Business reporting on biodiversity and enhancement of conservation initiatives

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ABSTRACT
This article assesses 101 randomly selected companies for their biodiversity-related reporting of environmental performance indicators to meet the Global Reporting Initiative (GRI) G3.1 guideline requirement. To evaluate the reporting of environment performance indicators related to biodiversity, a 1–5 rating scale was developed where 5 ranked the highest. The maximum rating of 5 was obtained by 13% of the reporting companies. According to the GRI G3.1 guideline, environmental performance indicator number 12 (EN12) requests the companies to describe the ‘significant impacts of their activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas’. Most of the sampled companies (82%) reported this indicator. Environmental performance indicator number 15 (EN15) requests the companies to disclose the ‘number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk’. This was the least-reported indicator by the surveyed companies (25%). Reporting of environmental performance indicators related to biodiversity, and initiatives based on GRI guidelines have been adopted with varying degrees of success by business organizations, but efforts are still required to understand the returns from the initiatives undertaken and reporting the returns earned.

1. Introduction

Biodiversity is declining at an alarmingly fast rate. The current damage to biodiversity may easily be attributed to the production and utilization of goods and services necessary for human consumption (Bishop et al. 2008). One of the greatest environmental problems is the loss of biodiversity, and biodiversity conservation is, therefore, crucial for sustainable development (Willison & Cote 2009). Biodiversity can be affected directly through overexploitation of natural resources and habitat change and indirectly through climate change, nutrient overloading, and introduction of new species (Mountford & Keppler 1999).

Governments and non-governmental organizations (NGOs) cannot work alone to halt the loss of biodiversity. Policies and regulations that require businesses and consumers to reduce their environmental footprint are important, but not sufficient. There is a need to develop new business models and market mechanisms for biodiversity conservation, while also raising awareness and persuading the public and policy-makers that biodiversity can be conserved on a commercial basis (Bishop et al. 2008). However, to accomplish a significant reduction in the current rate of biodiversity loss, as agreed at the World Summit on Sustainable Development in 2002 by the government leaders, is definitely a monumental challenge (CBD 2012).

A crucial step for securing biodiversity for the future is the launch of the Convention on Biological Diversity (CBD) in 2002. Biodiversity conservation through trading programs such as biodiversity compensation, offsets, banking, and biobanking has proliferated internationally and is promoted by policymakers and developers as a means to achieve both conservation and development (Walker et al. 2009). Among these trading programs, biodiversity offsets are receiving interest from various stakeholders. These biodiversity offsets, also known as compensatory mitigation, have emerged as an important mechanism to achieve no net loss of biodiversity (Gardner et al. 2013).

Biodiversity issues both risks and opportunities to operations (EBI 2003; Barrington 2004; Athanas 2005). Industrial sectors have been classified into three zones according to the biodiversity risk they pose in Table 1. Remarkably, a strong business case exists to integrate biodiversity considerations into core management systems of a business. As with most other sustainability aspects, biodiversity can be addressed at different levels in a company: compliance with global, federal and regional legislation, philanthropy efforts, management of business...
impacts, and creation of business value (PPEUCEC 2007). Unfortunately, not many companies have done so (Kelly & Hodge 1996; Earthwatch (Institute) Europe et al. 2002). Thus, the way companies manage biodiversity is seen as relevant to their bottom line performance, and there can be many doable means of achieving it.

To communicate vividly about economic, environmental, and social impacts through sustainability, a globally shared framework of concepts, consistent language, and metrics is required. Several reporting frameworks are available for companies. Among them, Global Reporting Initiative (GRI) is the most dominant framework used for general corporate reporting (Measurabl 2015). It is a voluntary reporting initiative and can be used by organizations of any size, sector, or location. The Reporting Framework is improved continuously through multi-stakeholder initiatives since its foundation (GRI 2012a).

Sustainability reporting is a new paradigm shift, which is not only about disclosure but also serves as a central element of communication between the companies and their stakeholders (Sawani et al. 2010). GRI enjoys the trust of multiple stakeholders and the global economy (GRI 2012b, 2012c). Stakeholders play a major role in influencing companies to report on the GRI framework. Reporting to GRI offers dual benefits; it increases the reputation and brand value of the firm and of the organizations with whom the company has partnered. It also helps communicate the initiatives of stakeholder partnerships to a wider audience.

The Sustainability Reporting Guidelines consist of Reporting Principles, Guidance, and Standard Disclosures (including Performance Indicators). These elements are considered to be of equal weight and importance. All performance indicators have been developed through GRI’s multi-stakeholder processes and classified as Core and Additional. See Box 1 for the core and additional environmental indicators specifically related to biodiversity conservation that are present in GRI G3.1 Guidelines (Luiz 2009).

Core indicators as identified in the GRI Guidelines are of interest to most stakeholders and assumed significant unless deemed otherwise on the basis of the GRI Reporting Principles. Additional Indicators may also be determined to be significant and represent emerging practices or address topics that may be significant for some organizations but not for others (GRI 2012a).

G4, the fourth generation of the Sustainability Reporting Guidelines were released in May 2013 (GRI 2012c). The biodiversity performance indicators EN 11, EN 12, and EN 13 of G3.1 remained the same in G4 guidelines while the performance indicator EN 14 of G3.1 was moved to the Guidance document. The performance indicator EN 15 of G3.1 was renamed as G4–EN 14 (GRI 2013).

This paper aims to evaluate the performance of business organizations in reporting the biodiversity-related environmental performance indicators as per the GRI reporting framework and the initiatives undertaken by these organizations for the conservation of biodiversity. The methodology has been presented in Section 2, followed by results and discussion in Section 3 and conclusion in Section 4.

### 2. Methodology

In 2009, 1620 business organizations reported on the GRI framework. The list of these 1620 organizations reporting to be GRI can be procured from the GRI website (www.globalreporting.org). Of these, the GRI reports of 101 (6.2%) randomly selected business organizations that reported on the GRI framework in 2009 were studied to understand the reporting of these business organizations on the biodiversity-related environmental performance indicators (see Box 1). The organizations selected for the study represented diverse locations and sectors.

A content analysis was performed on the latest GRI reports available on the websites of the 101 companies when the study was conducted in 2012. The content analysis technique examined whether the companies reported on the indicators of biodiversity as stated in the GRI guidelines G3.1. The biodiversity indicators used for content analysis are highlighted in Box 1.
To indicate that a report is GRI-based, report makers should declare the level to which they have applied the GRI Reporting Framework via the ‘Application Levels’ system. There are three application levels in the system titled C, B, and A to meet the needs of new beginners, advanced reporters, and those somewhere in between. The allocation of an application level is determined on whether an organization has reported on the required set and the number of standard disclosures (Profile Disclosures, Disclosures on Management Approach, Performance Indicators) for that particular application level, as presented in Figure 1. The reporting requirements in each level reflect an increasing application or coverage of the GRI Reporting Framework (GRI 2012a). The application level of the GRI reports was analyzed as shown in Figure 1 and is presented in Table 2.

An organization self-declares a reporting level based on its own assessment of its report content against the criteria in the GRI application levels. Reporting organizations may exercise their option to seek opinions from a third party or request a GRI application level check to confirm their self-declaration. An organization can self-declare a ‘plus’ (+) at each level (C+, B+, A+) if they have utilized external assurance. In addition to the self-declaration, reporting organizations can choose either to have an assurance provider (third-party) offer an opinion on the self-declaration or request that the GRI check the self-declaration (GRI 2012a). The reporting status, as reported by the companies in their GRI reports, has been reviewed in Table 2.

The GRI G3.1 guidelines require the organizations to report an indicator either fully or partially. If the components of disclosure with reference to an indicator are completely addressed, then the reporting is considered as full; however, when it is not completely addressed, the reporting is considered as partial with reference to that indicator (GRI 2015). For example, as reported by Hydro Québec in their 2011 GRI report, EN 12 is reported fully as the company has responded to all the components of disclosure for indicator EN 12 while EN 11 is reported partially as the company would not have disclosed all the components for indicator EN 11. The reports of companies with their biodiversity initiatives were also studied for specific biodiversity-related

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**Box 1. Environmental performance indicator numbers (ENs) related to Biodiversity.**

**Core environmental indicators** relevant to reporting organizations:

**EN 11**: Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.

**EN 12**: Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.

**Additional environmental indicators** of interest to stakeholders:

**EN 13**: Habitats protected or restored

**EN 14**: Strategies, current actions, and future plans for managing impacts on biodiversity

**EN 15**: Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by the level of extinction risk.

(GRI 2012a)

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**Figure 1. Application level criteria.**

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**Table 2.**

| Application Level | Requirements |
|-------------------|--------------|
| C                 | Partial      |
|                  | All          |
| **A**            | Required for each indicator category |

* Performance indicators may be selected from any finalized Sector Supplement, but 7 of the 10 must be from the original GRI Guidelines

** Performance indicators may be selected from any finalized Sector Supplement, but 14 of the 20 must be from the original GRI Guidelines

Note: The Report Application Level can be C+, B+, and A+ if externally assured.
Table 2. Reporting of biodiversity indicators by the companies (biodiversity initiatives for the companies specified in the supplementary material).

| Company and year of reports referred | Biodiversity indicators reported (EN 11–EN 15) | Application level | Reporting status | Rating |
|-------------------------------------|-----------------------------------------------|-------------------|-----------------|--------|
| **Full reporting**                  | **Partial reporting**                         |                   |                 |        |
| ABB Asea Brown Boveri Ltd. (2010)   | EN 11, EN 12, EN 13, EN 14, EN 15             | –                 | **B+**           | **5**  |
| ASML (2011)                         | EN 11, EN 12                                 | –                 | A               | **2**  |
| CitiPower and Powercor (2009)       | EN 11, EN 12, EN 13, EN 14                   | –                 | Undeclared      | **4**  |
| Colitite (2011)                     | EN 11, EN 12, EN 13, EN 14, EN 15            | –                 | **C**           | **5**  |
| Danisco (2011)                      | EN 12, EN 13, EN 14                          | –                 | **A+**           | **3**  |
| Danske Bank Group (2011)            | EN 14                                         | –                 | C               | **2**  |
| Deutsche Post DHL (2011)            | EN 11, EN 12, EN 13, EN 15                   | **EN 14**         | **B+**           | **4**  |
| Duke Energy (2011)                  | EN 11, EN 12, EN 13, EN 14, EN 15            | –                 | **B**           | **5**  |
| Evonik Industries AG (2011)         | EN 11, EN 12                                 | –                 | B               | **2**  |
| GlaxoSmithKline (2011)              | EN 12, EN 14                                 | –                 | Undeclared      | **3**  |
| Heidelberg Cement (2010)            | EN 11, EN 12, EN 13, EN 14                   | –                 | **A**           | **4**  |
| Horizon Holdings (2010)             | EN 11, EN 12, EN 13, EN 14, EN 15            | –                 | **B**           | **5**  |
| HSBC Group (2011)                   | EN 11, EN 12                                 | –                 | Undeclared      | **2**  |
| Hydro Québec (2011)                 | EN 12                                         | EN 11             | **B**           | **2**  |
| International Netherlands Group (ING) (2011) | EN 12, EN 14 | –                 | **A+**           | **3**  |
| Intel Corporation (2011)            | EN 11, EN 12                                 | –                 | B               | **2**  |
| International Personal Finance (IPF) (2011) | EN 11, EN 12 | –                 | A               | **2**  |
| Johnson & Johnson (2010)            | –                                             | EN 13, EN 14      | Undeclared      | **4**  |
| Johnson Control (2010)              | EN 11, EN 12, EN 13, EN 14, EN 15            | –                 | **A**           | **5**  |
| Kawasaki Kisen Kaisha Ltd. (K Line) (2011) | EN 12, EN 13, EN 14 | –                 | Undeclared      | **3**  |
| Kia Motors (2010)                   | EN 11                                         | EN 13, EN 14, EN 15 | **A+**          | **3**  |
| Končar Electrical Industry (2010)   | EN 11, EN 12, EN 14                          | –                 | Undeclared      | **4**  |
| Liberty Group (2009)                | EN 11, EN 12, EN 13, EN 14                   | –                 | **B+**          | **4**  |
| L’Oréal (2011)                      | –                                             | EN 12, EN 14, EN 15 | Undeclared | **1**  |
| Magyar Telekom (2010)               | EN 11, EN 12, EN 14                          | –                 | **A+**          | **4**  |
| Marks & Spencer (2011)              | EN 14                                         | –                 | C               | **2**  |
| Metsa Group (2011)                  | EN 11, EN 12                                 | EN 13, EN 14      | Undeclared      | **4**  |
| Mighty River Power Ltd. (2010)      | EN 11, EN 12, EN 13                          | –                 | **B+**          | **4**  |
| Migros (2010)                       | EN 11, EN 12, EN 13                          | EN 14             | **B**           | **4**  |
| Mitsubishi & Co. Ltd. (2010)        | EN 11, EN 12, EN 13, EN 14, EN 15            | –                 | Undeclared      | **4**  |
| Nexen (2010)                        | EN 14                                         | –                 | **B+**          | **2**  |
| Novartis (2010)                     | EN 11, EN 12, EN 14                          | –                 | **A+**          | **4**  |
| PSA Peugeot Citroën (2011)           | EN 11, EN 12, EN 13, EN 14, EN 15            | –                 | **B+**          | **5**  |
| Qualcomm (2010)                     | EN 11, EN 13                                 | –                 | C               | **3**  |
| Rio Tinto (2011)                    | EN 11, EN 12                                 | –                 | **A+**          | **2**  |
| Rosneft (2010)                      | EN 12, EN 13, EN 14                          | EN 11             | **A+**          | **3**  |
| Saipem (2010)                       | EN 12, EN 14                                 | –                 | Undeclared      | **3**  |
| Samsung Electronics (2011)          | EN 12                                         | –                 | **A+**          | **1**  |
| Statistical Analysis System (SAS) USA (2011) | EN 12  | –                 | **C**          | **2**  |
| Svenska Cellulosa Aktiebolaget (SCA) (2009) | EN 11, EN 12 | –                 | **A+**          | **2**  |
| Sharp (2011)                        | EN 11, EN 12, EN 13, EN 14                   | –                 | Undeclared      | **4**  |
| Smithfield (2011)                   | EN 12, EN 13, EN 14                          | EN 11             | **B**           | **3**  |
| Société de transport de Montréal (STM) (2010) | EN 12  | –                 | **C**           | **2**  |
| Softchoice (2009)                   | EN 13                                         | –                 | **C**           | **2**  |
| S-Oil (2010)                        | EN 11, EN 12, EN 14                          | –                 | **A+**          | **4**  |
| Sojitz (2011)                       | EN 12, EN 14                                 | –                 | Undeclared      | **3**  |
| Solvay s. a. (2011)                 | EN 11, EN 12, EN 13                          | –                 | **A+**          | **2**  |
| Sompo Japan Insurance Inc. (2010)    | EN 13, EN 14                                 | –                 | Undeclared      | **2**  |
| Sonae Sierra (2011)                 | EN 11, EN 12, EN 13, EN 14                   | –                 | **B+**          | **4**  |
| Standard Bank (2011)                 | EN 11, EN 13                                 | EN 15             | **B+**          | **3**  |
| State Street Corporation (2010)      | EN 11, EN 12                                 | –                 | **B+**          | **2**  |
| Sterlite Industries (India) Limited (2011) | EN 11, EN 12, EN 13, EN 14, EN 15 | –                 | Undeclared      | **5**  |

(Continued)
Table 2. (Continued).

| Company and year of reports referred | Biodiversity indicators reported (EN 11–EN 15) | Application level Reporting status | Rating |
|-------------------------------------|-----------------------------------------------|-----------------------------------|--------|
| Sumitomo Rubber Group (2010)        | EN 13                                         | –                                 | Undeclared | 2 |
| Swire Pacific Offshore (2012)        | EN 11, EN 12, EN 13, EN 14, EN 15             | –                                 | C+       | GRI-checked | 5 |
| Swire Properties (2010)              | EN 11, EN 12                                 | –                                 | B+       | GRI-checked | 2 |
| Tetra Pak International (2011)       | EN 14                                         | EN 12                             | C        | Self-declared | 2 |
| TITAN Cement (2009)                 | EN 11, EN 12, EN 13, EN 14, EN 15             | –                                 | A+       | GRI-checked | 5 |
| Tokio Marine Group (2011)           | EN 12, EN 13, EN 14                           | –                                 | Undeclared | 3 |
| Toshiba (2011)                      | EN 11, EN 12, EN 13, EN 14                    | EN 15                             | Undeclared | 4 |
| Toto – Japan (2011)                 | EN 12, EN 14                                 | –                                 | Undeclared | 3 |
| Toyota Europe (2011)                | EN 11, EN 13                                 | –                                 | Undeclared | 3 |
| TransAlta (2009)                    | EN 11, EN 12, EN 13, EN 14                    | –                                 | B+       | GRI-checked | 4 |
| Tullow Oil Plc. (2010)              | EN 14                                         | EN 14                             | C+       | GRI-checked | 2 |
| United Microelectronics Corporation (UMC) (2010) | EN 11, EN 12, EN 13, EN 14, EN 15 | –                                 | A+       | Third-party-checked | 5 |
| United Parcel Service (UPS) (2010)  | –                                             | EN 12, EN 14                      | B        | Self-declared | 1 |
| Vale (2010)                         | EN 11, EN 12, EN 13, EN 14                    | –                                 | B+       | GRI-checked | 5 |
| Wacker Chemie AG (2010)             | EN 11, EN 12                                 | EN 14                             | B        | Self-declared | 4 |
| Waitakere City Council (2010)       | EN 12, EN 14                                 | EN 13, EN 15                      | B        | Self-declared | 3 |
| Wartsila Corporation (2011)         | EN 11                                         | EN 12                             | A+       | Third-party-checked | 2 |
| Watercare Services Ltd (2011)       | EN 11, EN 12, EN 13, EN 14                    | –                                 | Undeclared | 4 |
| West LB (2011)                      | EN 11, EN 12                                 | –                                 | B        | Self-declared | 2 |
| Willard InterContinental (2008)    | EN 13                                         | –                                 | C+       | Third-party-checked | 2 |
| Wipro (2011)                        | EN 11, EN 12, EN 14                           | –                                 | A+       | Third-party-checked | 3 |
| Woolworth (2011)                    | EN 12, EN 13, EN 14, EN 15                    | EN 11                             | A+       | Third-party-checked | 3 |
| Zürcher Kantonalbank (2011)         | EN 11, EN 12                                 | –                                 | C+       | Self-declared | 2 |

environmental performance indicators. The results are included in the supplementary material (Table S1).

Further, a 5-point rating scale was developed based on the reporting of the biodiversity-related environmental performance indicators by the companies, where 5 was rated as the highest score and 1 as the least. The rating criteria have been presented (Table 3) and the reporting companies have been rated accordingly.

3. Results and discussion

Of the 101 business organizations selected for the study, 77 reported on at least one of the biodiversity indicators (see Table 2). This expresses the perception of business organizations that their operations can be at a serious risk if biodiversity issues are not addressed properly. According to Madav (2009), biodiversity is considered important by most businesses because either their products or process require biological materials or a healthy and stable environment is an important part of their operations. According to Earthwatch Institute (Europe) et al. (2002), avoiding biodiversity management may pose risks to businesses, which can threaten a company’s position in the market and indirectly, its profitability.

The 77 biodiversity-conscious organizations represented sectors like automotives, chemicals, energy, financial services, forest and paper products, logistics, mining, technology hardware, and telecommunications, etc. (Figure 2). The Financial Services sector had the maximum number of companies reporting on biodiversity indicators (11), followed by the Energy sector (9). Out of the 77 organizations, 34 were located in the European region, 19 in Asia, 16 in Northern America, 5 in Oceania, 2 in Africa and 1 in Latin America, and the Caribbean (Figure 3).

The biodiversity indicator reported most commonly by the sampled companies was EN 12 (81.8%), followed by EN 14 and EN 11 while the biodiversity indicator reported least was EN 15 (24.7%). The reporting of EN 12 (description of significant impacts on biodiversity) and EN 14 (strategies, current actions, and future plans for managing impacts on biodiversity) by a majority of the industries signifies that the companies are aware of the significant impacts their operations have on biodiversity and are planning strategic actions for managing the impacts. The checklist proposed by Earthwatch Institute (Europe) et al. (2002) can help companies formulate relevant strategies and action plans and thereby increase the reporting of these indicators.

Table 2 highlights the application level of each reporting company. The companies studied had an application level of A, A+, B, B+, C, C+, and undeclared as well. The application level of A was obtained by 5.2% of the companies while an application level of A+ was obtained by 19.5% of the companies. The application level of B and B+ was
received by approximately 30% of the sample. An
application level of C and C+ was obtained by 17%
of the sample while 27% did not disclose their
application level. The biodiversity-related environ-
mental performance indicators were reported
majorly by the companies with an application level
of A+ (19.5%) followed by companies with an
application level of B+ (15.6%). The companies
need to report on more performance indicators to
increase their application level and strengthen the
stakeholders’ belief.

Table 2 provides the status of GRI reports of the
reporting companies based on the assessment of the
report content against the criteria in the GRI applica-
tion levels. The status of the reporting companies was
classified as self-declared, third-party checked and GRI-
checked. 31.2% of the companies had self-declared their
report status, 22.1% companies had verified the report
status through third-party check and 18.2% companies
requested a GRI application level check. 28.6% compa-
nies failed to mention their report status. The compa-
nies need to get their GRI reports verified by third-
party or GRI to win over the stakeholders’ trust.

### Table 3. Rating criteria for companies based on reporting of biodiversity indicators.

| Rating level | Criteria |
|--------------|----------|
| 1            | No full reporting of any biodiversity indicator |
| 2            | Full reporting of at least one biodiversity indicator(s) |
| 3            | Full reporting of either core indicator (EN 11 or EN 12) and at least one additional indicator(s) (EN 13, EN 14, or EN 15) |
| 4            | Full reporting of both the core indicators (EN 11 and EN 12) and at least one additional indicator(s) (EN 13, EN 14, or EN 15) |
| 5            | Full reporting all the biodiversity indicators (EN 11, EN 12, EN 13, EN 14, EN 15) |

### Figure 2. Sector-wise distribution of companies reporting on biodiversity indicators.

### Figure 3. Region-wise distribution of companies reporting on biodiversity indicators.
The companies reporting on biodiversity-related environmental performance indicators were rated according to the criteria designed in Table 3. The criteria were designed based on the reporting of the biodiversity-related environmental performance indicators. The number of business organizations receiving ratings from 1 to 5 has been presented in Figure 4. The maximum number of business organizations received a rating of 2 (they fully report on at least one biodiversity indicator). A number of business organizations (11) received the highest rating of 5 (reporting of all biodiversity indicators). Thus, the companies are actively reporting on the biodiversity-related environmental performance indicators, indicating that they are taking actions towards biodiversity conservation by assessing the impacts of their operations and planning strategies to minimize it.

The companies that did not report on the biodiversity indicators are presented in Table 4. A frequent reason cited for not reporting on the indicators is that the company’s activities are not affecting biodiversity. Nevertheless, making efforts for biodiversity conservation will ultimately help in the uninterrupted provision of products and services in the future and companies can work towards this goal by taking simple actions.

Drivers for companies to address biodiversity as identified by Athanas (2005) were risk management and cost reduction, obtaining and maintaining a license to operate, competitive advantage, and improving shareholder and reputational values. These identified drivers are similar to those mentioned by the companies in their GRI reports. Conducting environmental impact assessment studies, complying with legal requirements, afforestation and reforestation, reclamation of sites, involvement of locals, use of certified products as raw materials, partnerships with organizations, and involvement of employees were some of the common initiatives reported by the companies in their GRI reports. These initiatives are similar to those reported by Kelly and Hodge (1996) and Earthwatch Institute (Europe) et al. (2002). These initiatives form an integral part of multi-stakeholder initiatives like Climate, Community and Biodiversity Alliance (CCBA). Most of the initiatives suggested by Stone et al. (1997) and Cardskadden and Lober (1998) have been undertaken by the companies and are incorporated in this paper (supplementary material (Table S1)). Companies that develop a biodiversity action plan refer to most of the factors proposed by Earthwatch Institute (Europe) et al. (2002).

Importance of public policy, flexible financial models coupled with business development support, multi-stakeholder participation and ownership, and biodiversity business plans and performance were proposed as success factors by Bishop et al. (2008). The companies that implemented these success factors have strengthened and encouraged private investment in biodiversity conservation A survey conducted by Barrington (2004) on 20 global extractive companies on management, policy and reporting on biodiversity found that 65% of the companies that were surveyed did not possess a biodiversity policy, 50% of the companies provided no evidence that advancement on biodiversity has been applied on a company-wide basis, 40% of the companies did not provide any evidence that biodiversity is integrated into the company’s environmental management systems or procedures, 65% had no targets to be reported, and 35% scored zero. The findings of Barrington (2004) contradict the present study where 76.2% of the companies reported on biodiversity. Two organizations, Rio Tinto and Cosmo Oil, are common in the current study as well as in the study conducted by Barrington (2004). In both the studies, Rio Tinto has undertaken biodiversity initiatives and been a race leader. On the other hand, Cosmo Oil fell back by not reporting on any biodiversity indicator in the present study and being in the ‘starting line’ category in the study by Barrington (2004). Few companies represented in Barrington’s sample are also a part of multi-stakeholder initiatives, e.g., CCBA (BP), The Energy and Biodiversity Initiative (EBI) (Chevron Texaco, BP, Shell, Statoil), and Flora & Fauna International (FFI) Global Business Partnership (Anglo American, Rio Tinto), discussed in Table 5. Leading by example, a key role is played by

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**Table 4. Companies that did not report on the Biodiversity Indicators.**

| 2009          | 2011          | 2010          | 2011          | 2009          | 2010          | 2009          |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Cosmo Oil     | Geberit       | Green Cargo   | Lego Group    | Stockmann Group | Metto        | Parkway Properties | Roto Smeets Group | Scotiabank | International Telephone & Telegraph (ITT) | Rezidor        |
| Svensk Export Kredit (SEK) (2011) | Svenskt Stal Aktiebolaget (SSAB) (2011) | Swiss Re (2010) | Teracoma (2010) | Transfield Services (2011) | Unione di Banche Italiane Scpa (UBI) (2010) | Vaasala Oyj (2011) | Vodafone Group (2011) | Water Corporation (2010) | Banco Bilbao Vizcaya Argentaria (BBVA) (2011) | Seventh Generation (2010) |
The results of the present study are in line with the study conducted by McKinsey Quarterly (2010) where it indicated that biodiversity was seen more as an opportunity than a risk by almost 59% of the executives. Around 55% of the interviewees responded that biodiversity should be among the top ten items on the corporate agenda. That the companies are taking action to address biodiversity issues was the reply of 53% of the respondents while 59% sought biodiversity as a business opportunity. Only a quarter of all the respondents had a formal biodiversity policy or strategy and formal targets applied to only 22% of the respondents. As companies are realizing the risks posed to biodiversity due to their activities, they are showing a positive approach and are taking proactive steps for biodiversity conservation. One such proactive step is the formation of international alliances between companies and NGOs. Some of these important organizations have been discussed in Table 5.

The multi-stakeholder initiatives help the business organizations to get associated with biodiversity in a meaningful way. Chiefly, the major oil and mining organizations have formed these initiatives and play a vital role in conserving biodiversity through these partnerships. Certain best practices and activities, e.g., restricting development in protected areas and designing action plans undertaken by multi-stakeholder initiatives, such as EBI and FFI Global Business Partnership can be advantageous for fulfilling the biodiversity reporting requirements under the GRI framework. Vale, UMC, Johnson Controls, Titan Cement, Coillite, Sterlite Industries (India) Limited, Duke Energy, ABB Group, Swire Pacific Offshore, Horizon Holdings, and PSA Peugeot Citroën were the best reporting companies, which had taken several initiatives across global, federal, and regional levels for biodiversity conservation.

4. Conclusion

Biodiversity is affected directly or indirectly by business activities. In the wake of rampant biodiversity loss, a new outlook towards biodiversity conservation is being defined by the positive approaches shown by several business organizations in conserving and improving biodiversity. The CBD has also realized the risk to biodiversity from business activities and, hence, has asked them to contribute in achieving the CBD objectives. The risks posed to biodiversity due to business activities can be minimized by the initiatives for biodiversity conservation undertaken by the business organizations. Apart from undeniable ecological benefits, these initiatives across global, federal, and regional levels will help strengthen stakeholder relations as well as reinstate the faith of the public in the company’s products and services.

For a business to convert their biodiversity conservation into actions, there is no specific formula,
and biodiversity action must be tailored to fit specific needs. Making a business case for biodiversity, identifying a senior-level biodiversity champion, carrying out biodiversity assessment, securing board-level endorsement, and developing and implementing a corporate biodiversity strategy and action plan are all essential for successful biodiversity management by businesses (Earthwatch Institute (Europe) et al. 2002).

Reporting of biodiversity-related environmental performance indicators based on GRI guidelines have been adopted with success by a number of business organizations, but efforts are still required for businesses to understand the returns from taking initiatives towards biodiversity conservation and reporting the returns earned. By reporting the initiatives for biodiversity conservation, new avenues will open for business organizations, and they may receive greater recognition for their efforts. The initiatives undertaken at different levels in the organization for biodiversity conservation should directly or indirectly fulfil the goals set under the CBD.

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