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Business Responsibility for Biodiversity
Conservation in South Africa: Emerging Priorities



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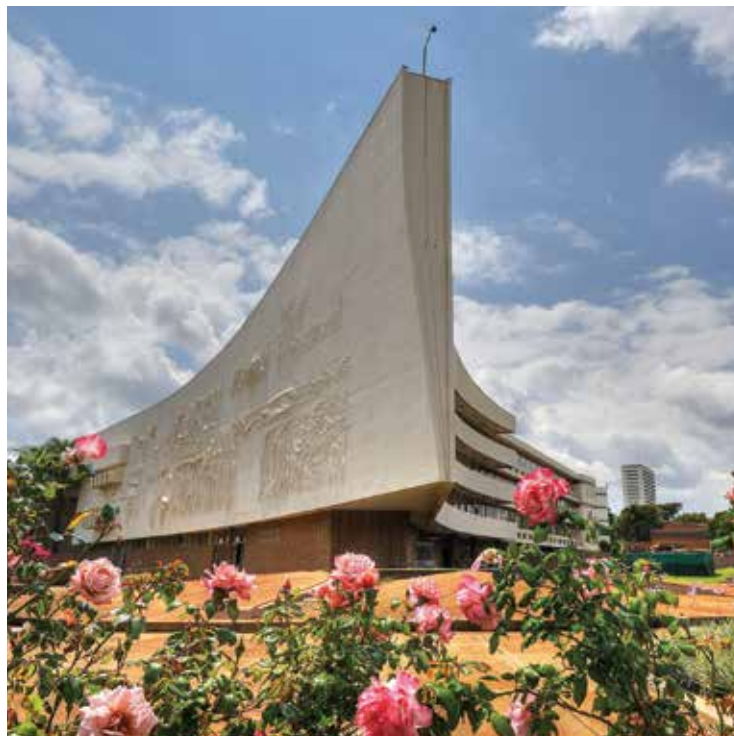


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Executive Summary

Over the years, efforts by various governments around the world to curb the irresponsible use of biodiversity through the deployment of so-called command-and-control approaches have not produced the expected results. Advocacy efforts by conservation non-governmental organizations have also not yielded sufficiently positive outcomes. Thus, biodiversity loss and degradation have remained an enduring challenge across the globe. In South Africa, it has been easy for most businesses to exploit ecosystem services and biodiversity with little concern about potential impacts on ecosystem health and corporate sustainability. This position paper suggests broad approaches that we, at the Albert Luthuli Centre for Responsible Leadership, believe can help the corporate sector in South Africa and elsewhere to build shared value while conserving biodiversity in the face of a rapidly changing world. The paper does not purport to provide all the pertinent answers, neither is it intended to do so since we are confronted by a very complex landscape in which solutions tend to be location-specific. However, it suggests approaches that we believe can help to contribute to win-win outcomes for businesses and ecosystems.

In the paper, the term 'biodiversity' is viewed as the sum-total of the natural wealth of the Earth that provides the basis for life and most economic production activities that enable humankind to prosper. According to the Convention on Biological Diversity (CBD), "Biological diversity" means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystem. The Convention has three main goals:

1. conservation of biological diversity (or biodiversity);
2. sustainable use of its components; and
3. fair and equitable sharing of benefits arising from genetic resources.

The paper indicates that the Earth's resources are limited and that concern has been growing about the way in which they have been managed by the business sector. In principle, this realization has acted as the rallying point for building the business case for more responsible leadership on biodiversity conservation in South Africa and elsewhere. Indeed, most of the prevailing projections of the earth's biodiversity profile and natural resource-use patterns paint a very disturbing picture of increasing ecosystem degradation and significantly reduced biodiversity. It is our belief that most of these projections largely attribute ecosystem degradation to anthropogenic human activities as various countries and businesses increase their economic production activities to meet rapidly growing demands for food, energy, minerals, and water, among other ecosystem services, energy, shelter, healthcare, food. As biodiversity and ecosystem goods and services decline, business value is destroyed

and in the process, the limits to future growth opportunities increase.

A number of risks are identifiable that businesses must expect to face as biodiversity and ecosystem services continue to decline. These risks mainly lie in the biophysical (especially supply chains), competitive, regulatory, reputational, litigation, and social domains of business. We believe that increasing awareness about these risks also strengthens the business case for more responsible practices and environmental stewardship. That is why some businesses have already started systematically measuring ecosystem risks and are up scaling sustainable biodiversity use approaches and exploring opportunities for new markets and business models. These efforts suggest that the current '*business-as-usual*' model of resource-use practices can no longer be sustained since the costs and risks to both the sustainability of businesses and ecosystems are likely to be calamitous for all of us.

It is now widely believed that businesses have a broader duty of care towards protecting the common natural resources base on which we all depend. Likewise, at the Albert Luthuli Centre for Responsible Leadership, we are convinced that loss of biodiversity and ecosystem goods and services will affect the framework conditions within which businesses operate, influencing customer preferences, stockholder expectations, regulatory regimes, governmental policies, employee well-being, and the availability of business finance and insurance. Higher operating costs or reduced operating flexibility should be expected due to diminished or degraded resources (such as fresh water) or increased regulation. We are also convinced that solely relying on the deployment of 'command-and-control' approaches (enforcement of rules and regulations by governmental agencies) to ensure that the business sector plays an active role in conserving biodiversity is not sufficient to address the biodiversity conservation challenge. There is no reason to believe that this approach, on its own, will suddenly become the silver bullet. Rather, because regulation and polices have been only partly successful, and there may have been over regulation in some instances and a lack of enforcement in other cases. The paradigm shift that is required could be the move towards self-regulation or self-administration within the legislative framework.

Our proposition is the establishment of a win-win scenario that motivates the business sector to not only comply with legislation, but to also address biodiversity conservation imperatives more seriously through adopting voluntary mechanisms. We view a situation where corporations adopt production practices that are both more efficient and better for the environment. It is now vitally important even when the quest to maximize profits is still on the corporate agenda. A combination of government regulations which increase penalties for environmental degradation, substantially significant and

specific incentives for more responsible leadership in this domain is likely to provide the motivation for increased investment for corporate research and innovation to such an extent that the resultant cost-savings may compensate for any costs associated with the observance of the new regulations.

All is not lost. Many organisations in South Africa and elsewhere have started engaging proactively in the sustainability debate and are now identifying issues that pose a threat to their current business models as well as opportunities evident in this landscape. The search for viable solutions becomes a collaborative process that embraces the contribution of the private sector, government and civil society. Indeed, our research has revealed that key actors in the sector are no longer willing to blindly accept the adage that *'the-business-of-business-is-business'* and corporate environmentalism is now co-opted in addition to corporate social responsibility.

A number of questions immediately arise that directly address the quest for environmental responsibility. These include: (i) what are the social, environmental, and moral and ethical responsibilities of business leaders and companies in the face of a rapidly changing biodiversity landscape? (ii) how are these responsibilities to be weighed and considered in relation to earning a profit, paying taxes, and exercising fiduciary responsibilities to shareholders? It is our considered belief that in trying to answer these questions, businesses can actually demonstrate leadership in support for reform of public policy that seeks to raise industrial environmental performance standards and gain first-mover advantages while improving the reputation of their industry as a whole. It is worth noting that the link between environmental performance and biodiversity issues is still an emerging issue and warrants further exploration. We believe that is certainly in business's self-interest to take a leadership role in protecting biodiversity through voluntary stewardship and also to *'walk-the-talk'* by building environmental sustainability into their strategic plans, visions, and operational and decision making structures. They should also be ready to take on some responsibility for the choices that they make and the quality of the environment if their actions affect it. An unfortunate reality is that environmental resources are mostly located externally to the organisation. As far as the responsibility of external environmental resources is concerned, the central tenet is that of ensuring sustainability. Sustainability is focused on the future and is concerned with ensuring that the choices of resource utilisation in the future are not constrained by decisions taken in the present and transforming from undesirable trajectories when opportunities arise.

This compares neatly with a business strategy that shapes and sets environmental benchmarks order to gain first mover advantage.

This position paper calls for incremental changes in the manner which operations take place. Therefore, an enduring challenge for business leadership will be how to make sustainability issues mainstream, as well as ensuring that strategy, risk, performance and sustainability become inseparable in their business models.

We are convinced that even though these expectations are still difficult to reconcile with the traditional short-term profit motive that has guided mainstream economic development models for ages, these mind-set shifts have to occur. This could result in positive outcomes such as new revenue generation models or changes in national fiscal policies. In any case, business leaders are already expected to answer these difficult but pertinent questions and account for their actions when they exploit the natural resource base. We believe that the business sector in South Africa and beyond should position itself to be a positive force in addressing these challenges through the pursuit of new business opportunities and markets, reduction of their biodiversity footprints, development and deployment of new technology, and establishment of effective partnerships. Ultimately, halting biodiversity loss and reducing ecosystem degradation is a shared responsibility and all stakeholders (including the private sector) must be committed to generating workable solutions in a coordinated manner. The onus should be on business, to take the lead in ensuring its own sustainability, in so doing, demonstrating responsible leadership.

We are also of the opinion that a solution partly lies in embracing the principle of shared-value, which involves businesses creating economic value in a way that also creates value for society and the environment. With this in mind, we urge proactive organisations to put in place the appropriate 'hard' and 'soft' infrastructure for research, innovation and investment needed to tackle some of the challenges evident in this landscape. Although the evolution to a sustainable world will require commitment and support from all sections of society, corporations need to be at the centre of the sustainability conversation, and this will give them unique leverage to drive positive change. In addition, expert groups in the biodiversity sector, government departments, the private sector, civil society, research and academic think-tanks, and other interested stakeholders will need to work together to catalyse collective effort and environmentally responsible business leadership .

Introduction

For many decades, it has been with relative ease, that most businesses in South Africa and elsewhere have been able to exploit ecosystem services and biodiversity without due concern about the medium to long-term implications of this on corporate and environmental sustainability. Government efforts to curb irresponsible use of biodiversity through policy and legislation, combined with advocacy by environmental conservation non-governmental organizations (NGOs) have produced mixed results. Biodiversity loss and degradation has thus, continued despite many interventions to halt it. This state of affairs has been changing as awareness increases regarding the impact and dependency that business operations have on biodiversity and ecosystem services, and the risks presented to business when these resources are poorly managed.

Conservation and sustainable use of biological resources is therefore, a major enduring challenge to governments, conservation organizations, the private sector and citizens of South Africa and other countries. The future conservation needs and objectives of all concerned parties should be viewed as converging on this common ground. This position paper does not purport to provide all the pertinent answers, neither is it intended to do so since we are confronted by a very complex landscape in which solutions tend to be location and case -specific. However, it suggests broad approaches that we at the Albert Luthuli Centre for Responsible Leadership (ALCRL) believe will partly guide the corporate sector in South Africa and elsewhere to build business value in a rapidly changing world. The paper also does not purport to exhaust all the theories and concepts relevant to this field, but rather offers our position and insights gained from interviews with experts in the sector, workshop proceedings, published and grey literature. The position paper comes against the backdrop of several so-called 'wicked' and resilient problems confronting practitioners and scholars when it comes to ensuring the sustainability of biodiversity across various natural resource sectors.

Ecological dimensions of biodiversity – the business case

Biodiversity represents the sum-total of the natural wealth of the Earth, and provides the basis for life and most economic production activities that enable humankind to prosper. It is the complex array of living organisms that one finds on land and aquatic ecosystems, together with the processes that sustain them (CBD, 1993). The world's biological resources are used every day by society and industry. However, the Earth's resources are limited and concern has been growing about the way in which they have been managed by the business sector. The business case for more responsible leadership on biodiversity conservation is in principle anchored around this realization. Indeed, most of the prevailing projections of the earth's biodiversity profile and natural resource-use

patterns paint a very disturbing picture of increasing ecosystem degradation and significantly reduced biodiversity (see Barna, 2008; WRI, 2008; TEEB, 2009; Rands et al. 2010; WBCSD, 2011).

For example, the Millennium Ecosystems Assessment (MEA) carried out between 2001 and 2005 established that over the past 50 years virtually all ecosystems have been rapidly and negatively transformed by human actions (and this is worse in developing countries). It noted that about 25% of mammal species are now threatened by extinction. The assessment also concluded that human activity has caused between 50 and 1000 times more extinctions in the last 100 years than would have happened due to natural processes (MEA, 2005). More recently, *The Economics of Ecosystems and Biodiversity* (TEEB), a global study on the costs of biodiversity loss and ecosystem degradation, estimated that the world is losing natural capital worth between Euro 1.35 trillion and 3.10 trillion every year, based on deforestation alone (WBCSD, 2012). Damage to biodiversity has been estimated to cost the global economy more than US\$500 billion per year and this loss forms a major barrier to sustainable development in these regions and around the world (UNEP, 2010).

It is our considered belief that these statistics highlight the fact that a large percentage of ecosystem degradation is attributable to human activities as various countries and businesses try to meet rapidly growing demands for food, water, energy and related products (see TEEB Report, 2008). It is therefore, becoming increasingly clear that most economic development processes that interact with or depend on exploitation of natural resources tend to negatively shift ecological processes to unamiable states. Yet, ecological stability is one of the three pillars of sustainable development and without it, business cannot effectively function- therein, lies the business case for biodiversity conservation. Indeed, the published literature already indicates that as biodiversity and ecosystem goods and services decline, business value is destroyed and in the process, the limits to future growth opportunities increase (see Sala et al., 2000; UNEP, 2010; WBCSD, 2011).

It is important to also note that throughout its evolution and diversification, our industrial economy has never moved beyond one fundamental characteristic established in the early days of industrialisation: a linear model of resource consumption that follows a 'take-make-dispose' pattern in which companies extract materials, apply energy and labour to manufacture a product, and sell it to an end consumer — who then discards it when it no longer serves its purpose (Ellen MacArthur Foundation, 2011). A number of risks are, therefore, identifiable that businesses must expect to face in the changing environment and these certainly strengthen the business case. KPMG (2012) summarises the business risks faced as: physical; competitive; regulatory; reputational; litigation; and social.

Physical risks include the risk of damage to physical assets and supply chains from climate change-related weather events and exposure to long-term environmental trends, such as variations in water availability or rising sea levels. *Competitive risks* include the risk of exposure to cost increases or cost volatility of key input commodities such as energy, fuel, water and agricultural products as well as exposure to shifts in market dynamics. *Regulatory risks* include the risk of increased costs and complexity for business from policies and regulations designed to limit the long-term effects of sustainability mega-forces. Examples include carbon taxes, emissions trading systems and fuel tariffs. *Reputational risks* include the risk of damage to corporate reputation and brand value among stakeholders when a company is perceived as failing to act appropriately in response to sustainability challenges. *Litigation risks* include the risk of litigation over environmental damage or insufficient corporate disclosure on sustainability. *Social risks* include the risk of serious disruption to business operations and supply chains due to the societal effects of sustainability mega-forces. Examples include mass migration as “climate refugees” try to escape the worst impacts of climate change; conflicts over scarce resources such as water; and civil unrest driven by population growth and wealth inequality (ibid). This is because conflict over land is a major factor that impacts corporate investment. Whilst land is a brown issue, land comprises a biophysical asset upon which we depend on including biodiversity.

Awareness about these risks has been growing and some businesses have started measuring them as well as trying to scale-up mitigation and sustainable use approaches while exploring opportunities to tap into new markets and business models (WBCSD, 2010). International commitments to more sustainable development pathways have also played a major role in pushing corporates to address environmental degradation concerns. For example, at the 2012 Rio+20 Summit in Brazil, world leaders pointed out that environmental degradation has reached a stage at which planetary natural resource boundaries may be crossed, increasing the probability of catastrophic environmental change. They further acknowledged that if the current *'business-as-usual'* model of resource-use practices continues, the costs and risks to the sustainability of the natural resource base are likely to be calamitous (Schaltegger & Beständig, 2012). As a result, business leaders in Africa and elsewhere are in search of an industrial model that is restorative or regenerative by intention and design (Houdet et al., 2012). Therefore, in both theory and practice, there is growing awareness of the impact and dependency that business operations have on biodiversity and ecosystem services and the business risks that poor management of them can present (Schaltegger & Beständig, 2012). On the positive side, the Natural Capital Declaration was launched at the UN Conference on Sustainable Development (Rio+20) in 2012. It has been signed by the CEOs of more than 40 financial institutions, and demonstrates their commitment to the integration of natural capital considerations into private sector reporting, accounting and decision-making by 2020.

The Millennium Ecosystem Assessment emphatically states that if current trends continue, ecosystem services that are freely available today will cease to be available or become more costly in the near future (see MEA, 2005). Once internalised by primary industries, additional costs that result will be passed downstream to secondary and tertiary industries and will transform the operating environment of all businesses. The McKinsey Global Institute (2011) states that greater pressure on resource systems together with environmental risks present a new set of leadership challenges for both private and public institutions. Loss of biodiversity and ecosystem services will affect the framework conditions within which businesses operate, influencing customer preferences, stockholder expectations, regulatory regimes, governmental policies, employee well-being, and the availability of finance and insurance. Higher operating costs or reduced operating flexibility should be expected due to diminished or degraded resources (such as fresh water) or increased regulation.

It is clear that in this context, there are risks and material issues that arise and may affect the sustainability of businesses. However, for a long time, many in the business community did not and many still do not see it as part of their mandate to have a duty of care regarding the way in which they treat the natural resource base due to profit-driven motives at all costs (see Vucetich and Nelson 2010). This is due to the long-held belief that businesses have a duty (towards their shareholders only) to use their resources and engage in activities designed to increase profits (Friedman, 1970). This is the perspective that views the *'business-of-business-as-business'*. We are aware that this paradigm is increasingly being challenged amongst business leaders themselves, scholars and other stakeholders, who now argue that businesses (and shareholders) have a wider duty towards protecting the common natural resources base on which we all depend (see Mirvis, et al. 2010). Economists such as Stiglitz (2011) are even arguing that there is something fundamentally wrong with the current economic system, and that *'a system that socialises losses and privatises gains is doomed to mismanage risk'*.

At the Albert Luthuli Centre for Responsible Leadership, we are convinced that loss of biodiversity and ecosystem goods and services will affect the framework conditions within which businesses operate, influencing customer preferences, stockholder expectations, regulatory regimes, governmental policies, employee well-being, and the availability of finance and insurance. Higher operating costs or reduced operating flexibility should be expected due to diminished or degraded resources (such as fresh water) or increased regulation. We are also convinced that the continued supply of ecosystem goods and services depends not only on sustainable use of natural resources but the careful management of the entire ecosystems upon which they depend (see UNEP, 2010; Nunes et al., 2011). These risks particularly become evident in the light of the millennium ecosystem assessment findings (see Box 1 to follow).

Box 1: Main findings of the millennium ecosystem assessment

- (i) Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fiber and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.
- (ii) The changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development, but these gains have been achieved at growing costs in the form of:
 - the degradation of many ecosystem services
 - increased risks of nonlinear changes,
 - the exacerbation of poverty for some groups of people.
 These problems, unless addressed, will substantially diminish the benefits that future generations obtain from ecosystems.
- (iii) The degradation of ecosystem services could grow significantly worse during the first half of this century and is a barrier to reducing global poverty and achieving the Millennium Development Goals (MDG's). In fact, environmental sustainability is MDG number 7, which has to be prioritised if the rest of the goals are to be met.
- (iv) The challenge of reversing the degradation of ecosystems while meeting increasing demands for ecological services can be partially met under some scenarios considered by the MA, but will involve significant changes in policies, institutions and practices that are not currently under way.

Source: MEA, 2005

Orthodox approaches to corporate biodiversity conservation

Faced by rapidly increasing environmental degradation and biodiversity loss, theorists and government agencies have traditionally focused on the deployment of the so-called 'command-and-control' approaches when it comes to ensuring that the business sector plays an active role in conserving biodiversity. Concepts such as the user-pays and the polluter pays became popular while at the same time being viewed as an extra financial burden by corporations. Therefore, it would be thought-provoking to highlight three main types of models that have driven business to implement specific actions for biodiversity conservation in corporate South Africa and beyond. Lyon and Maxwell (2014) label these drivers as (i) eco-defensive - focussing on immediate economic returns and considers environmental investments exclusively as costs; (ii) eco-compliance - which seeks to do no more than satisfying regulatory norms; and (iii) eco-sensible - which strives to go beyond legal requirements, viewing environmental concerns as key to the viability of the business. In addition, three drivers of corporate environmentalism related to these models are immediately identifiable, namely market forces, government regulation and civil regulation (ibid).

These same reasons are also used by advocates and proponents of business and biodiversity leadership to develop the business case for increased corporate responsibility in the use and conservation of biodiversity. In this paper, we propose a win-win motive for voluntary compliance by business to biodiversity conservation imperatives (see Ambec et al., 2013). Government regulations which increase penalties for environmental degradation and

specific scaled up incentives for more responsible leadership in this domain provide the motivation for increased corporate investment for research and innovation to such an extent that the resultant cost-savings may compensate any costs associated with the new regulations.

International context

At the highest international policy level, the Convention on Biological Diversity (CBD) provides the needed policy map for biodiversity conservation. The CBD is legally binding. Nation states that have ratified it are subordinate to its principles and have to enact national biodiversity regulations that guide and require businesses and other users of the environment to comply with certain minimum conservation standards if they are to meet the goals set out by this convention. In addition to the CBD, a complex mix of international protocols, treaties, voluntary codes and processes specific to business and biodiversity have emerged that build the foundations of normative ethics in this landscape. For instance, there is the CBD global partnership for business and biodiversity which resulted in the birth of national business and biodiversity programmes across the globe including the one in South Africa.

While the involvement of private sector actors in conservation activities has traditionally been deemed controversial due to their pursuit of profit maximisation and links to powerful elites, these perceptions have been changing and emphasis on partnerships between the private sector and civil society is growing (see Bled, 2009; Newell, 2006). For example, decision VIII/17 taken at the 8th Conference of Parties (COP 8) held in Curitiba, Brazil, 2006, saw the first stand-alone decision related to private-sector engagement. This decision urged national focal points to

communicate the importance of biodiversity to companies, to encourage them to adopt practices that support the implementation of national biodiversity strategies and the objectives of the CBD as well as to include private sector representatives in national delegations and technical expert groups.

At COP 9 in Bonn, Germany, 2008, decision IX/26 furthered previous decisions through calls to Parties to enhance their involvement and engagement of business as well as raise awareness of the business case for biodiversity. It is important to note that this decision included a specific appeal to financial institutions to not only create investment schemes supporting natural capital but to also include biodiversity considerations in all investment decisions. In addition, decision IX/26 featured an annex entitled the *Framework of Priority Actions on Business, 2008-2010* which called for the active promotion of the business case for biodiversity conservation.

There are two protocols developed under the CBD that have a direct bearing on business and biodiversity. The first one is the *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization* which is particularly important to the pharmaceutical and beauty industries. South Africa, a country known for rooibos and other indigenous plants needs to ensure the correct frameworks to enforce this protocol. The other protocol is the Cartagena Protocol on Biosafety which governs elements such as genetic modification (GM) and the Nagoya - Kuala Lumpur *Supplementary Protocol on Liability and Redress* to the Cartagena Protocol on Biosafety. South Africa was the first producer of genetically modified crops in Africa and is currently the largest producer of such crops on the continent and the 8th largest in the world. Concerns regarding the commercial release of GM crops led South Africa to enact legislation regulating their development, importation and application after the enforcement of the CBD but before the adoption of the Cartagena Protocol¹.

There are also several other important international accords relevant to the sector. These include the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which was developed to ensure that international trade in species does not threaten their survival and is important in the context of the rhino horn pandemic that South Africa finds itself in. The current status of these international conventions coerces companies into adopting normative perceptions on biodiversity by almost castigating those companies that do not accede to these norms. The MEA has generated data that motivates international co-operation on global environmental issues. It has also catalysed international convergence on the guiding forces and factors for corporate environmental action as it relates to biodiversity due to the general acceptance of the fact that '*we must live within our planetary boundaries and environmental thresholds*'.

The G8+5² Conference of Environmental Ministers in Potsdam, Germany in March 2007 proposed the undertaking of a global study on "the economic significance of the global loss of biological diversity" as part of a "Potsdam Initiative" for biodiversity. The proposal, which was endorsed in June of that year, birthed the global study titled, "The Economics of Ecosystems and Biodiversity" (TEEB). These comprehensive reports not only draw attention to the global economic benefits of biodiversity but also provide tools that can manage biodiversity within different organisations (with examples given) and cost the benefits and savings accrued by better biodiversity management. The 'power' of the TEEB reports lie their economic lingo about ecosystems and their ability to amalgamate discourses between science, economics and governing structures (van den Burg and Bogaardt, 2014). The non-fungible quality inherent in biodiversity has brought forth more debates about ascribing a value, substitution and discount rates to it. The emergence of stronger international environmental governance policy regimes has re-affirmed the importance of International Standards Organisation's (ISO) 14,000 series standards that companies are expected to adhere to in addition to creating their own in-house biodiversity conservation tools. The ISO 14000 is designed to encourage the development of a systematic and preventative approach to environmental management as an alternative to 'command-and-control' regulation by government (Sampford, 2002). In South Africa, the certification of mines, for example occurs through ISO 14001, with the individual mines at Exxaro Minerals, Palabora, Anglo American, de Beers, expected to obtain this certification and maintain it. These standards are not specific to biodiversity but do assist in bringing some of the pertinent matters on board (see AngloAmerican, 2012; DeBeers, 2011; Exxaro, 2012). As Zharen writes, 'The standards are "systems" standards, not legal standards ... they are designed to help organisations manage their environmental obligation (Sampford, 2002).

On a smaller scale, major consultancy firms have also published studies stressing that loss of biodiversity is a major challenge for business, especially those who can play a role in avoiding further losses, these include KPMG, 2011 and PriceWaterhouseCoopers, 2010 (van den Burg and Bogaardt, 2014). This is important because often biodiversity has played second fiddle to climate change in projects, programmes academic literature and funding for reasons beyond the scope of this section. There are also a plethora of handbooks and guides that are targeted at businesses; these comprise of those by the private sector arm of the World Bank and the International Finance Corporation (IFC)'s web-based private sector guide to biodiversity. Other tools worth mentioning include WBCSD's *Guideline for Corporate Ecosystem Valuation: a framework* and its Corporate Ecosystem Review. The Global Reporting Initiative which takes a check-listing approach to triple bottom line reporting has been instrumental

1. http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Survey_of_Future_Just_Biodiversity_Policies_and_Laws.pdf

2. Group included South Africa.

in assisting corporations in making the distinction between climate change and biodiversity in their reporting approach. The United Nations has published the Global Compact and the Principles for Responsible Investment and the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Companies, compliments the European Union's Green Paper for Corporate Social Responsibility (CSR).

There are also important sectorial initiatives at international level which guide businesses, the more prominent include the UNEP-FI which has a biodiversity working group and the Equator Principles which guide lending and impose a premium on loans taken to conduct ecologically destructive activities. Other approaches assist businesses indirectly by providing certification along the supply chains- successes include the Forest Stewardship Council (FSC) and the Marine Stewardship Council (MSC) which are also stewardship regimes. Many of these international initiatives have filtered through to South African national level through regulations, codes and initiatives. All companies need to acquaint themselves with these new codes and find their own space to implement them.

National context

South Africa is ranked as the third most biologically diverse country in the world, and as such, is of major global importance when it comes to biodiversity conservation (Maze et al., 2009). It has three globally recognized biodiversity hotspots, namely, the Cape Floristic, the Succulent Karoo and the Maputaland-Pondoland regions (IUCN, 2007). It is also considered as being at the forefront of developing and implementing a meaningful regulatory regime for environmental management in Africa. This perception stems from the promulgation of the Environmental Impact Assessment regulations as reflected in the National Environmental Management Act (NEMA) 107 of 1998. Our assessments have shown that biodiversity has been moving up the national development agenda, aided by the current policy shift towards a green economy.

The 2011 National Biodiversity Assessment Report for South Africa highlights that most ecosystems in the country are depleted, with wetlands being the most threatened out of all the nation's ecosystems (for example, 48% of wetlands have been found to be critically endangered). About 40% of terrestrial ecosystem types are threatened with 9% categorized as critically endangered, 11% endangered and 19% vulnerable. Biodiversity degradation has remained a challenge that does not arise from new project development processes but rather from the expansion and intensification of existing operations in industries such as infrastructure development, the extractive industry and agriculture. Most of these activities are actually essential for the social and economic prosperity of any country. This causes a serious quandary for businesses, society and government.

From a national lens, section 24 of the South African Constitution stipulates that 'everyone has the right to

an environment that is not harmful to their health or well-being; and the right to have the environment protected, for the benefit of the present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development' (Republic of South Africa, 1996). The ability of the state to guarantee these rights falls under the broad debates about so-called third-generation human rights, and will not form part of the discussion in this paper.

Environmental protection is also enshrined in section 24(a) of the country's constitution. The country's overarching environmental regulatory regime which provides for biodiversity protection, conservation and sustainable use through various acts, by-laws and legal instruments is principally expressed through the National Environmental Management Act (No. 107 of 1998) (NEMA), and a number of other framework statutes such as:

- The Environment Conservation Act (No. 73 of 1989).
- The National Water Act (No. 36 of 1998) and National Environmental Management (NEM) legislation, including:
 - The Quality Act (No. 39 of 2004) (NEM: AQA);
 - The Protected Areas Act (No. 57 of 2003) (NEM: PA);
 - The Biodiversity Act (No. 10 of 2004) (NEM: BA);
 - The Integrated Coastal Management Act (No. 24 of 2008) (NEM: ICMA); and
 - The Waste Act (No. 59 of 2008) (NEM: WA).

Within those legislations that do not address biodiversity directly, those statutes which seek to protect and conserve terrestrial areas, atmospheric areas and freshwater and marine areas from pollution, overexploitation and degradation can be considered relevant. The assemblage of legal requirements pertaining to environmental protection poses a big challenge for the business sector. Legislation can also provide opportunities and has the potential to shift markets (see the White Paper on Energy, National Biodiversity Strategy and Action Plan (NBSAP) and the latest National Development Plan-Vision 2030). The primary challenge stems from identifying the relevant laws and regulations applicable to each business' specific operations and keeping abreast with new developments, a process that sometimes involves dealing with different regulatory authorities and state departments. Perhaps because of the complexity, environmental non-compliance is rife in South Africa (Craigie et al., 2009). Typical crimes against the environment include non-compliance with permits or authorisation conditions (including illegal mining), cultivating invasive species, illegal harvesting of protected species and illegal dumping of waste. Equally common is the unlawful commencement of activities listed as harmful or detrimental to the environment (September, 2012). We address the business environmental compliance challenge in more detail in later sections of the paper.

In South Africa, the commitment by business to address biodiversity is often addressed through corporate governance processes, the primary being the King Code on Corporate Governance, specifically King III which endorses South Africa's position as having one of the most sophisticated corporate governance structures globally. Johannesburg Stock Exchange (JSE) listed companies are expected to report according to the triple bottom line and are mandated to submit an integrated report. The JSE launched the Socially Responsible Investment (SRI) index in 2004 as a tool for investors to identify companies incorporating sustainability practices into their business activities. Whilst biodiversity is not a standalone criterion, for assessment through the index, the processes gives a platform by which biodiversity can be given prominence akin to climate change. The King code endorses the Global Reporting Initiative (GRI) and it has been the preferred framework for large businesses. Although the GRI does not provide an adequate set of indicators relevant to biodiversity, it does differentiate between biodiversity and broader environmental issues. Additionally, awards that reward those who report best (e.g. the Ernest and Young Excellence in Integrated Reporting Awards), have encouraged better practices through fostering competition amongst companies which in turn is used to lure and attract investors.

Although making the business case for biodiversity forms a vital part of the arguments and debates from a management perspective, numerous organisations (e.g. CBD, IUCN, WBCSD, F&C, and UNEP) have already done so with much of this information, thereby forging the foundations for South African reports, initiatives and processes. There is still a gap in the academic literature to support decision makers in the different sectors, who operate under sometimes ambiguous bureaucratic regimes (for example, the delays in the issuing of water licences for many mines). The South African context has also introduced environmental compensation regimes which aim to reflect the value of the environment. These are also present in other parts of the globe and pose significant implications for business operations, especially those in the extractive industries. For instance, legislation such as European Union import codes exert pressure on those who produce for export

The State however, remains the primary custodian of the environment as conferred by the constitution. Biodiversity contributes significantly to a number of State developmental aspirations and priorities. These are detailed in the National Biodiversity Research Development & Evidence Strategy (2013-2020) and listed below:

- Strengthening the economy and livelihoods;
- Improving efficiencies in government spending;
- Management of environmental risks;
- Adapting to climate change.

Mirroring international process, there are a number of national initiatives in the business and biodiversity space. These include the National Business and Biodiversity

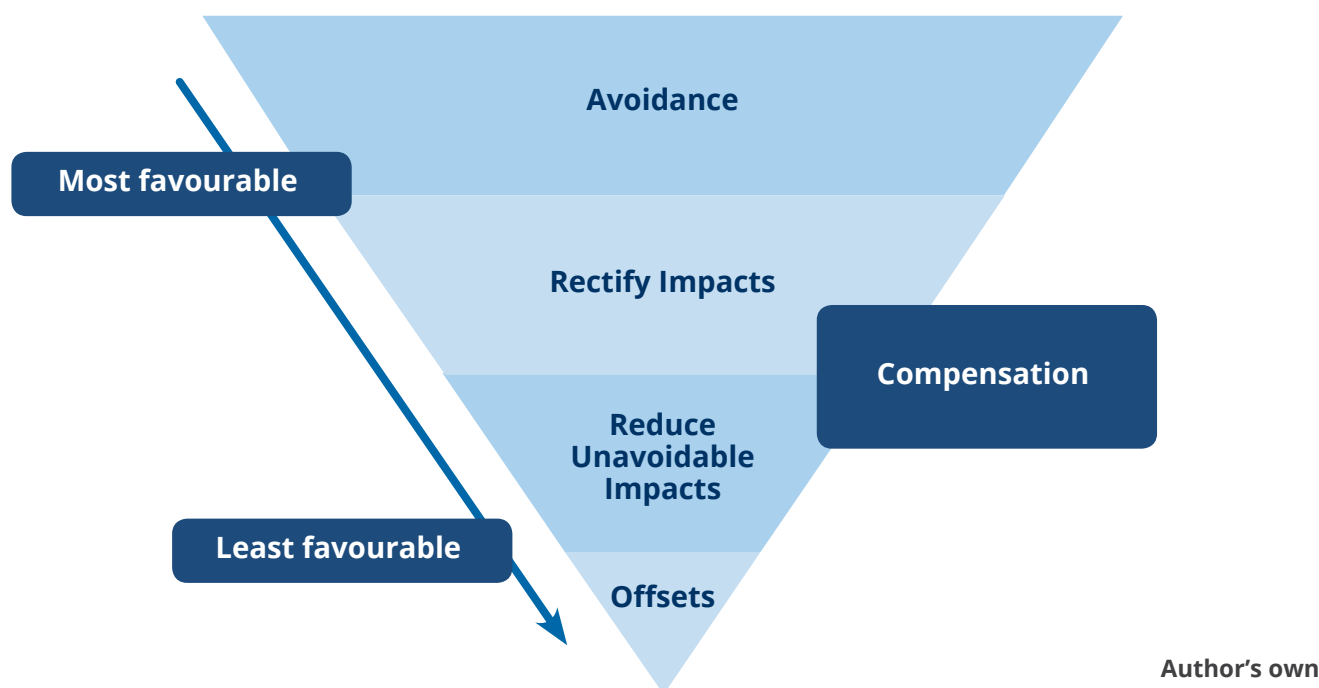
Network (NBBN), the WWF-SA's Wine and Biodiversity initiative and Southern African Sustainable Seafood Initiative (SASSI). There are also elements of private governance undertaken by different actors. These include the Woolworths good business journey. Despite the existence of various approaches to address the business and biodiversity interface in South Africa, most of the current efforts are still either too fragmented or too sector-specific. A need remains for general principles relating to biodiversity management in business to be connected with other environmental conservation and business processes.

Walking the talk

Organisations that have engaged pro-actively in the sustainability debate have managed to identify issues that pose a threat to their current business model as well as opportunities evident in this landscape. The spinoff of strategically using sustainability is the phenomenal amount of innovation and market differentiation that can be seen by many organisations and in some cases, the change in a company's strategic direction. International commitments to sustainable development pathways and more responsible use of biodiversity have also played a major role in driving the agenda for corporates to address biodiversity concerns. Indeed, many companies have begun to notice that the traditional linear system of resource use and consumption increases their exposure to risks, most notably higher resource prices and supply chain disruptions. That is why many business leaders are now in search of an industrial model that is intentionally restorative and regenerative in its design (Ellen MacArthur Foundation, 2011; Houdet et al., 2012).

In this position paper, we argue that while great strides have already been made in improving resource use efficiency, any economic system based on consumption rather than on the restorative use of natural capital entails significant losses along the value chain and eventually reaches a certain threshold beyond which further resource extraction becomes impossible (see Schaltegger & Beständig, 2012). We are however, convinced that awareness regarding the limits of the environment has been growing and this has led businesses to begin to measure and manage the corporate risks associated with dependence on biodiversity and also try to scale-up mitigation, offsetting and sustainable use approaches. Emerging evidence shows that addressing these risks is also associated with opening up opportunities to tap into new markets and business models (WBCSD, 2010). Before proceeding, it is worth discussing the concept of the mitigation hierarchy. The mitigation hierarchy illustrated above, gives guidance on when an offset should take place as well as the types of actions to be considered.

In a sense, promotion of a win-win approach attempts to demonstrate the advantages of environmental actions undertaken by firms, invalidating the orthodoxy of negative causality between competitiveness and the internalization of environmental concerns (Porter & Van der Linde, 1995; Houdet et al., 2009). Therefore, an exclusive focus on



reducing the impacts of business on biodiversity should be discarded in favour of an innovative approach in which biodiversity becomes an integral part of business strategy (Houdet, 2008). We believe that in such a scenario, the business sector should be viewed and treated as part of the solution rather than just as the main culprit in the fight to conserve biodiversity. The search for viable solutions becomes a collective action process that embraces the contribution of the private sector, government and civil society.

Evolving paradigms and concepts

From an empirical perspective, the literature has largely moved beyond the simplistic question of whether it pays to be sustainable, and begun to identify specific situations in which it actually pays (see Lyon and Maxwell, 2014). The limitations that have been identified include the current fluidity in standards and future direction of policies. At face value, business and biodiversity appear to be antithetical/incompatible but such a perception has since changed as evidenced by the proliferation of programmes and projects working on the nexus between business and biodiversity. At the international level, the CBD and Reports produced under TEEB, and the MEA have provided data and guidance in terms of how the business sector should engage with the key issues arising out of the nexus.

While companies have traditionally been viewed as 'the enemy' who should be controlled and 'enforced upon' where biodiversity conservation is concerned, it has become increasingly apparent that no meaningful progress can be made when they are side-lined from the conversation at both local and international levels. Consequently, corporations are now viewed as important partners in local and international decisions about biodiversity conser-

vation. Since decision VIII/17 was taken in March 2006 at COP 8, the business community has been asked, through the launch of "Business and Biodiversity" initiatives, to contribute actively to the objectives of the CBD (Houdet et al., 2009). The landscape appears to be rapidly changing again with a new resolution earmarked for adoption during COP 12, in October, 2014.

We believe that the entrance of business into the biodiversity space signals and illuminates a transformation in political projects that drive conservation and the change in the conceptual foundations which constitute the social ground on which conservation can be practiced (see MacDonald, 2010). The TEEB studies and reports further exemplify international support for greater engagement among parties involved in the nexus. Our research has revealed that key actors in the sector are no longer willing to blindly accept the adage that '*the-business-of-business-is-business*'. Corporate environmentalism is now often co-opted in addition to corporate social responsibility (CSR). While CSR, may be considered as unprofitable from a monetary stand-point, some proponents of CSR view it as 'good business', especially from the need to maintain a social licence to operate. But as local and international actors continue to recognize that degradation of biodiversity and the broader basket of the earth's natural capital is a key challenge in development policy and practice, relevant interventions will begin to emerge as they already have been emerging in recent years.

Framing corporate responsibility to biodiversity

We have already pointed out that the traditional perception of biodiversity conservation as an additional form of external constraint on business activities has been chang-

ing. Now in place, is the growing perception that biodiversity conservation should be treated as part and parcel of business operational costs and should therefore, be reflected in business strategies and reports (see Houdet et al., 2009; Ellen MacArthur Foundation, 2011). A number of questions arise that directly address the quest for stewardship/environmental responsibility. These include: (i) what are the social, environmental, and moral responsibilities of business leaders and companies? (ii) How are these responsibilities to be weighed and considered in relation to earning a profit, paying taxes, and exercising fiduciary responsibilities to shareholders? We believe that as public awareness of the global environmental crisis grows, some companies are beginning to see a business advantage in developing processes to integrate biodiversity conservation activities into their operations, as well as seeking market-based solutions and opportunities (Bishop et al., 2008; Schaltegger & Beständig, 2012). For instance, biodiversity and ecosystems services can support growth and ensure sustainability of business operations by reducing costs and by introducing new market lines (such as sustainable products). It is our considered view that businesses can actually demonstrate leadership in support for reform of public policy that seeks to raise industry environmental performance standards in order to gain first-mover advantages while improving the reputation of their industry as a whole.

Most of the scholarship we have consulted in this domain seems to indicate that it is in business's self-interest to take a leadership role in protecting natural resources through voluntary stewardship. We agree with Jamison et al. (2005) when they point out that to demonstrate genuine environmental commitment, companies must 'walk-the-talk' by building sustainability into their visions, annual goals, targets and plans, and have structures and processes to incorporate environmental considerations into all levels of business and decision making. We also believe that integrating corporate biodiversity conservation commitments means that all actions, large or small, are evaluated for their environmental impact but also through the cost saving from investment in biodiversity applying a whole-systems approach with credible, science-based and ecologically sound criteria should be part of decision-making processes.

At the most basic level, stewardship means that businesses and other stakeholders should take responsibility for the choices that they make and the quality of the environment if their actions affect it (see U.S. Environmental Protection Agency, 2005). This sense of responsibility is a value that can also be reflected in and be shaped by the unique environmental, social, and economic interests confronting key actors. It should also be constituted by positive behaviour that is demonstrated through continuous improvement of a company's environmental performance, and a commitment to efficient use of biodiversity, protection of ecosystems, and, where applicable, ensuring a baseline of compliance with environmental legislative requirements. This also implies that the quest for corporate responsible leadership is no longer only

limited to scandals and subsequent calls for responsible and ethical conduct in the public domain (Brown & Trevino, 2006). Businesses will be expected to voluntarily make environmentally sound trade-offs. For example, if there is a choice between preserving a pristine high value wetland and establishing a mine, the expectation is that the wetland would be preserved.

In addition to the foregoing line of thought, environmental responsibility also stems from the changes in, and new demands from, business contexts (see Maak & Pless, 2006). One such expectation is that businesses and their leaders take active roles in fostering responsible behaviour, within and outside the organisation, such as by creating responsible organisational cultures imbedded in the 'triple-bottom-line' that takes into account the social, environmental, and economic value dimensions of the business and its resources (Maak, 2007; Waldman & Galvin, 2008). It is clear that most of the scholarship in this domain underlines the vital contribution of the environmental pillar to a company's bottom-line (profits) and the possibility of using biodiversity as an entry-point when addressing broader sustainability issues. Indeed, a fundamental paradigm shift is now recognizable globally regarding the way biodiversity should be managed by government, communities and the private sector. It seems that investors prefer those companies with long-term visions rather than short-term gains, and robust environmental risk management practices (Chhabara, 2009).

There is also growing recognition that all actors and users have a pivotal role to play in the sustainable use and protection of natural resources and biodiversity (see UNEP, 2010; Schaltegger & Beständig, 2012). As Jamison et al. (2005) states, corporations in Africa and beyond are beginning to respond to expectations of corporate responsibility by asking what is good for the environment, society and business, as well as how performance can be measured and evaluated. For some companies improving corporate environmental performance is simply 'the right thing to do' while for others it is viewed as a strategic business advantage to increase competitiveness. These companies want to know what is expected of them so that they can incorporate environmental responsibility into their business strategies and become more competitive. Our position is that more corporations should recognize that there is value and opportunity in a broader sense of responsibility beyond the next quarter's results and that what is good for people and the planet can also be good for the long-term bottom-line and shareholder value (see KPMG, 2012). While some companies have already made significant steps to adopt and implement these approaches, the big challenge remains the transformation of mainstream businesses to practically apply these approaches in a local and sector-specific context (Schaltegger & Beständig, 2012).

Corporate governance in South Africa

From an ethical stand-point, a hallmark of the emerging economic development paradigm is the ability of organi-

zations to transform the way they do business, embrace environmental stewardship principles and apply responsible leadership approaches promoted at the global level. Despite the competitive necessity of becoming a more environmentally responsible organization, senior managers often find it difficult to transform their firms from mainstream business processes to new forms that contribute significantly to the imperatives for biodiversity conservation through programs of innovation driven by research and development. This is particularly true if the organization has a long history of well-established business processes and a traditional focus on the profit motive as the bottom-line.

Standards and guidelines for corporate governance in South Africa have been hailed as world class. The introduction of the King III Code on Corporate Governance in 2009 has certainly re-conceptualized sustainability as a key responsibility of South African businesses and their leaders. With the proposed implementation of integrated reporting, the Code essentially makes it imperative for companies to deal with sustainability issues in a transparent manner. The King III Report highlights the interconnections between economic, social and environmental aspects of sustainability emphasizing that these should be given precedence in business decision-making. The philosophy underpinning the King III Report revolves around leadership, sustainability and corporate citizenship. What emerges from the Report is a strong message that recognizes good corporate governance as being essentially about effective leadership. However, effective leadership cannot be divorced from human capital. There is growing debate on the notion that leaders who hold traditional Business Administration degrees are perhaps not as devoted to sustainability issues. There are arguments that Business Schools need to focus more on the non-financial aspects of business management, this may translate into different corporate leaders who view social and environmental issues with as much regards as they do financial matters.

When taking the King III Report principles into account, we believe that responsible leaders in the business sector in South Africa should rise to the challenges of modern corporate governance (including wise use of biodiversity). Such leadership is characterised by the ethical values of responsibility, accountability, fairness and transparency and based on moral duties that find expression in the concept of Ubuntu. Responsible leaders direct company strategies and operations with a view to achieving sustainable economic, social and environmental performance. These leaders must view nature, society, and business as closely interconnected in very direct but complex ways that should be taken into account when making strategic corporate decisions.

The foregoing discussion suggests that businesses and their leaders will be expected to take active roles in fostering responsible behaviour, within and outside the organisation, such as by creating responsible organisational cultures imbedded in the 'triple bottom-line' that takes

into account the social, environmental, and economic value dimensions of the business and its resources (Maak, 2007; Waldman & Galvin, 2008). Our position is that more importantly, incremental changes towards sustainability that are usually adopted by various business sectors will no longer be sufficient. What is needed is a fundamental shift in the way companies and directors act and organise themselves. Part of this can be through a new generation of leaders who have undertaken revised business degrees (MBA etc.) that encompass a new thinking. This is a perspective that views sustainability as a primary moral and economic imperative of this century. Therefore, an enduring challenge for business leadership will be how to make sustainability issues mainstream, as well as ensuring that strategy, risk, performance and sustainability become inseparable (see Chhabara, 2009; UNEP, 2010). Integrated sustainability performance and reporting become the avenues through which this approach is easily reflected.

We are convinced that in pursuit of environmental responsibility, corporations will be expected to develop a comprehensive understanding and effective management of critical environmental risks and opportunities related to climate change, emissions, waste management, resource consumption, water conservation, biodiversity protection and ecosystem services (see UN Global Compact, 2011). We believe that even though these expectations are still difficult to reconcile with the traditional short-term profit motive that has guided mainstream economic development models for ages, these mind-set shifts have to occur. In any case, business leaders are already expected to answer these difficult but pertinent questions and account for their actions as they exploit the natural capital base.

Corporate environmental compliance

Corporate environmental compliance is about companies conforming to all environmental laws and regulations put in place by the government. Faure & Lefevre (2012) state that compliance is generally defined as the extent to which the behaviour of organizations actually conforms to the conditions set by government regarding specific conservation imperatives. In South Africa and many other countries, compliance regimes have, for a long time, tended to be based on the deployment of 'command-and-control' approaches and in a few cases, on the application of market-based incentive structures (see Becker, 1968; Arora & Cason, 1996; Gray & Shimshack, 2011, Faure 2012). The published literature also shows that most developing countries that create national environmental management agencies simply adopt standards and regulations that roughly approximate those found in the developed world (see Harrison, 1995; Lemos & Agrawal, 2006; Lee, 2008; Brown and Lassoie, 2010). However, these efforts do not always produce systematic outcomes and, given the continued decline in ecosystem goods and services, the search for workable solutions to the business environmental compliance question remains a key objective in mainstream development discourses.

Stein et al. (2010) state that South Africa has a progressive environmental regulatory framework. We already pointed out in this paper that the right to an environment that is not harmful to one's health or well-being is entrenched as a fundamental right in the Constitution of South Africa. The Constitution also provides that the government must take reasonable legislative and other measures to:

- Prevent pollution and ecological degradation.
- Promote conservation.
- Secure ecologically sustainable development.
- Use natural resources while promoting justifiable economic and social development.

The environmental right in the Constitution is supported by other environmental legislation to protect the environment while pursuing sustainable economic growth, in terms applicable to a developing nation. Provisions in these pieces of legislation empower various authorities and the cooperative governance structures to direct transgressing corporations to take a number of steps to remedy any harm they cause to environment even though the extent to which such an approach bears meaningful results on the ground may be limited.

The main piece of legislation is the National Environmental Management Act 107 of 1998 (NEMA). It is supported by a host of other pieces of legislation that address specific components of environmental management. Among others, these include, the National Environmental Management Biodiversity Act 2003; the National Environmental Management Protected Areas Act 2003; the National Environmental Management Air Quality Act 39 of 2004; and the National Environmental Management Waste Act 59 of 2008. Several other pieces of legislation and regula-

tory authorities at the three spheres of government are also in place to enhance enforcement, for example, the National Water Act 36 of 1998 is the main piece of legislation governing the use and pollution of freshwater resources.

Chapter 7 of NEMA provides for the appointment of Environmental Management Inspectors (EMIs) by the responsible Minister, tasked with the monitoring and enforcement of certain environmental legislation. The EMIs are designated to enforce the specific environmental legislation they have been mandated to enforce in their designations by the Minister (see NEMA, 1998, Chapter 7). Certain listed activities cannot be started unless an Environmental Impact Assessment (EIA) is carried out and approval obtained from the relevant authority as per the provisions of Section 24 of NEMA. If the activity is a listed activity under EIA regulations, then a permit is required before the activity can begin. Other permits from authorities may also be required as there is no integrated permitting system. There are a number of challenges that arise from the EIAs including how to implement the mitigation hierarchy, how to offset and under what guidelines? Part of these issues arise because the administration and enforcement of environmental laws in South Africa is fragmented with responsibility for the environment being divided between many different government departments such as the Department of Environmental Affairs; and the Department of Water Affairs; Department of Mining; as well as the various levels of government (National, Provincial and Local level). This has resulted in problems of interpretation and enforcement (IUCN, 2007). Table 1 provides a summary of the main pieces of legislation governing environmental compliance in South Africa.

Table 1: Main pieces of legislation governing environmental compliance in South Africa

Legislation	Implications
The Constitution of the Republic of South Africa, Act No. 108 of 1996	The Constitution is South Africa's overarching law. It prescribes minimum standards with which existing and new laws must comply. Chapter 2 of the Constitution contains the Bill of Rights in which basic human rights are enshrined. Section 24 of this chapter states that "Everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development." Government's commitment to give effect to the environmental rights enshrined in the Constitution is evident from the enactment of various pieces of environmental legislation since 1996, including the National Water Act, the National Environmental Management Act, etc.

<p>National Environmental Management Act (NEMA), No. 107 of 1998</p>	<p>NEMA replaced a number of the provisions of the Environment Conservation Act, 1989 (Act No. 73 of 1989). The Act provides for cooperative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for coordinating environmental functions. The principles enshrined in NEMA guide the interpretation, administration and implementation of the Act with regards to the protection and / or management of the environment. These principles serve as a framework within which environmental management must be formulated. Section 2(4)a specifies that “sustainable development requires the consideration of all relevant factors including the following aspects specifically relevant to biodiversity:</p> <ul style="list-style-type: none"> • The disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; • The development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised; • A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; • Negative impacts on the environment and on people’s environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied. • The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment. <p>Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.</p> <p>Of particular importance are the EIA regulations of the Act, which identify activities that may have a substantial detrimental effect on the environment. The identification of these activities results in the activity being prohibited unless the competent authority has granted a written authorisation after the consideration of an environmental impact assessment or basic assessment. Importantly, the overlapping authorisation processes described in both NEMA and the MPRDA still needs to be clarified.</p>
<p>National Environmental Management Biodiversity Act (NEMBA), No. 10 of 2004</p>	<p>NEMBA provides for the management and conservation of biological diversity and components thereof; the use of indigenous biological resources in a sustainable manner; the fair and equitable sharing of benefits rising from bio-prospecting of biological resources; and cooperative governance in biodiversity management and conservation within the framework of NEMA. The Act also gives effect to international agreements relating to biodiversity. The Act states that the Minister of Environmental Affairs and Tourism may identify any process or activity in a listed ecosystem as a threatening process and will, thereafter, be regarded as an activity contemplated in Section 24(2)(b) of NEMA which states that:</p> <p>(a) Specified activities may not be commenced without prior authorisation from the Minister or MEC and specify such activities. This Act allows for any person, organisation or organ of state to contribute to biodiversity management. Such a party may submit to the Minister a draft management plan for an ecosystem or species. Should the Minister approve the management plan, an agreement can be entered into in regards the implementation of the plan. The NEMBA established the South African National Biodiversity Institute (SANBI) and gives it a mandate with regards to the monitoring, advising and co-ordinating biodiversity issues in South Africa. The NEM:BA calls for the development of a National Biodiversity Framework and sets the stage for bioregional plans. It also calls for the protection of threatened ecosystems and species through listing and the development of appropriate management plans, the control of alien invasive species through the recently approved (Alien and Invasive Species Regulations) AIS regulations, genetically modified organisms and regulates bio-prospecting through national BABS regulations and global protocols such as the Nagoya Protocol.</p>

<p>National Environmental Management: Biodiversity Act (NEMBA), No. 10 of 2004: Threatened or protected species regulations</p>	<p>The Department of Environmental Affairs published the Threatened or Protected Species Regulations, developed in terms of NEMBA, on 23 February 2007. These regulations set the rules for hunting, and, for example, prohibit canned game hunting. The regulations will come into effect on 01 February 2008.</p>
<p>National Environmental Management: Protected Areas Act (NEMPAA), Act No. 57 of 2003</p>	<p>NEMPAA provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; and for intergovernmental co-operation and public consultation in matters concerning protected areas.</p> <p>The National Parks Act, 1976 (Act No. 57 of 1976) has been repealed in whole, excepting Section 2(1) and Schedule 1, and has been replaced by the Protected Areas Act (No 57 of 2003). The SA National Parks is designated as a statutory board. This Act provides the legislative backing to securing any conservation worthy piece of land as a "protected area" and providing for the management thereof. Any owner of land can request that their land be declared a protected area, and if agreed to by the Minister, this agreement is recorded in a notarial deed and registered against the title deeds of the property. Protected areas are a fundamental tool for achieving biodiversity objectives, providing greater security for conservation-worthy land than the agreements or land use limitations contained in the NEMBA.</p>
<p>The National Water Act (NWA), No. 36 of 1998</p>	<p>The NWA recognises that water is a scarce and unevenly distributed natural resource that should be equitably utilised in a sustainable manner. The Act ensures that the water resources are protected, used, developed, conserved and controlled in ways that take into account a range of needs and obligations, including the need to "Protect aquatic and associated ecosystems and their biological diversity".</p>
<p>The Minerals and Petroleum Resource Development Act (MPRDA), No. 28 of 2002</p>	<p>According to the MPRDA, any prospecting or mining operations must not result in unacceptable pollution, ecological degradation or damage to the environment and must be conducted in accordance with generally accepted principles of sustainable development by integrating social, economic and environmental factors into the planning and implementation of projects. Section 37 (1) of the MPRDA acknowledges that the principles set out in Section 2 of the NEMA, apply to all prospecting and mining operations and serve as guidelines for the interpretation, administration and implementation of the environmental requirements of this Act. In addition, mining right holders must give effect to the objectives of integrated environmental management as laid out in Chapter 5 of the NEMA. The MPRDA also obliges the owner of the mining right to rehabilitate disturbed areas and holds the owner responsible for any environmental degradation on his site.</p>

Source: IUCN, 2007

It is important to reiterate that even though South Africa has one of the most advanced compliance regimes in Africa, based on various pieces of legislation, corporate environmental offences have traditionally been associated with a low level of enforcement (Stein et al., 2010). The scope and extent of non-compliance, combined with capacity and resource constraints in government departments make compliance monitoring and enforcement an arduous task at the best of times (see Kidd & Retief, 2009; Craigie et al. 2009; Fourie, 2009). According to Rossouw and Wiseman (2004), whilst environmental policy and legislation embody sound democratic principles, implementation, compliance and enforcement are lagging in South Africa. Maximum penalties for environmental offenders have significantly increased in the past few years from hundreds of thousands of Rands to 5 years imprisonment/ R5 million (first offence) and 10 years imprisonment/ R10 million (second or subsequent offence) (see DEA, 2010).

We are convinced that whilst criminal sanctions may play an important deterring role, they have until recently, largely been ineffective in South African environmental law mainly because the penalties for environmental damage are seldom severe enough to deter polluters. It has been noted also that the use of criminal sanctions may not necessarily lead to environmental improvement. For example, Fourie (2009) states that the primary way to ensure that a violator of South African environmental legislation pays a punitive monetary penalty is to prosecute the offender beyond reasonable doubt in a criminal court, and to rely on a magistrate to levy an appropriate fine. This places an undue burden on an already overburdened criminal justice system.

In addition to the foregoing, partly because it is so difficult to procure a conviction and a meaningful sentence for environmental crimes, authorities are discouraged from prosecuting cases in the first place. This, in turn, perpetuates the low prosecution rate for environmental offences and prevents officials from improving the quality of investigations and prosecutions through experience. Feris (2006) argues that poor environmental compliance and enforcement in South Africa may be attributed partly to the lack of capacity and insufficient resources within national and provincial government. It also may be a consequence of the continued use of so-called 'command-and-control' approaches to environmental enforcement, as environmental regulation does not provide sufficient incentives to encourage sustainable industrial practices by way of self-regulation within the regulatory framework. This assertion correlates with the emerging data which shows successes in prosecution through the use of other legal instruments such as the Promotion of Access to Information Act (PAIA).

Given the unacceptable levels of non-compliance, scholars and practitioners have advocated the strengthening of the environmental enforcement regimen as well as adoption of alternatives to criminal sanctions to address environmental abuse in South Africa. Many believe that the threat of increased detection and prosecution, with

harsher punishments, such as criminal prosecution leading to imprisonment of employees or directors of companies or shutting down of operations until compliance is achieved, can lead to increased compliance. Our studies have shown that environmental compliance in various South African industries is currently dependent on the extent of the risk of being caught and the degree of punishment, both of which have been minor for a long time. The introduction of the Environmental Management Inspectorate (EMI) in the Department of Environmental Affairs in more recent years has increased environmental compliance enforcement capacity in the country. Efforts in that direction should be continued while alternative options are explored to enhance voluntary compliance of businesses in South Africa.

At a general level of analysis, a number of reasons may be considered as having hampered the effectiveness of formal government-led regulation of ecosystem use in South Africa and other developing countries. These include a lack of understanding regarding what makes the corporate sector respond positively and implement the right actions leading to full implementation of specific legislative requirements and standards of environmental compliance. Our research has demonstrated that government departments and agencies still have the duty to apply all available instruments with a view to influencing the behaviour of regulated entities and ensure that they comply with prevailing regulatory requirements (Mazur 2009). They do not necessarily have to make use of command-and-control-approaches. Instead, their principal functions are to deploy a mix of options that enable them, first, to promote voluntary compliance, detect and reverse non-compliance and secondly, to punish offenders as appropriate. As Gunningham (2011) points out, without compliance, laws and regulations are meaningless – or worse, they undermine respect for the rule of law – and cannot promote sustainable development.

Compliance should be viewed as naturally occurring due to the human beings' intrinsic ability to determine what is morally right or wrong. We acknowledge that while such an approach certainly provides very useful philosophical insights, an empirically tested and robust theory explaining why similar corporations will comply with regulations at one time and place, but not in another, is still lacking in South Africa and elsewhere. Furthermore, why one corporation would comply while another does not, even when they are under similar circumstances, remains a mystery.

It is however, important to note that since the mid-1990s, there has been an increase in criminal prosecutions of environmental violators in many countries, South Africa included. In some cases, non-compliance has resulted in hefty penalties, or the closure of a business while in other cases, insignificant fines have allowed offending companies to continue with their non-compliance. We believe that criminal prosecutions and imposition of heavier fines will continue acting as a deterrent while incentives and models for enabling voluntary compliance are still being explored.

Biodiversity offsets, land-use planning and ecosystem rehabilitation

Broadly defined, biodiversity offsets are conservation measures taken at one location to make up for biodiversity lost at another location. In general, the term “offset” is understood to refer to a conservation activity that takes place outside the geographical boundaries of a project site in order to compensate for unavoidable harm, in addition to any mitigation or rehabilitation that may take place on that site. However, some developers may own large plots of land and in some circumstances, it could be appropriate for biodiversity offsets to be undertaken on land that would not otherwise be conserved within a plot, as a way of offsetting unavoidable loss of biodiversity due to development activity on another part of the plot (see ten Kate et al., 2004). There are also a lot of questions surrounding the credibility of formulae used to calculate

net-losses and net-gains in aquatic and terrestrial biodiversity offset schemes. For instance equivalency criteria between lost and offset biodiversity attributes and the use offset ratios has spurred intense debates within the conservation industry. Irrespective of this, the cost of an offset, if steep enough may deter ecological damage or open up new and creative ways of doing business such as eco-designs.

We believe that more knowledge is still required in this domain to make offset schemes much more effective and acceptable to the business community. Research must explore in-depth the concept and application of biodiversity offsets within the context of wetlands and land-use changes that affect biodiversity. Challenges, opportunities, strengths and weaknesses of current approaches should be explored with a view to developing more useful tools and methodologies for wider dissemination.



A call for commitment to responsible leadership

While discussions about environmental responsibility are a relatively new phenomenon in South Africa and other developing countries, there are indications that we are at a juncture where we now need to focus on some of the key challenges we need to address, in order to mainstream biodiversity into the national development path of the country and into businesses. The South African National Development Plan makes reference to environmental matters. It is therefore, essential for all economic actors, public and private, to understand that the state of our biodiversity underpins our economic and social growth. The decline of the natural resource base and increasing levels of awareness about this trend represent an opportunity for the business community to demonstrate that they can take a leadership role and start mainstream natural capital considerations strategically into economic decisions.

It is therefore essential for all relevant stakeholders to ensure strategic and integrated planning regarding the development of South Africa, especially in terms of its relation to the state, use and management of biodiversity and the broader basket of natural resources in the country. We call upon all actors to realise that biodiversity and ecosystems are national assets and therefore, long-term planning to conservation and rehabilitation of natural assets is critical, and should be complemented by a strategy for assessing the environmental impact of new development projects. There are scholars who argue that the main positive contribution that business can make to biodiversity conservation is simply to provide cash, through taxes or charitable contributions, for conservation activities carried out by governments, NGOs or community organisations (see Friends of the Earth International, 2005). There are others who emphasise the need to reduce the biodiversity 'footprint' of existing businesses, through government regulations, binding voluntary agreements or under pressure from NGO advocacy campaigns.

Our position is that the business sector in South Africa is well-positioned to be a very positive force in addressing these challenges through pursuit of new business opportunities and markets, reduction of operational footprints, development and deployment of new technology, and establishment of effective partnerships (see MEA, 2005; Schaltegger & Beständig, 2012). We call upon businesses to embrace and demonstrate genuine environmental commitment, to walk-the-talk, and build sustainability into their plans, and have structures and processes to incorporate environmental considerations into all levels of business and decision making. Already, some businesses in various parts of the world have become positive agents of change and a source of innovation, helping to create new ecosystem-friendly markets and developing more sustainable technologies and business practices (see WBCSD, 2010). They are beginning to respond to expectations of corporate responsibility by asking what is good

for the environment, society and business, as well as how performance can be measured and evaluated. Companies in South Africa can do the same. They need to realise that there is value and opportunity in a broader sense of responsibility beyond the next quarter's results and that what is good for people and the planet can also be good for the long-term bottom-line and shareholder value (see KPMG, 2012).

Leadership implications

We are convinced that the times call out for more responsible leadership. Critical social-and-environmental issues stand alongside a challenging competitive context and a shifting social contract between business, government, and civil society to give business leaders the power, resources, and responsibility to devise new ways to create value for the firm and to better care for society and the planet. Businesses need to adopt policies to manage biodiversity risks, so as to avoid and minimise biodiversity impacts and seek opportunities for biodiversity conservation and benefits for natural resource-dependent people. Supply chains should apply sustainability standards and safeguards that positively impact biodiversity and local livelihoods. Public and financial sector policies should be crafted that promote the integration of biodiversity and livelihood values in business decision-making.

Responsible business leadership shapes and is being shaped by a complex adaptive process involving individuals, organizations, and societies. Many leaders and organizations are transforming from a traditional hierarchical model of responsibility to a contemporary, more relational phase. In the traditional model, the business of business is profit maximization, and responsibility and accountability are owed primarily to financial stakeholders. Business assumes no obligation to deal with its externalities—save to obey the law. In the relational phase, a firm's legitimacy and license to operate hinge on effective stakeholder relationships. Responsible leaders and companies embrace corporate social and environmental responsibility and sustainability in this phase—as a means to mitigate risks, capitalize on opportunities, and differentiate themselves in the marketplace. It is clear that new and more holistic conceptions of responsible leadership are emerging. These address the functions of business to go beyond profit-making to include social welfare and the health of our ecosystems. Some of these conceptions are driven by the state and include ecological tax breaks and other processes are driven by industry including certification processes along the supply chain.

In this context, leadership is no longer merely confined to individual company heads and managers but is rather expanded to include collective action reflected through partnerships with other companies and sectors to address pressing environmental concerns of the day. We believe that ultimately, halting biodiversity loss and

reducing ecosystem degradation is a shared responsibility and all stakeholders (including the private sector) must be committed to generating workable solutions in a coordinated manner. Business has always been part of the problem and is therefore, being called upon to be part of the solution. We are convinced that the practical expression of that coordination exists as organized social groups and networks of key actors in the conservation landscape that emerge out of specific historical contexts. Thus, collaborative leadership—across multiple organizations and sectors—takes stewardship and responsible leadership to new frontiers. Shared leadership in designing and implementing sustainable resource use practices point to the requirements for and potential of globally responsible leadership.

In essence, the responsible company looks outside-in to define issues and obligations in its interactions with society that are material to the firm. It devises a response from the inside-out to address them through its assets and capabilities. It takes the necessary steps to identify and minimise its impacts on biodiversity and ecosystems and reaching out to civil society to create innovative solutions that enable the present day needs of society and economies to be balanced with the overarching need to ensure we continue to live in a healthy and productive

environment (Schaltegger & Beständig, 2012). The BSR Ecosystem Services Working Group (2012) points out that this engagement is occurring along a spectrum, from companies that are only tracking the uptake of biodiversity conservation and ecosystem services approaches within the public sector; through private firms that are testing decision-making tools that assess the impacts, dependencies, and monetary value of ecosystem services; to businesses that are crafting corporate goals and policies to actually hold employees accountable for meeting new biodiversity conservation benchmarks in their work.

We acknowledge that there is widespread cynicism about what motivates leaders, enduring pessimism that things are going in the wrong direction, and frustration that leadership in both the private and public sectors seems to be either unable or unwilling to change the current course. But our research reveals that there are discernible positive winds of change taking place in South Africa and elsewhere. These winds of change indicate that many companies have already started re-assessing their positions in response to the call for environmental responsibility. Therefore, all businesses will need to acquaint themselves with the direction that these changes are leading towards and accordingly adapt to avoid being left out.



Emerging priority areas for business and biodiversity

Biodiversity offsets, land-use planning and ecosystem rehabilitation

Broadly defined, biodiversity offsets are conservation measures taken at one location to make up for biodiversity lost at another location. In general, the term “offset” is understood to refer to a conservation activity that takes place outside the geographical boundaries of a project site in order to compensate for unavoidable harm, in addition to any mitigation or rehabilitation that may take place on that site. However, some developers may own large plots of land and in some circumstances, it could be appropriate for biodiversity offsets to be undertaken on land that would not otherwise be conserved within a plot, as a way of offsetting unavoidable loss of biodiversity due to development activity on another part of the plot (ten Kate et al., 2004). These may also be viewed as measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken.

While biodiversity offsets offer the prospect of achieving more conservation outcomes than is typically possible with development projects in most countries to-date, they are no panacea and the argument that they can produce more conservation results masks a number of assumptions. There is considerable debate around the world as to whether development in certain wetlands, for example, should be allowed at all and whether the mitigation intended genuinely offsets the impacts of developments in them. Some observers have argued that, in practice, wetland mitigation in most countries has come nowhere near achieving the goal of ‘no-net-loss’ (see BBOP, 2009; Becca et al., 2010). In South Africa, there are offset guidelines at provincial level that are already being implemented. These could be used to generate case studies.

The key question therefore, is how best to design biodiversity offsets such that they achieve the desired results for conservation. There are some provincial offset guidelines in the country that are already being implemented, these will go a long way in providing case studies. We believe that more knowledge is still required in this domain to make offset schemes much more effective and acceptable to the business community. Modes of embodying responsible biodiversity use are multi-faceted. Although in some industries it is easier to address biodiversity, other industries require a value chain approach. This is more so for those operating in the agribusiness and retail sectors. A value chain analysis enables a company to not only trace its impact along its supply chain but can assist in mapping out points of positive action and value creation. There are various tools that can be utilised for corporates to act responsibly, these include participating in stewardship regimes, successes include the Forest Stewardship Council (FSC) and the Seafood Group of the Marine

Stewardship Council (MSC). Many of these international initiatives have filtered through to South African national level through regulation, codes and initiatives.

Other equally useful tools such as green bonds, payment for ecosystem services (PES) and green infrastructure are beyond the scope of our findings. Offsets which have been discussed are key as these have evolved from voluntary mitigation to mandatory compliance with the law and will continue to be on the research agenda for the program. Other instruments such as integrated reporting and ecosystem valuation are gaining traction international. The former being South Africa’s forte needs to begin to include biodiversity and natural capital whilst the latter in importance in informing decision makers especially regards rents and cost-benefit analyses.

Ecosystem valuation

Accounting for biodiversity and ecosystem services is a critical issue which could be broken down in several steps for analysis: from assessment, valuation to performance management, reporting and assurance. This section provides a simplistic view of the key concepts and debates in this space. Corporate ecosystem valuation may be defined as a process instituted to enable more informed business decisions to be made by explicitly valuing both biodiversity loss and the benefits emanating from ecosystem goods and services. By including ecosystem values, the company’s aim is to improve corporate performance in relation to social and environmental goals and the financial bottom-line. Valuation can make decision-making around ecosystems more compelling and practical, thereby enhancing sustainable development strategies and outcomes (WBCSD, 2011).

Our view is that the major obstacle to efforts in this direction is that many natural capital costs and benefits are not yet quantified, neither are they incorporated in the cost-price of a product. Natural capital accounting can be a useful tool that can illuminate the cost of inaction. In other words, the monetary value of nature has so far not been recognized by the majority of the business community within our current economic system and hence its value is only marginally present in the market. This represents a key barrier to private sector movement on this issue (see UNEP, 2010; Natural Value Initiative, 2011). Therefore, appropriate tools and methods have to be found that can value biodiversity and integrate the value into business strategy and accounting procedures. Another key challenge relates to the question of what biodiversity conservation indicators and performance metrics should be considered within corporate management processes? How does one justify the use of specific indicators and metrics? There is also an articulated need for more specific and in-depth valuation exercises that are targeted at specific resource sectors. These should illustrate the value and benefits of biodiversity and ecosystem services to the

economy and the social objectives of the company. More robust ecosystem valuation tools and methodologies may be generated in the process.

One potential alternative manner in which to tackle these problems could be to research how existing business decision-making processes / tools can (and could) make use of natural capital uses? What are the barriers and opportunities? Costs and benefits? What would be the necessary supporting infrastructure? Indeed, most of the work has been focused on the economic valuation of nature without taking into cognisance the needs of users such as supply chain managers or accounting professionals. In this light, a key question arises: how can we account for nature in financial statements? Some practical tools are available depending on the industry concerned however these are not widely used.

Integrated reporting

There are various ways in which biodiversity can be accounted for. One way which is waxing in popularity is integrated reporting, which is a process that results in businesses communicating value-creation over time by bringing together material information on financial and non-financial performance. Additionally, it is also intended to illustrate the relationships between the material financial and non-financial performance metrics, although this is not very common yet in South Africa even among the most sophisticated companies currently practising integrated reporting (see Eccles and Saltzman, 2011). An integrated report should be more than a compilation of financial statements and sustainability key performance indicators within the same annual report. Wherever possible, disclosed financial and extra-financial information should also be presented in an integrated format (Houdet, et al. 2011). Wherever possible, disclosed financial and extra-financial information should also be presented in an integrated format. So whilst for instance, environmental accounting has increased in the published literature as a useful arsenal for accounting for the environment, it differs from biodiversity and ecosystem accounting.

In some cases, in order to account for biodiversity, more information would be needed depending on the sector. In some cases, a total overhaul in the accounting and reporting methodology would be required. The key aspects of biodiversity and the role of biodiversity in a firm as well as debates of intrinsic value versus impact would need to be considered in the context of adding (and creating) value. We are acutely aware that knowledge about how to do this in practice is still quite scant and therefore, more research is required to increase understanding in this domain.

Creating shared-value

For a company to be successful in the long-term and create value for its shareholders, it must also create value for society (creating shared value). The idea of creating

shared value encourages businesses to create economic, social and environmental value simultaneously by focusing on their competitive advantages relevant to a company's performance in these three domains. The concept of shared-value recognizes that societal needs, not just conventional business economic needs, define markets. It also recognizes that social and environmental harms and degradation frequently create internal costs for firms—such as wasted energy or raw materials, costly accidents. And addressing these harms and constraints does not necessarily raise costs for firms, because they can innovate through using new technologies, operating methods, and management approaches—and as a result, increase their productivity and expand their markets.

A significant challenge of creating shared value resides in accounting for ecological values and costs that are generated within the realm of agricultural production. Up to 90% of the ecological footprint in food processing can be attributed to land management activities outside the control of corporations.

However, a big part of the challenge lies with companies themselves. They tend to remain trapped in an out-dated approach to value-creation that has been used for many decades already. They continue to view value-creation narrowly, optimizing short-term financial performance in a bubble while missing the most important customer needs and ignoring the broader influences that determine their longer-term success (see Porter, 2011). At the ALCRL, we ask sincerely, how else companies could possibly overlook the well-being of their customers, the depletion of biodiversity and ecosystems that are vital to their businesses, the viability of key suppliers, or the economic distress of the communities in which they produce and sell? Government and civil society have often exacerbated the problem by attempting to address some of these shortcomings at the expense of business. The presumed trade-offs between economic efficiency, environmental sustainability and social progress have already been institutionalized in decades of questionable policy choices and practice (ibid).

As the ALCRL, we believe that companies must take the lead in bringing business, environmental sustainability, and society back together. The recognition is already there among business thought leaders, and promising elements of a new model are certainly emerging. Yet there is still a general lack of an overall framework that guides these efforts, and most companies remain stuck in a *'corporate social responsibility'* mind-set in which societal and environmental conservation issues are at the periphery, not the core. We are convinced that the solution lies in the principle of shared-value, which involves businesses creating economic value in a way that *also* creates value for society and the environment by addressing its needs and challenges. The government, through the Department of Environment is working on a process to develop a National Biodiversity Economic Development strategy which includes elements of transforming the sector. Indeed, businesses must learn to re-connect their suc-

cess with social progress and natural capital conservation. What is important is an amendment in institutional infrastructure (tax policy / rules for instance) to ensure that shared-value is mainstreamed in business. Relying exclusively on good intentions and ad hoc opportunities may not suffice.

We do not view shared-value as a mere social responsibility, philanthropy, or even sustainability, but a new way to achieve economic success. It should not be on the margins of what companies do but at the centre. We believe that business, natural capital and society have been pitted against each other for far too long. Adoption of the shared-value concept promises to give rise to the next

major transformation of business thinking. Therefore, the private sector and government need to start reflecting on this concept and finding ways of embedding it in their strategic planning processes. The purpose of the corporation must be redefined as creating shared-value, not just profit per se. Perhaps the boundaries between business profit and non-profit should begin to be blurred. This is an approach with a lot of potential to drive the next wave of innovation and productivity growth in the South African economy and beyond. It will also reshape the relationship between the business sector and the rest of the society. Most important of all, learning how to create shared-value provides an opportunity for the business sector to legitimize itself in society once again.



Conclusion

The need to change the way we do business is no longer in question. From the discussions presented in this paper and broader natural resource conservation scholarship that has gained currency in more recent years, it is becoming increasingly apparent that corporate sustainability and environmental responsibility are not necessarily incompatible. They are two systems that can co-exist in harmony if the right conditions are provided. Indeed, the corporate sector can reposition itself to be a very positive force in the quest for sustainability by reducing its environmental footprint. It is also clear that collective responsibility, leadership and action will be required to address the complex challenges that businesses face as they interact with or make use of natural capital. Within this context, they must also anticipate that new policies and regulatory frameworks will be developed and deployed by governments in response to a declining natural resource base.

While the risks associated with the decline of biodiversity and important ecosystems are great, taking decisive action now rather than later will help secure stable and safe societies in South Africa and beyond, ensure continuing access to critical resources, provide new products and business opportunities, avoid abrupt social and environmental change, and probably realise some competitive advantages for the businesses that take first-mover leadership advantages in this landscape. The analysis provided in this position paper suggests that a proactive organisation will put in place the appropriate 'hard' and 'soft' infrastructure for research, innovation and investment needed to tackle some of the challenges identified.

Although the evolution to a sustainable world will require commitment and support from all sections of society, corporations seem to be at the centre of the sustainability conversation, and this gives them unique leverage to drive positive change. In a world where profitability is no longer the sole driving force for innovation, society will increasingly expect companies to serve as active stewards of the environment and support the social fabric that has sustained their operations for so long.

In the published literature, cross-sector partnerships repeatedly appear as key to finding the solutions for dealing with many of the challenges evident in the business and biodiversity leadership nexus. Some of the articulated advantages of partnerships include helping businesses manage their impacts on biodiversity and capitalize on opportunities, as most initiatives are undertaken in collaboration with conservation groups, government groups, and academic institutions. By working in partnership with other sectors, businesses have access to resources, including expertise and networks, which can help address biodiversity issues. Therefore, to enhance the sustainability of businesses and biodiversity, many options will be needed that make use of collaboration and partnerships across levels. Expert groups in the biodiversity sector, government departments, the private sector, civil society, research and academic think-tanks, and other interested stakeholders will need to work together to catalyse collective effort and environmentally responsible leadership.

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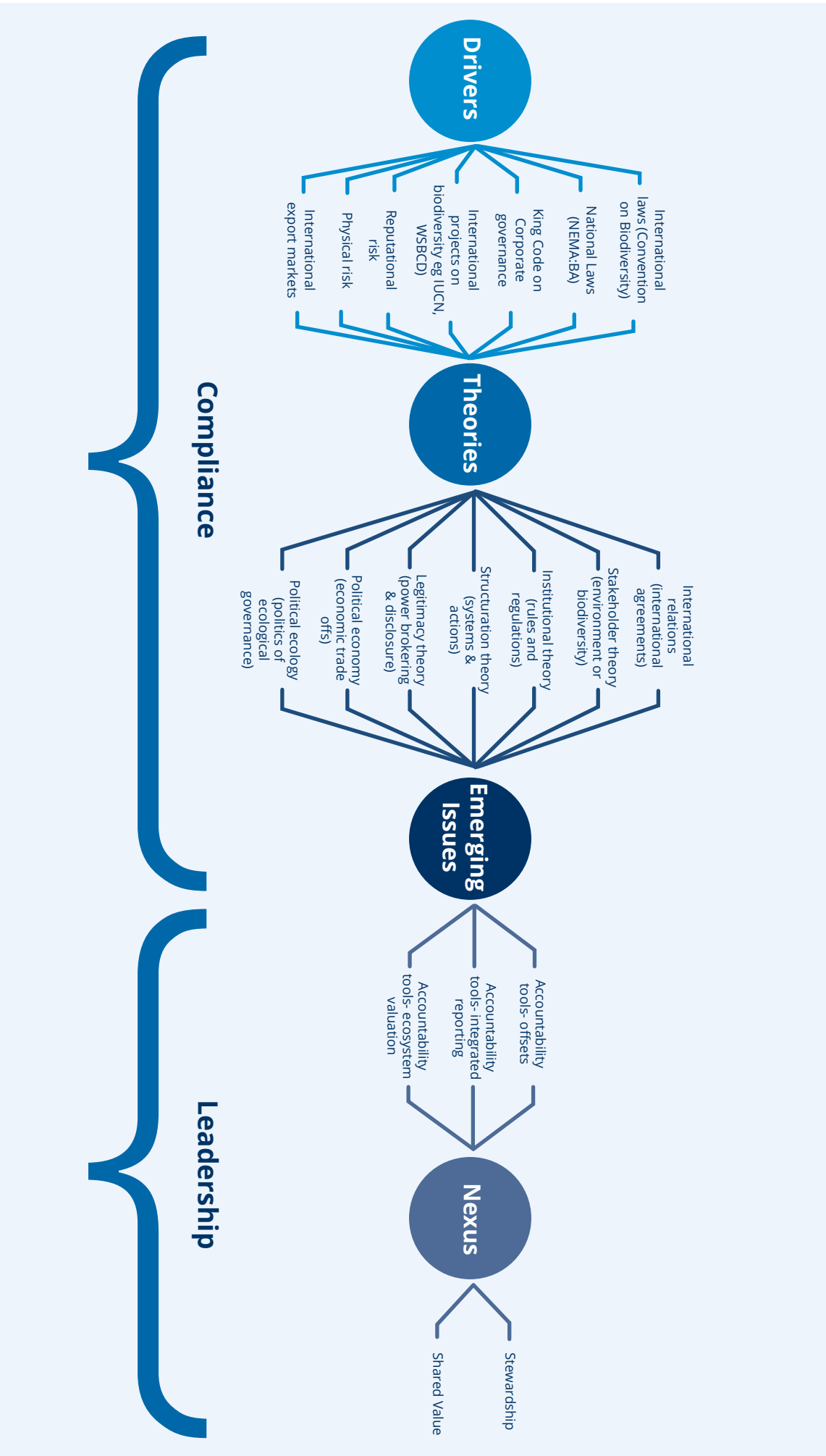
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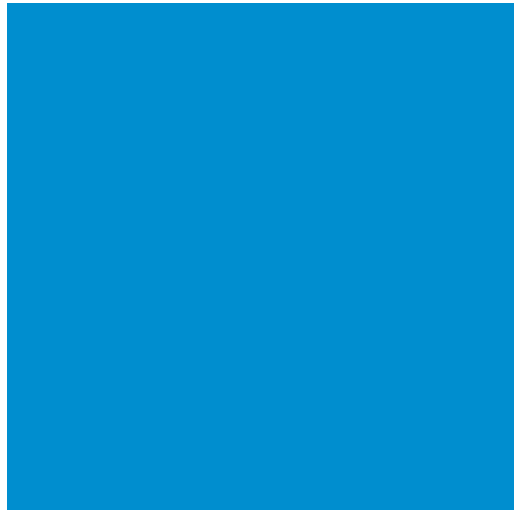
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A schematic diagram of the business and biodiversity landscape



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