any unavoidable residual biodiversity losses and finally implement additional conservation actions.

¹ UN Global Compact, IUCN (2012), p. 8

² UN Global Compact, IUCN (2012), p. 12 f.

Encourage the adoption of this approach throughout the supply chain. Prioritize implementation on sites of high biodiversity value.

3. Set biodiversity targets focused on achieving a net positive impact or at the minimum no net loss of biodiversity.¹
4. Identify ecosystem linkages at a broader level, and build these linkages into site-specific and supply chain operational plans. At a broader level involve integrated planning for natural resources management that links local and operational site-based initiatives with the wider national or regional perspectives of natural resource management.
5. Contribute to local development. Engage with relevant stakeholders like local communities, respect land rights and land-use rights of local stakeholders, safeguard livelihoods of local communities that depend on natural resources and involve them in decision-making, in order to advance common goals and ensure that environmental as well as social needs are met.
6. Build the results of the impact evaluations, monitoring and reports into company strategy and overall corporate sustainability.
7. Contribute to the creation and shape of public policies that will help the creation of a better environment for better integration of biodiversity issues into business activities, and over all create a level playing field for all companies.
8. Extend the strategy along the supply chain, integrate requirements to safeguard biodiversity in sourcing schemes and provide support to suppliers.
9. Found partnerships with other organizations like NGO's to achieve greater impact beyond the company's reach, while supporting biodiversity policy implementation.

¹ UN Global Compact, IUCN (2012), p. 12 f.

10. Communicate your performance, initiatives and successes to your stakeholders.

Companies need to start making the relation and connections between healthy ecosystems, their supply chain, consumer demand and the future value of their businesses.¹ Regardless of its area, a business will be more competitive if it bases its strategic desions about supplying, product offerings, production, transportation, and marketing on the best available information about the current and projected condition of ecosystems and ecosystem services.²

Good environmental management should be based in the comprehensive understanding and effective administration of critical environmental risks and opportunities.³

IV. DRIVERS OF THE BUSINESS CASE FOR BIODIVERSITY; RISKS AND OPPORTUNITIES

There are six major changes are having or will have profoundly negative impacts on ecosystems: water scarcity, climate change, habitat change, biodiversity loss and invasive species, overexploitation of oceans, and nutrient overloading. These changes will have an impact on business and is important to understand how will be translate into business risks and opportunities for the private sector. Biodiversity is changing and decreasing and so are also public policy, consumer preferences, supplier relationships, stockholder expectations, and competitor strategies. All these changes make that businesses experience a display of direct and indi-

¹ UN Global Compact, IUCN (2012), p. 12

² Millennium Ecosystem Assessment (2005), p. 4 f.

³ UN Global Compact, IUCN (2012), p. 8

rect impacts¹ and can directly affect profitability because the range of risks and opportunities that will be present, operate from local to global scale.²

The commercial sector will face a varying biodiversity-related risks and opportunities, depending on their sector and the local environmental and socio-economic context.³

IV.A. Who has been motivated?

In an analysis from PricewaterhouseCoopers LLP into corporate reporting on biodiversity and ecosystem impact and dependency, was found that only two of the world's largest 100 companies have identified biodiversity and ecosystem loss as a strategic issue.⁴

The loss of biodiversity is the cost of economic development, and these costs are not valued and not felt by the majority of the companies, so it's easy to see why the threat is less visible to business leaders.

Just few of the world's largest companies are communicating about biodiversity risks and opportunities with mainstream investors. From the 100 companies, only 18 made any mention of biodiversity or ecosystems in their full annual report, of these, six have measures in place to reduce their impacts, and only two identified it as a strategic issue.

Just 27% of 1100 global CEOs said they were concerned or extremely concerned about the impact of biodiversity loss and a range of threats to their business growth prospects. African

¹ Millennium Ecosystem Assessment, (2005), p. 4 ff.

² Two Tomorrows, Biocensus (2010), p. 4

³ UN Global Compact, IUCN (2012), p. 12

⁴ PricewaterhouseCoopers (URL)

and Latin American CEOs are three times more concerned than UK and North American business leaders.

Biodiversity loss and degradation has already had dramatic consequences for business. Soil erosion in Europe is estimated to cost EUR 53 per hectare per annum. Annual economic losses exceed US \$100bn caused by introduced agricultural pests in the US, UK, Australian, South Africa, India and Brazil.

The risks of declining biodiversity and ecosystem services loss are already impacting business and no sector escapes untouched although primary industries such as extractives, forestry, farming and fishing are affected most broadly. Is time for corporates to start appreciating the value ecosystems deliver and to start thinking about it as an extension of their asset base and part of their plant and machinery. Protecting ecosystem degradation, or the impact of ecosystem loss, needs to be factored into investment appraisal and capital allocation decision making.

IV.A.1. Kind of businesses

Nature-based tourism is becoming very successful. Tourists are flocking into the diverse biologically-sensitive areas that not too long ago, were considered too remote to access.

The tourism to naturally-endowed regions with biodiversity hotspots which most of them are located in poorer countries and are magnets for the visitors, increased significantly between 1990 and 2000. Some argue that, with almost 850 million people travelling each year, nature tourism is growing three times faster than the industry as a whole.

But this tourism increased may at the same time, inadvertently threaten the very places they come to enjoy. The tourism industry now represents 8% of all jobs worldwide. For more than

30% of the world's poorest nations, tourism is even more significant, as it is the number one source of revenue.

Latin America enormous biodiversity, with its beautiful coasts, majestic mountain ranges, colorful cultural history and some of the largest expanses of undisturbed tropical forests in the world, has the most to gain or lose from the tourist boom. The number of tourist to Central America rose from 1.9 million in 1990 to 7.0 million in 2007, while in South America, visitors increased from 7.7 million in 1990 to over 20 million during the same period.

Latin America has the potential to make travel a powerful agent of change and a tool for the conservation of natural resources and cultures if they integrate the three principles of sustainable development; ecologically, economically and socially sound practices.

Rainforest Alliance is an example of this practice, which is working in Belize, Costa Rica, Guatemala, Ecuador and Nicaragua to revise the tourism industry from top to bottom.¹

IV.A.2. Business case; Puma

“(…)if Puma wanted to be truly sustainable it needed to put a transparent cost on its impact on nature across the company's entire supply chain“ (Beavis S. URL)

PUMA, the sport and lifestyle company is a good example of a company that understands the importance of mainstreaming the accounting of our planet's natural capital², and the health of ecosystems to the future of its business. It recognizes that it has to be accountable, ethical and

¹ The World Conservation Union (2008), p. 29

² World Business Council for Sustainable Development (2012), p. 36

responsible to the environment and provides other businesses a possible road map to follow in suit.¹

All business operations and supply chains rely on ecosystem services, such as freshwater, clean air, healthy biodiversity and productive land. The company reviewed its supply chain and environmental impacts in monetary terms, so that this impacts could be take into account strategically and embed them in its business decision-making processes.²

PUMA's developed an Environmental Profit and Loss Account (EP&L) which won the overall Guardian Sustainable Business Awards for measuring the important value of ecosystem services to a business; being a truly pioneering and the first company to put a cost on the impact a business has on the environment, across its entire supply chain.³ With the study, they look to address challenges appropriately to minimize risk, hedge against uncertainty, and identify new opportunities to heighten the sustainability of its products.⁴

The Environmental Profit and Loss Account (E P&L) is used to measure and value declines in ecosystem services and increases in environmental impacts that occur as a result of PUMA's operational and supply chain activities.⁵

One challenge for all companies is to shape an increasingly sustainable business model while also delivering multiple competitive advantages. The E P&L is one of the principal tools by

¹ PUMA (2011), p. 2

² World Business Council for Sustainable Development (2012), p. 36

³ Beavis S., (2012)

⁴ World Business Council for Sustainable Development (2012), p. 36

⁵ PUMA (2011), p. 2-24

which they hope to gain the information and insight required to set the strategy to achieve this.

The E P&L provides the following benefits to their business:

- **Strategic tool**

It shows where they need to direct their sustainability initiatives to make real improvements in reducing their impacts. Look into solutions to identify more sustainable materials and to pursue opportunities to reduce greenhouse gas emissions.

- **Risk management tool**

It identifies early emerging risks in the supply chain, enabling them to respond strategically to protect and enhance shareholder value.

- **Transparency tool**

With the report, they are being sincere and transparent about the extent of their environmental impacts, which can be a disruptive form of disclosure but at the same time provides openness and engagement into dealings with a wide group of stakeholders.

From the production of raw materials through to the point of sale, the E P&L aims to cover all significant environmental impacts and classifies its supply chain in four Tiers which are shown in Table 2.

Area	Typical activities		
PUMA Operations	<ul style="list-style-type: none"> • Offices • Shops 	<ul style="list-style-type: none"> • Warehouses • Business travel 	<ul style="list-style-type: none"> • Logistics • IT
Tier 1 suppliers	<ul style="list-style-type: none"> • Shoe manufacturing 	<ul style="list-style-type: none"> • Apparel manufacturing 	<ul style="list-style-type: none"> • Accessory manufacturing
Tier 2 suppliers	<ul style="list-style-type: none"> • Outsole production • Insole production 	<ul style="list-style-type: none"> • Textile embroidery and cutting • Adhesive and paint production 	
Tier 3 Suppliers	<ul style="list-style-type: none"> • Leather tanning • Petroleum refining 	<ul style="list-style-type: none"> • Cotton weaving and dyeing 	
Tier 4 suppliers	<ul style="list-style-type: none"> • Cattle rearing • Rubber plantations 	<ul style="list-style-type: none"> • Cotton farming • Petroleum production 	<ul style="list-style-type: none"> • Other material production

Table 2: Puma Tiers and activities

Source: PUMA, 2011, p. 6

The results of the E P&L (Table 3) sets out for the first time in monetary terms the changes in human welfare that result from PUMA's environmental impacts. The total company's impact resulted in €145 million, which are explained and split at the top half of table 3 between its own operations and each tier of its supply chain. In the latter half of the table is shown where the impacts occur by key regions and segments.

EUR million	Water use	GHGs	Land use	Other air pollution	Waste	TOTAL	% of total
	33%	33%	25%	7%	2%	100%	
TOTAL	47	47	37	11	3	145	100%
PUMA operations	<1	7	<1	1	<1	8	6%
Tier 1	1	9	<1	1	2	13	9%
Tier 2	4	7	<1	2	1	14	9%
Tier 3	17	7	<1	3	<1	27	19%
Tier 4	25	17	37	4	<1	83	57%
Regional analysis							
EMEA	4	8	1	1	<1	14	10%
Americas	2	10	20	3	<1	35	24%
Asia / Pacific	41	29	16	7	3	96	66%
Segments							
Footwear	25	28	34	7	2	96	66%
Apparel	18	14	3	3	1	39	27%
Accessories	4	5	<1	1	<1	10	7%

Table 3: The Environmental Profit and Loss

Source: PUMA, 2011, p. 8

The E P&L provide for the first time a view of the environmental impact of producing and selling products, which reveal that with its cost of €145 million each year, the scale of the impacts is undeniable.

- Its greatest impacts were from the use of water and the generation of greenhouse gas emissions at €47 million each.
- The third most significant impact at €37 million is the conversion of land for agriculture for key raw materials such as leather, cotton and rubber.

- Other air pollution impacts, affecting acid rain and smog and waste impacts were less significant at €11 million and €3 million respectively.

With the report, PUMA realized that some of its impacts are afar the operations they control and see, as its supply chain has a much greater environmental impact than its own operations. Just 6% (EUR 8 million) of the impact arise in its own operations, with a further 9% (EUR 13 million) caused by its direct suppliers (Tier 1). The rest 85% of the impact are considered outside the areas in which the company has direct control or influence. Is therefore, that to address the impacts, PUMA will need to work in collaboration with its suppliers and industry peers at all levels of the supply chain.

A business is able to respond strategically and on time to protect or enhance shareholder value, if it understands the size and nature of externalities in the supply chain which can also give an early view of potential risks.

Equally, companies that understand their dependence on natural resources along the value chain are able to manage underlying risk from rising raw material costs, and scarcity of supply issues.

IV.B. Business opportunities for the companies

Every threat creates opportunity and so does also biodiversity which opens for expansion the areas of innovation and technology to minimize the damage to ecosystems and to mitigate impacts already occurring. Significant new business opportunities are being created for those who are aware and prepared.¹

¹ Millennium Ecosystem Assessment (2005), p. 3

There are also a range of new opportunities that addressing biodiversity issues offers the commercial sector to improve their financial performance and move towards sustainable growth. Key opportunities which are generally applicable to most companies are listed below¹:

Secure the license to operate

One of the primary drivers for companies to engage in the business case is maintaining his company's license to operate. Companies must secure their license to keep their ability to conduct business in a successful manner.²

In some cases, companies may be motivated to engage in the biodiversity cause on a purely voluntary basis, simply because it is good for business. Many companies have noted that they can benefit of voluntarily undertaking conservation measures such as biodiversity offsets as it builds trust with regulators and, in the long-run, helps the companies obtain permits more speedily and open doors elsewhere.³

To this issue adds up a huge potential of savings for the companies concerned, as companies, for planning and designing new projects, have to invest significant human and financial resources. When these labors are held up by planning regulations and government bureaucracy, or the permission to operate is denied, the costs of doing business increase dramatically.⁴ The

¹ Abbott C. et al (2002), p. 16

² Millennium Ecosystem Assessment (2005), p.24

³ Ten Kate K., (2004), p. 38 f.

⁴ Abbott C. et al (2002), p. 16

companies save also both, time and money by avoiding costly delays and legal expenses, and by speeding up the permit negotiation process. But, public enquiries can be concluded far faster if the regulator, conservation agencies and NGOs are familiar with a company's good practice, than if the company's reputation is in doubt.¹

Strengthen the supply chain

Companies require sustainable supply chains as they depend on ecosystem services directly for inputs to its operations, including water, timber, fiber, fuel, genetic materials, and food. Biological resources feature in all production processes. The decline of ecosystem services due to its consumption, which is already unsustainable in many cases, will continue to grow even while population growth is expected to level off mid-century.²

The sustainable use of these "business resources" is a key feature of every company's supply chain. By not adequately addressing this issue, and as the pressure on ecosystem services grows, a company entails the risk of limited access to these inputs or the costs of securing them increased and not being able to sustain demand.³

The best example of a consequence of an unsustainable used resource may be fresh water. The availability and access to clean water (scarcity of water supply) will affect all businesses either directly or indirectly. Governments will have to allocate supplies and adjudicate water rights. Today, markets and market mechanisms are increasingly being used to help achieve

¹ Ten Kate K. (2004), p. 39

² Millennium Ecosystem Assessment (2005), p. 25

³ Abbott C. et al. (2002), p. 17

efficient use through prices that reflect scarcities. The scarcity will make businesses compete with others for water. The cost of the water may result in substantial increase in the cost of business operations and also decisions about locating its operations must address long term water supply. Water will increasingly be a factor in determining where, how, and with whom companies conduct their business.¹

Corporate Image, Reputation, and Brand

A company that adequately addresses and manages its impact on biodiversity, might build and safeguard its reputation.²

Reputation is definitely related to strategic issues like procurement of biodiversity sustainable products³ and as mention before, is also linked with voluntary biodiversity engagement, as they build trust with regulators and can help the companies obtain permits more speedily.

Reputation is one of the key issues. The whole perception of what the company is, and how it does things is related to the success of the company. They have to have access to exploration areas, access to people and access to markets.⁴

A firm's image or reputation is a piece of certainty that can be provided to customers, investors, employees, suppliers, and communities. In this way, reputation reflected in the brand, can help differentiate a firm in crowded product and capital markets.⁵

¹ Millennium Ecosystem Assessment (2005), p. 10 ff.

² Mulder I. (2007), p. 9

³ Abbott C. et al. (2002), p. 17

⁴ Ten Kate K. (2004), p. 38

⁵ Millennium Ecosystem Assessment, (2005), p. 24

Being ‘biodiversity responsible’ builds a company’s good reputation and can gain a range of market benefits that include: maintaining or increasing market share, either through attracting more traditional customers or by gaining access to new customers and markets; differentiating products in a commodity market; and, in some cases, higher price/earnings over competing products.¹

Certification is another sign of being ‘biodiversity responsible’, which builds also good reputation for the company. In several sectors, such as forestry, fisheries, agriculture and tourism, certification schemes have been already established and companies set them at their core strategy, as a sign of sustainable use and protection of biodiversity.

Improve employee productivity

The aware of sustainable and responsible use of biodiversity is nowadays making the workforce prefer companies that are committed to environmental and social responsibility. Companies responsible in biodiversity issues are more likely to attract and motivate the best workers and partners, and thereby provide access to the most creative ideas.

Attract socially responsible investors

Much more institutional and individual investors prefer to invest in socially responsible businesses. Hence, a wide array of socially responsible investment funds is now offered for example by companies such as Friends Provident in the UK and Calvert in the US. At the back

¹ Abbott C. et al. (2002), pp. 18-21

of these funds, is emerging an analytical capacity to evaluate the social and environmental performance of companies.¹

New developments are presenting a common framework for reporting on the social and environmental dimensions of corporate behavior. By integrating biodiversity into their core business strategies, companies can attract the growing supply of socially responsible capital. For some companies, there are now several indices drawing attention to a company's environmental performance. In most countries with established capital markets can be found socially responsible ranking programs and associated investment funds. Business for Social Responsibility, in the US capital market, has estimated that one eighth of investments are subject to some kind of social or environmental projection.

New Business Opportunities

Pressures on ecosystems and their services are giving rise to new business opportunities.

The changing demand of consumers shifting to value different ecosystem services, are making business springing forth to satisfy these changing demands.²

Markets are also being created for more diverse goods and services like aquifer recharge credits, renewable energy credits, wasteload allocations for point and non-point source pollutants, and mitigation credits for wetlands, biodiversity, and riparian buffer zones. As arrangements for promoting market activity, have emerged Water exchanges, water banks, and water leasing.

¹ Abbott C. et al. (2002), p. 20

² Millennium Ecosystem Assessment (2005), p. 27 f.

Increasingly, land-owning companies are being compensated by governmental incentive programs that pay for ecosystem services when companies forego revenues when protecting the ecosystem services provided by their holdings. These can open up new revenue streams and different business models like low-input systems such as organic farming that can contribute to enhancing sustainability of production systems and agricultural biodiversity as consumers are increasingly shifting their preferences to agricultural products produced in this way.

The growing demand for seafood is likely to provide even greater opportunities in aquaculture. However, many forms of aquaculture are accompanied by serious impacts on ecosystems, and loss of habitat, including deterioration of water and soil quality, depletion of wild fish and shellfish populations, introduction of invasive species and disease, and loss of biodiversity. Setting governmental regulation will result in businesses seeking distinct competitive advantage in devise new ways of farming marine and freshwater species in a sustainable manner.

Another example of shifting consumer preference is the growing business of ecotourism. Conservation outside parks should open significant new business opportunities, as it is a challenge, conserve it outside parks and other protected areas.

As a result of being biodiversity responsible, companies may find that they have lots and a variety of new business emerging opportunities and core capacities¹ and have the opportunity

¹ Ten Kate K. (2004), p. 43 f.

to tap into consumer preferences by developing new products and services, in addition to exploring revenues streams that may open with new green markets.¹

Ensure sustainable growth

Engaging into conservation issues at the ecosystem or landscape level can help the company and its operations to maximize environmental and social ties. Attention to sustainable use issues, especially with respect to the supply chain, can identify new resources used efficiency. Doing so, companies can also encourage and expand to their suppliers the attention on engaging in sustainable and protective practices. Attention to the inter-linkages between a company's natural environment and its stakeholders can develop new opportunities for mutually beneficial relations with customers, employees, neighbors and others.²

Becomes clearer for companies that integrating biodiversity and ecosystem conservation into their business strategies will develop competitive advantages as they manage their resources more efficiently, reduce risks and provide better products and services, they will be able to generate sustainable business outcomes and demonstrate corporate leadership in sustainability.³

Several large multinational companies have committed to promote the use of friendly technology to the environment, adopt environmental and social responsibility policies, and implement preventive approaches to environmental issues. The private sector is showing a greater willingness to commit to ecosystem conservation due to the influence of shareholders,

¹ UN Global Compact, IUCN (2012), p. 8

² Abbott C. et al. (2002), p. 19

³ UN Global Compact, IUCN (2012), p. 8

customers, and government regulation.¹ This commitments move at the same time, opportunities that allow companies to get ahead of regulatory requirements, better assimilate the costs of becoming compliant and achieve efficiency using the “first moving advantage”.²

Capturing all these biodiversity opportunities, and therefore identifying and minimizing risk, provides a ‘win- win’ business case for biodiversity, where both gain, the business sector and the natural environment on which we are so reliant.³

IV.C. Business risks for the companies

Other than opportunities, the risks and challenges that the private sector faces are arguably of great relevance.⁴

The loss or degradation of ecosystem services will have huge impacts on human well-being and so will also profoundly affect businesses. Higher operating costs or reduced operating flexibility should be expected due to diminished or degraded resources or increased regulation and policies.⁵

The failure to manage impacts and dependencies on biodiversity and ecosystem services poses a wide range of risks, which can potentially affect a company’s competitiveness and profitability. The risks that companies will have to face if they do not address biodiversity issues

¹ Millennium Ecosystem Assessment (2005), p. 24

² UN Global Compact, IUCN (2012), p. 8

³ Two Tomorrows, Biocensus (2010), p. 6

⁴ Mulder I. (2007), p. 7

⁵ Millennium Ecosystem Assessment (2005), p. 3

correctly and integrate it into their core business strategy can be operational, regulatory and legal, reputational, market and financial.¹

The current risks to a company's profitability of ignoring biodiversity issues include:

Challenges to legal license to operate

Is of relevance to keep stakeholders satisfied or they could revoke the social license and could write letters, stop work, or encourage NGOs to make negative publicity against the respective company.² The expectations of important constituencies and stakeholders will change due to the increasing pressure on ecosystem services. The failure of meeting these expectations and providing transparency in ecosystem management, including more involvement of concerned stakeholders in decision-making, put in risk regulatory action, investor pressure, or public campaigns, all of which can affect a company's, or ability to keep funtion. Clear examples where the license to operate has been challenged include agricultural biotechnology and tuna fishing practices.³

Disruption of supply chain

The lack of sustainability in the ecosystem services may lead to a substantial increase in costs of important and indispensable inputs, meaning it will include changes in the availability of biological resources and services which would directly impact on business supply chains.

¹ UN Global Compact, IUCN (2012), p. 8

² Ten Kate K. (2004), p. 39

³ Millennium Ecosystem Assessment (2005), p.24

Resources like the agricultural, lie at the top of the value chain not only for those in the food and drink sector but for many other companies. Biological resources are fundamental to the maintenance of many supplies of raw materials. For example, degradation of soil quality and clean water resources can have a crucial impact on raw material availability and supply.¹

Risk to reputation and brand image

A company's reputation can be harmed by associating the procurement of the company with biodiversity related products from unsustainable, protected, or sensitive resources. That means a company's reputation is damaged when it engages with companies that have bad environmental records.²

Good reputation is also built on trust, which is earned by delivering promised performance and communicating openly and honestly about it, by reacting quickly to mistakes and recognizing responsibility. Some companies' reputation has been harmed by not acting in this way.³

Cost of capital and perceived investor risk

Investors of capital do not like uncertainty. Therefore, they steer away from sectors and firms within sectors whose risks and potential liabilities are not well understood. Future business

¹ Two Tomorrows, Biocensus (2010), p. 5

² Abbott C. et al. (2002), p. 17

³ Millennium Ecosystem Assessment (2005), p. 24

success may be conditional on developing the technological and institutional capacity to reduce the damage impacts on ecosystems and dependence on ecosystem services.¹

Investors' uncertainties are reflected on potential costs and liabilities associated with externalities, future regulatory constraints on products and operations, and restricted access to natural resources or sites.

Reputation of business practices that address these risks and uncertainties can have impacts on their cost of capital and premiums they pay for insurance policies.

For investment companies it is increasingly common to be assessed for company risk on a whole range of issues, including biodiversity management and other ecosystem services.

Company's operations can be affected by reducing productivity, disrupting activities or limiting access to resources, resulting in increased operating costs. In terms of regulatory risks, companies may have difficulties to secure a legal or social license to operate if they are not accountable on ecosystem management and may be found confronted with increased regulatory constraints from government.

As a result of no engaging in environmental practices, they may also face legal or financial liabilities that as a consequence can hurt a company's reputation, decreasing brand and shareholder value.²

Companies must integrate biodiversity into core management systems to be able manage risks, capitalize on opportunities and meet corporate social responsibilities. In the business

¹ Millennium Ecosystem Assessment (2005), p. 25

² UN Global Compact, IUCN(2012), p. 8

case for biodiversity, managing biodiversity risks is of course a key part. If biodiversity risks are properly managed, they can be turned into mutually beneficial opportunities for both business and biodiversity.¹

V. LIMITATION OF CORPORATE CONTRIBUTION TO BIODIVERSITY

Companies may not be able to fully comply with the sustainable development strategies, without environmental policies and regulations that establish a level playing field, leverage market forces, set realistic targets that are predictive, transparent, consistent and time tabled, create appropriate incentives for sustainable use, and secure property and tenure rights. All the lack of these factors in the actual policies, don't let the companies go head with the implementation of better business sustainable strategies.²

Was found that a high proportion of CEOs recognise that government has an important role to play in implementing more direct actions to address biodiversity loss, and they do not feel that their national government effectively protects biodiversity and ecosystems.³

Large amounts of money are raised from taxes on private wealth. This money is used to provide valuable public goods and services, including biodiversity conservation. However most governments tax revenue is simply redistributed, for example from workers to pensioners and

¹ Abbott C. et al. (2002), p. 15 f.

² World Business Council for Sustainable Development (2010), p. 2

³ PricewaterhouseCoopers (2010), p. 4

the remain little money, tends to be spread thinly, and very often inefficiently. Thus, in most of the countries, the share of public spending allocated to biodiversity conservation is trivial.¹

Chris Knight from PwC's Sustainability and Climate Change in the Q&A panel said²: “Government could help provide companies with access to the science and datasets which scientists produce so well, but don't get into the hands of corporate decision makers so well. We'd like to see much more natural environment research commissioned with company-level users in mind.”

For truly sustainable development is require countries to redefine their policies on land use, food, water, energy, employment, development, conservation, economics, and trade. Biodiversity protection and sustainable use requires the participation of ministries responsible for such areas as agriculture, forestry, fisheries, energy, tourism, trade and finance. The challenge is to forge transition strategies leading to long-term sustainable development.³

Other limitations that businesses face, apart from the ones because of the lack of good policies and regulations, are:

- The difficulty to meet the increasing demand for biological resources caused by population growth and increased consumption, while considering the long-term consequences of our actions.
- Increase the capacity to understand biodiversity value, and the threats to it.
- Build suitable expertise and experience in biodiversity planning.

¹ Pearce D. (2005), pp.57–69

² Bristow (URL)

³ Secretariat of the Convention on Biological Diversity (2000), p.18

- Promote sustainable trade rules and practices that foster biodiversity.
- Strength the coordination between governments and stakeholders, and within governments.
- Securing adequate financial resources from national and international sources for conservation and sustainable use.
- Lack of political support for the changes necessary to ensure biodiversity conservation and sustainable use.

It is important also to note that in many cases new policy and regulation is not required, but the capacity and resources for more effective implementation and enforcement of already existing policy and regulation.¹

VI. ECUADOR AND THE BIODIVERSITY

Ecuador is a small country in territory but still considered a megadiverse country, title awarded by the Centre for Monitoring Environmental Conservation, an agency of the United Nations Program for the Environment, which has identified 17 megadiverse countries that together are home of more than the 70% of the world's biodiversity.²

The new laws and government plans are the beginning to support, promote and implement the integration of sustainability plans for biodiversity in the business strategies of the existing

¹ World Business Council for Sustainable Development (2010), p. 3

² Programa de las Naciones Unidas para el Medio Ambiente (URL)

companies and future ones, as nowadays the biodiversity is seen as a great opportunity to diversify the country's productive matrix.¹

Through the National Plan for Good Living PNB 2013-2017, the Constitution and the Estrategia Nacional de Biodiversidad y su Plan de Acción 2014-2020 (ENBPA) is promoted the sustainability and protection of the biodiversity.^{2 3}

The change of the productive matrix in the country promotes domestic production⁴, so it is a good opportunity to raise awareness among businesses of the importance and benefits gained by effectively managing the resources of nature and include biodiversity as a strategic resource and thus strengthen their productivity.

The Minister of Environment, Lorena Tapia said in an interview with the media, that always thinking of the welfare of the Ecuadorians and our natural resources, biodiversity is considered as the future engine of the production of goods and services, that will not only diversify the Ecuador's production matrix and domestic consumption, but to be in the capacity to generate exportable products and services with high added value.⁵

¹ Secretaría Nacional de Planificación y Desarrollo (2013), pág. 26

² Secretaría Nacional de Planificación y Desarrollo (2013), pág. 222

³ Ministerio del Ambiente (URL)

⁴ Secretaría Nacional de Planificación y Desarrollo (2012), pág. 11

⁵ Ministerio del Ambiente (URL)

VII. CONCLUSION

Looking to all these shocking but real data about the actual and predicted estate of the Earth that international institutions and governments are delivering, are making businesses being aware of risks they will have to face if biodiversity issues are not correctly address and integrated into their core business strategy.

But there is more to be done, as data shows that the CBD biodiversity 2010 targets to enhance the biodiversity were not met and that until now only two of the world's largest 100 companies have identified biodiversity and ecosystem loss as a strategic issue.

That means that most of the companies still continue with scarce sustainable practices and the benefits people and businesses receive from biodiversity have not been taken into consideration and have been left out from global decision making processes.

The loss of biodiversity is the cost of economic development, and this cost is not valued and felt by the majority of the companies. As a consequence they will have to face some challenges and risks like operational, regulatory and legal, reputational, market and financial that can affect the function and profitability of the company.

Was shown that improved policies and regulations is required to mitigate the growing list of environmental challenges, and therefore the new set up 2020 targets proposed by the CBD are better adapted to a business context.

So can each business implement different and better strategies, depending on their specific impacts and relative dependency on biodiversity. The corporate strategies must be based on

an environmental management approach that includes the sustainable and equitable use and conservation of biodiversity ecosystem services to manage related impacts and dependencies.

From the sustainable strategies there is also a lot to gain. More companies have found ways to make profit while reducing their causing environmental damage, helping to deliver improved conservation outcomes with activities that include investment in conservation-related research and development, through the creation and strengthening of sustainable supply chains and through programs which build capacity, transfer technology and enhance monitoring and reporting performance. Some are increasingly becoming positive agents of change and are also profiting from new opportunities that addressing biodiversity issues bring, like secure the license to operate, strengthen the supply chain, heighten corporate image, reputation, and brand, improve employee productivity, attract socially responsible investors, new business opportunities and ensure sustainable growth.

Ecuador, on the other side is doing his part. With the recognition of the rights of nature in the national Constitution, the Ecuadorian state recognizes biodiversity as a comparative advantage and the core to the scientific development of the diverse industries. Therefore the National Plan for Good Living promotes its conservation and the participation of the companies to integrate sustainable processes in their business. The companies have now the opportunity to understand better the actual situation and have the will cooperate for a change and to fight for the conservation of biodiversity because the most comparative advantage which our country has is his biodiversity. We need to build a society conscious about what we have and about what we are to lose.

We are still on time to change the actual course of biodiversity and businesses have an important role to play on it, managing biodiversity successfully, both to ensure that their activities do not generate negative environmental impacts, and also to ensure that their impacts, do not negatively affect their own business operations and on the contrary, developing new ideas and making profit of it. If they don't do so, and current unconscious trends continue, ecosystem services that are freely available today will cease to be tomorrow.

But after all, it is the choice and action of all of us that will determine whether biodiversity is conserved and used sustainably, mostly in an era where economics is a dominant force in world matters and now it is more important than ever to have business involved in environmental protection and the sustainable use of nature and biodiversity.

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