

“Water efficiency practices in South African banks”

AUTHORS

Fortune Ganda
Collins C. Ngwakwe  <http://orcid.org/0000-0002-6954-8897>

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Fortune Ganda (South Africa), Collins C. Ngwakwe (South Africa)

Water efficiency practices in South African banks

Abstract

This paper examined water efficiency practices of South African banks. An Internet survey approach of the respective banks sustainability reports was conducted, and their practices were presented. Results indicate that South African banks show growing commitment towards water-efficiency. The paper recommends that setting up green divisions, auditing water consumption on a regular basis, utilizing common water efficiency benchmarks and improved internal and external research on water will further improve water efficiency and environmental performance of South African banks.

Keywords: water efficiency, South African banks, corporate social responsibility, environmental performance, sustainable development.

JEL Classification: M14, Q56, Q57, Q51.

Introduction

In a world that has become well informed and has understood the destructive long-term consequences of not accounting the impact of economic activity of production in the broadest manner, the major emphasis that a business enterprise conducts its operations in a sustainable way has become the greatest factor to consider; something which some businesses seem to ignore, and thus leading to their own eventual collapse. Within the South African context, the issue on Corporate Social Responsibility (CSR) is a significant and critical subject of high as well as intense concern; therefore, localized banks are also expected to implement CSR practices that foster sustainable economic development of the country. In this way, the banking sector have been identified as a discipline which draws high public interest, hence its business operations as well as plans should be engaged towards their concerns (Miles, 1987). On that account, banks environmental performance must support activities that must not damage the natural environment. For instance, water deficiency has been termed the world's unnoticed crisis (Aldhous, 2003). Thus, scarcity of water has been a major problem across the nation of South Africa. McKinsey and Company (2009) outlines that freshwater scarcity has become a worldwide challenge and this problem will continue to grow such that by 2030 yearly freshwater demand and its supply gap will be quite large. In this regard, water-shortage challenges are a result of population increase, rapid growth of towns and cities, along with high consumption in residential, commercial and industrial areas (UNEP, 2008) and it also endangers the lives of one in three persons on each continent of the world (WHO, 2010). Hence, this problem has also grown because institutions have failed to support sustainable water efficiency related projects in the community together with using water in a sustainably efficient man-

ner. Noticeably, some businesses have not integrated water-efficient mechanisms that ensure the corporate has water-reduced costs as well as guaranteeing optimal usage of this resource. As such, water supervision and monitoring largely rely on joint approaches that include government as well as the business sector (WHO, 2010). Traditionally, the issues on water efficiency were usually left to local government and municipal authorities; hence it was identified as a public matter. But, owing to growth of sustainable development issues, corporations must realize that they now have an important obligation towards instituting measures that preserve water (WBSCD, 2005).

Therefore, the key questions underlying this research are: What is water efficiency as a form of bank social responsibility? What are the water-efficiency practices of South African banks? Therefore the objectives of the paper are to examine water efficiency as a form of bank social responsibility, and to examine the extent of water efficiency practices of South African banks.

The paper is organized as follows. The next section discusses CSR and sustainable practice, followed by CSR and sustainable water efficiency; an analysis on CSR in South Africa is followed by CSR commitment of businesses; and the theoretical framework of the study is done followed by presentations on methodology, South African banks water-efficiency practices, the discussion and, finally, the conclusion.

1. Corporate social responsibility (CSR) and sustainable practice

The issue of sustainable development as well as its organizational derivative identified as CSR, have gained worldwide recognition. Thus sustainable development has been defined as advancement "that meets the needs of current generations without compromising the ability of future generations to meet their needs and aspirations" (WCED, 1987, p. 43).

Likewise, CSR is a practice in which organizations incorporate social and environmental matters within their enterprise activities as well as when relating with their stakeholders based on wilful grounds (European Commission, 2002). From a leadership perspective, it has been named the triple bottom line yardstick (Elkington, 1994) that reduces trade-offs, along with optimizing joint action of economic, social as well as environmental issues of the company. As observed in the German banking sector, good ethical conduct in corporate responsibility activities results in high economic achievements, along with social growth, that increase financial rewards to the bank and its stakeholders (Relano & Paulet, 2012). Thus organizations, besides exercising responsibility towards acceptable financial performances on the firm's capital investments; they must also be accountable with regard to stakeholder matters.

Therefore, an increasing number of enterprises have shown improved commitment with regard to incorporating CSR in their company policy (Horst et al., 2008). With specific reference to the banking sector, they have now adopted extended projects that seek to address sustainable development issues (Jeucksen, 2001) and they consider themselves as the most highly principled as far as social responsibility is concerned (Saeed, 2004). Essentially, enterprises that engage in CSR exercises create a good image for their organization (Barnea & Rubin, 2010). And also, large organizational investors have shown more interest in companies that report particular corporate responsibility practices (Derwall et al., 2005) so, are considered of utmost significance on the capital market (Jo & Harjoto, 2007). Evidently, a favorable relationship exists between committing financial resources in CSR practices, together with financial returns (Margolis & Walsh, 2003). Fundamentally for banks, in efforts towards adding significantly to activities that create a green society, worldwide banking enterprises became affiliated with the 'Statement by Banks on the Environment and Sustainable Development' (UNEP, 1992). Hence, though financial entities are not directly involved in the production of environmentally dangerous commodities, they are still accountable for the destruction posed on the environment (Hill & Schneeweis, 1983). As noted in the US, they play a significant role in operations of an environmentally destructive enterprise (Weber et al., 2008). Thus, a bad reputation for the bank through reported negative issues, threatens its very existence (Hunter & Basal, 2007).

2. CSR and sustainable water efficiency

If endeavors of sustainability are to be realized, businesses must be transformed, changed and organized to reduce the adverse ecological effects. There-

fore, water efficiency refers to the adoption of technologies, together with exercises which supply better service provision through utilizing little water. It pertains to rebuilding our life-sustenance frameworks by minimizing water use, so that earth's life can be further enhanced forever (Mackenzie, 2003). On that account, the private sector can contribute towards water efficiency in ways that include integrating structures that minimize loss of the resource; establishing facilities that support water safety; establishing standardized water-cost frameworks; and recycling of water, along with incorporating better management teams (Aquafed, 2009). Moreover, water efficiency can be improved through promoting cooperative interaction of water structures with energy-efficient systems; since water instruments are much expensive; introducing smart water-metering structures, since they are cost effective; as well as increasing investment linked with restoring and renovating water systems (EIB, 2010). Consequently, advantages associated with water-efficiency practices are, namely: minimized water challenges; lessened expense in erecting systems that manage waste water; reduced environmental impact as a result of minimized groundwater extraction; as well as high water-quality benchmarks realized (NCDENR, 2009).

3. CSR in South Africa: environmental aspects

In South African companies, CSR initiatives are crucial in the social fabrication since they supply relevant information on corporate ethical accountability to its associated partner concerns on environmental, social and governance matters. Du Plooy (2006) writes that South Africa's sustainability performance has gradually improved, and this matter is also fostered by a unique constitution which identifies sustainable development as an essential component of human rights. Visser (2005) also writes that most South African firms are now including sustainability information in their yearly financial reports which have made such contexts readily available to all stakeholders. Thus, Van Den Berg et al. (2013) posit that analysis carried out on 75 South African organizations which were selected from 11 industries recognizes that environmental innovation achieve superior green performance, in addition to distinct firm competitiveness. And also, Adbo and Fisher (2007) evaluates that sustainability practices by Johannesburg Stock Exchange (JSE) companies in South Africa creates a strong association with share price incomes. Indeed, with reference to the current millennium, South African firm's participation in sustainability aspects is necessary, plus it is anticipated to encourage high firm achievements (Skinner and Mersham, 2008).

Freemantle and Rocky (2004) illustrates that South African companies that incorporate sound environmental strategies in the firm's policy retain highly qualified workers and attains a favorable green image with their communities which stay even in the long term. Moreover, Eccles et al. (2008) elaborates that when South African companies include sustainability activities then possible socio-economic plus environmental crisis are avoided. De Villiers (1996) also studied users of South African company yearly reports and illustrated that these users of financial reports could not perceive financial impacts associated with environmental practices of the firm, but most confirmed that adoption of environmental issues influence how they view the company.

Sustainability activity in South Africa's business environment has also continued to improve owing to guidelines and principles enforced through the Financial Sector Charter, along with the JSE SRI Index (Du Preez, 2005; Leeman, 2005). With respect to FTSE/JSE SRI Index (2007), South African organizations are analyzed in relation to environmental, social and governance aspects, besides their abidance to fairness, responsibility and credibility benchmarks. Skinner and Mersham (2008) also expresses that the Socially Responsible Investment (SRI) Index was introduced in 2004 by the JSE so as to demand adherence of South African companies concerning sustainability matters as well as initiate roles that support sustainability investments. Hence, South African diversified communities have heighten their environmental interests which can force firm to undertake complete green strategy and practices (Environmental Monitoring Group, 1993).

IOD (2002) also elaborates that the King Report asserts that South African firms should report comprehensive yearly results in relation to environmental, social and governance matters so that interested internal and external partners can readily benefit. The principal objective of the King Report involves promoting better standards with respect to sustainability issues for South African companies through encouraging holistic approaches of governance that meets stakeholder demands (Barrier, 2003). Hamann and Accutt (2003) informs that sustainability practices by South African companies are meant to associate the market frameworks to sustainability agendas and criteria. In this respect, SAPA (2009) also comments that South African firms which have not embraced environmental matters will eventually face negative media scrutiny from internal and external partners of the company at the domestic and global level.

Triologue (2007) demonstrates that research done on 20 experts selected from South Africa's leading organizations in various sectors of the economy show that sustainability activities are stimulated by

the need to earn green reputation as well as compliance to green legislations. Informatively, Engel (2008) maintains that South Africa has instituted numerous green laws and regulations which require all the sectors of the economy to include environmental activities so as to realize low-carbon economies. For instance, financial institutions in South Africa have integrated sustainability practices by making use of Equator principles (a set of environmental and social benchmarks that promotes investments in projects that have expenses which are less than US\$50 million) (UNEP, 2007). Hence, Viviers (2007) documents that South Africa is highly likely to become a suitable example and a good point of reference for emerging and growing countries if sustainability activities have been appropriately included.

In spite of all this IRC (2011) informs that sustainability matters pertaining to environmental, social and governance aspects are now mandatory for South African companies, but their comprehensive integration in control activities, strategy and ethical foundations still require improvements. For example, Viviers et al. (2008) point out that sustainability practices in South Africa have been undertaken on a smaller capacity since these activities have been perceived as potential financial loss generating strategies. In line with this argument, Alexander Forbes Consultants (2006) surveyed South African companies and discovered that sustainability matters are only composed of 0.7% of the total investment capacity of the emerging country. Furthermore, Eccles et al. (2009) show that environmental as well as climate change aspects received the lowest preference out of the set of ten specific issues that influence performance of investments when a study was carried out on South African investment firms. As such, long-run uncertainties linked with environmental aspects hinders their comprehensive acceptance.

In a related study, Bassen and Kovacs (2008) states that sustainability issues, that is environmental, social and governance matters are principal criterions which influence sustainable investments but their adoption is connected with problems of being qualitative but lacking quantitative features. So, Godschalk (2011) evaluated South African companies and concludes that environmental aspects that the firm report on in yearly statements do not adequately cover interests of stakeholders (that is, investors and shareholders). In addition, Maia et al. (2011) brief that South Africa's quality of environmental information, is considerably different, plus it is determined by employing diversified methods with noticeable critical information still outstanding. On the other hand, Diale (2012) explains that the issue on sustainability has generated mixed responses in South Africa though its primary objective have been

involved with raising the citizens standard of life, preserving the natural eco-system and developing new business advancement prospects. Consequently, Trialogue (2009) suggested specific sustainability objectives which South African firms can incorporate in-order to promote sustainable natural ecosystems. These practices include: creating business practices that are environmentally compatible, developing sustainable community environments, promoting green purchasing standards and encouraging business suppliers to embrace efficient green strategies.

4. CSR commitments of businesses and CSR evaluation

Corporate social responsibility (CSR) engagement of organizations defines the degree to which the business enterprise is prepared to be fully accountable to the stakeholders with regard to environmental, governance and social matters. So, CSR commitment can be influenced by a number of factors. For instance, the type of CSR practice varies depending on the voluntary action and moral responsibility of the company plus many existing meanings on CSR show diverse forms of stakeholders who would have been considered (Maon et al., 2010). Hence, stakeholder perceptions reduce the organization's irresponsible conduct through determining appropriate courses of action the top management of the enterprise should embark on, with regard to CSR implementation and supervision (Armstrong, 1997). Such an orientation results in some enterprises showing diverse CSR behavior indicated by strong performances in certain CSR aspects but weak performances in other fields. For example, international primary industries in Papua New Guinea were observed to be adopting worldwide CSR based performance yardsticks that have resulted in weak developmental projects, increased disintegration of activities as well as high socio-economic insecurity. Thus, improved involvement of the local society by specifically addressing their particular concerns could better the CSR policies (Gilberthorpe & Banks, 2012). It is also important to understand that weak CSR commitment in specific areas can further be enhanced by investor influence which prefers certain CSR practices more than others.

Clearly, though CSR activity has grown over the years, companies are also expected to exercise particular CSR matters that will also act as investment screens on whether these companies meet acceptable investment criteria basing on CSR components that have been accounted (Horst et al., 2008). For instance, in good light, organizations that show a high environmental accountability grade have the high probability of obtaining loans from banks than firms with low environmental disclosure scores, besides the company's corporate governance along

with loan attribute considerations (Nandy & Lodh, 2012). In addition, CSR ratings may also be subject to credibility of agents, that is, individuals or institutions with expertise knowledge on CSR matters amidst the company and its stakeholders. So, these information intermediaries play an important role towards propelling CSR achievements of the organization (Graafland et al., 2008). As such, CSR practices are generally complex; hence most rating indexes on this aspect do not conform to neutral benchmarks but have relied on subjective decision-making procedures (Margula et al., 2008). Therefore, a structure that enables organizations to be evaluated on their regular CSR aspects and particular schemes they are involved in, enhances an extended coverage of CSR practices as well as promoting apt decision making of CSR issues (Epstein & Roy, 2001). More fundamentally, some companies have also embarked on CSR practices for their own personal gain and, in some cases, to improve relationships with their stakeholders since they are also large. For instance, CSR exercise of international oil firms in Angola states that the practice is being done in order to win licenses and contracts which is capable of creating challenges associated with democratic accountability as well as a state of order that conforms to the law (Wiig & Kolstad, 2010). Moreover, the analysis concluded in Russia illustrates enterprises in this nation undertaking CSR projects so as to create a favorable social reputation, enhance their international recognition status, along with establishing positive relationships with the ruling government (Kuznetsov et al., 2009).

5. Theoretical framework: stakeholder theory

Freeman (1984) writes that the stakeholder theory promotes the view that companies have taken account of all their anticipated partner requirements, that is entities who affects or are affected by accomplishments of the company's goals. As such, primary stakeholders are particular groups or individuals who directly have formal and official relationships with the organization. Secondary stakeholders are not directly associated with the organization but they can influence the organization's everyday business activities (Thomlison, 1992). Consequently, Clarke and Clegg (1998) examine firm stakeholders as workers, consumers, stockholders and suppliers. Henriques and Sadosky (1999) confirms that media, legislations, society and firms are the company's stakeholders. Then, Mitchell et al. (1997) identify stakeholders in relation to specific stakes they have in that particular organization. So, by establishing green policies, firms are expected to include all their inside and outside partner interests since it serves to reduce any possible conflict (Polonsky, 1995).

Authors, McCarthy and Perrault (1993) also believe that integrating stakeholder methods require the company policy to adopt and address customer interests, in addition to supporting processes which initiates distribution of commodities from the manufacturing procedure to the final consumer. Hence, with reference to the firm's perspective, stakeholders are management frameworks that enable or restrain the company's behavior (North, 1990). As such, stakeholders influence the organization's course of action (Di Maggio and Povell, 1993) up to levels that the firm's courses of action are based on its linkage with the environment (Levy and Rottenberg, 2002). On that account, Peattie and Ring (1993) conducted a survey on 50 UK organizations and 78% of the senior staff of these firms confirmed that green matters are vital firm activities and 82% highlighted that they also sustain the company's long-run value.

KPMG (2008) explains that the company's internal and external partner forces have evolved to capacities where they can now determine the firm's extent of environmental and social engagement practice. Further, stakeholder pressures have potential to motivate companies to incorporate sustainability activity regulation requirements and that is a clear objective that defines a firm's environmental obligations (GRI, 2006). Indeed, Steurer (2005) explains that today companies cannot undertake their business procedures in isolation, but they are founded upon diversified associations with many stakeholders who come from the whole society. Interestingly, Buysee and Verbeke (2003) notes that senior management of the firm have the ability to determine environmental matters irrespective of stakeholder demands since their commitment is explain firm's behavior. But, ISEA (1999) demonstrates that stakeholder engagement involves a procedure which considers stakeholder demands in connection with their linkage the company through efficient processes that seek to take account of them. Moreover, Gao and Zhang (2006) communicates that organizational sustainability activities by increased involvement of internal and external partners helps to build trust, encourage better engagement and establishes good relationships between the organization and its stakeholders. In the same vein, Roberts (1992) consider the perception that the firm have been accountable to all special groups or persons as it creates the direction and strategy that the firm assumes.

Previous studies also demonstrate that the degree of a company's capability to address stakeholder interest have an association with expected environmental strategy or policy that the company expects to undertake (Berry and Rondinelli, 1998). Hence, companies adopt green policies as a result of internal and external partner forces (Gray et al., 1995). In line with this view, studies revealed that there is no

enough subject matter which explains why firms integrate environmental management policies (Klassen, 2001) but existing literature points out that stakeholder needs are crucial motivators which explain firm environmental activity commitment (Hoffman and Ventresca, 2002). Likewise, Hoffman (1997) illustrates that companies that belong in the same trade have a tendency to incorporate green activities that are similar when they respond to their stakeholder requirements. Contrary, some studies have pointed out significant variations with respect to environmental activities by firms in the same industry (Sharma and Vredenburg, 1998). In addition other studies highlight that top management of the company engagement with environmental matters is subject to how they are viewed by crucial stakeholders, that is "visibility" (Bowen, 2000). As such, visibility also influence the degree to which the company environmental policy is capable of extending as well as reach (Bowen, 2002). Consequently, large companies have been found to be more visible to all known internal and external business partners of the organization (Sharma, 2000). In consideration of these views, this study follows the stakeholder theory through setting out to understand whether South African banks disclose their water-efficiency practices, as well as identify the type of activities they are engaged in and report on. The paper also highlights South African banks' water-efficiency disclosure figures from 2004 to 2012 and explains the revealed trend. The following section examines the methodology.

6. Methodology

This study uses a sample of eight South African banks. For commercial confidence, these banks identified with pseudo names as banks A-H. These samples of eight banks were selected since they are the banks that are listed on the Johannesburg Stock Exchange (JSE). The banks meet essential sustainability conforming standards and have qualified to be added to the JSE Socially Responsible Investment (SRI) Index (JSE, 2013). For this reason, they are the only banking institutions that have been reporting on corporate responsibility issues in their company's annual reports and websites. Thus, an Internet study was conducted to collect data on the banks water efficiency practices and water efficiency consumption statistics using the respective banks online sustainability reports.

7. Banks water efficiency practices

This section presents the water efficiency practices of South African banks. Table 1 and Table 2 present a summary of common water efficiency practices and water efficiency consumption statistics with regard to the above-mentioned banks, in the methodology section.

Table 1. Summary of common water efficiency practices in SA banks

- ◆ Water consumption at its rented premises are metered, checked, as well as managed.
- ◆ Water accounts are examined and variations corrected on a regular basis.
- ◆ Water usage of air-conditioning components in different buildings is checked to locate water losses by water-metering mechanized structures.
- ◆ When designing new buildings, the bank has adopted the Green Star SA, a building valuating process that examines the environmental impact of infra-structural buildings. Thus, the Green Star evaluates environmental indicators in light of energy and water usage, materials as well as monitoring areas where waste is discharged.
- ◆ Banks have started broadened water initiatives that are primary involved with solving problems associated with water quality, its scarcity as well as water access. For instance, providing funds for sustainable water infrastructural expansion programmes in the country.
- ◆ Banks undertakes considerable employee alertness and consciousness operations on issues pertaining to water efficiency.
- ◆ Signs have been installed in the toilets to alert staff to the need to conserve water.
- ◆ Have adopted reverse osmosis filtering technology for pause area drinking water to reduce water usage as well as assisting in purifying tap water.
- ◆ For irrigation purposes, water from the air conditioning cooling system shall be stored.
- ◆ Staff ablutions are installed with water-saving shower heads.
- ◆ The banks Social and Environmental Management System (SEMS) involve superior questions aimed on identifying water protection risks and how they can considerably managed.
- ◆ Stored water from the banks air conditioning system is later re-utilized to flush rest rooms.
- ◆ Air-cooled air-conditioning mechanisms are increasingly replacing water-efficient air-conditioning systems in its banks so as to minimize water usage.
- ◆ They have installed sensor taps to reduce the amount of water required.
- ◆ Rain-water storage containers have been put on roofs of buildings to collect water that can be used for lavatory purposes.
- ◆ Work hand in hand with WWF-South Africa an environmental conservation organization through establishing targets for water reduction in the present and the future.
- ◆ Landscaping the ground with indigenous tress so as to minimize water usage for watering the gardens.
- ◆ Established measures for sub-soil water harvesting have been carried out to cater for water retention which can be used for agricultural activities.
- ◆ Have integrated water-purification systems that utilize water from surrounding streams so as to supply water to bank premises.
- ◆ Banks have instituted boreholes that supply water for gardening and irrigation purposes.
- ◆ Native gardening techniques and attenuation pools have been incorporated as they monitor and supervise area rainwater.
- ◆ Transforming basin taps into aerator taps and has great potential to save up to 80% in water use.
- ◆ Waterless urinals plus dual flush lavatory systems have been installed to realize water efficiency.
- ◆ Employees now make use of glass jars that can be supplied with water at particular filtered water locations, instead of using bottled water so as to save water.
- ◆ Participates in Water Carbon Disclosure Programmes (CDP) that advocates for sustainable water consumption in organizations as well as the United Nations Water week, respectively.
- ◆ Put up measures that account for water-consumption figures on an annual basis.

Table 2 below presents South African banks water efficiency figures from 2004 to 2012. The statistics were selected from 2004 since the JSE (SRI) Index was launched in May 2004 (JSE, 2013).

Table 2. Water efficiency consumption statistics of South African banks from 2004 to 2012 (in kilolitres)

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bank A	127284	128092	155513	182934	90859	171287	203246	132611	91677
Bank B	**	**	**	**	156000	**	**	**	**
Bank C	**	220000	250000	100000	125000	195555	199315	180824	191529
Bank D	**	**	550166000	690177000	38986000	2016327000	2428711000	2577700000	56500000
Bank E	**	**	**	**	**	336986	340889	295807	319055
Bank F	**	**	**	**	1093208	**	**	**	**
Bank G	341575	346484	386139	445450	373935	329160.75	263876	266316	292325
Bank H	**	14010	26425	36046	41313	62339	63300	64000	641011

Source: The above statistic values were derived from the respective banks annual and sustainability reports.

Notes: ** Bank did not report on the statistic.

8. Discussion

South African banks show satisfactory level of commitment towards water-efficiency practices though there are particular aspects these banks need to fully embrace so that green development activities that are instrumental for sustainable development can further be enhanced. An analysis on the water-efficiency figures indicates that some banks were not accounting for their water consumption in some years which affects comparison within the bank and at industry level, hence undermining progression

towards developing water efficient goals. From Table 2, it is clear that water consumption disclosure has gradually improved for most banks in recent years though there is room for better reporting and accountability. Thus, there is a need to integrate green-management departments that are fully equipped with environmental specialists so that better management of environmental issues can be promoted. Moreover, establishing water-efficiency standards, which enable the banks to examine their water efficiency patterns and statistics, assists to

identify areas they are underperforming. In that way, they will be enlightened on the techniques and procedures that optimally achieve water efficiency and then implement such ideas.

Furthermore, joint partnerships among the banks, by establishing common water efficiency benchmarks, are important since they stimulate banks to account their water efficiency impact on a regular basis and compare their findings with other institutions. There is also a greater need to integrate water-efficiency systems that are in line with present day research on climate change and sustainable development through conducting internal research as well as supporting multi-disciplinary studies on water efficiency issues. On that account, banks will be empowered to acquire up-to-date technologies as well as apply methods that effectively address water-efficiency challenges. Lastly, it is crucial for South African banks to undertake green leading roles on matters such as water efficiency. Such a practice can motivate other companies and industries in the business sector to also exercise such roles.

References

1. Aldhous, P. (2003). The World's Forgotten Crisis, *Nature Publishing Group*, 422 (20), p. 251.
2. Abdo, A. & Fisher, G. (2007). The impact of reported corporate governance disclosure on the financial performance of companies listed on the JSE, *Investment Analysts Journal*, 66, pp. 43-56.
3. ABSA Group Ltd. (2008). *Sustainability Report 2008*. Retrieved September 18, 2012, from: <http://www.absa.co.za/deployedfiles/Abisa.co.za/PDFs/About%20Absa/Annual%20Reports/Group%20Reports/2008/Abisa%20Group%20sustainability%20review%202008.pdf>.
4. African Bank (2012). *Accountability-Sustainable Development*, African Bank, South Africa.
5. African Bank Investments Ltd. (2006). *Sustainability Report 2006*. Retrieved September 06, 2012, from: http://africanbank.investoreports.com/downloads/sustainabilityreports/ABIL_sustainability_2006.pdf.
6. African Bank Investments Ltd. (2009). *Sustainability Report 2009*. Retrieved September 06, 2012, from: http://africanbank.investoreports.com/downloads/sustainabilityreports/sustainability_2009.pdf.
7. African Bank Investments Ltd. (2010). *Sustainability Report 2010*. Retrieved September 06, 2012, from: http://africanbank.investoreports.com/downloads/sustainabilityreports/Sustainability_2010.pdf.
8. African Bank Investments Ltd. (2012). *Sustainability Report 2012*. Retrieved February 18, 2013, from: http://africanbank.investoreports.com/africanbank_ar_2012/downloads/ABIL-sustainable-development-2012.pdf.
9. Alexander Forbes Consultants (2006). Alexander Forbes Asset Consultants Targeted Development Investment Vehicles Manager Watch Survey, September 2006. Available at: http://www.aforbes.co.za/AfricaFinancial/financial_assetcons.htm (accessed February 2014).
10. Armstrong, S.J. (1977). Social Irresponsibility in Management, *Journal of Business Research*, 5, pp. 185-213.
11. Aquafed (2009). *Private operators contribute to water efficiency. Mediterranean focus, 6th FEMIP Conference Monaco, 11 May 2009, Sustainable Water Financing and Climate Change in the Mediterranean*, Monaco.
12. Barnea, A. & Rubin, A. (2010). Corporate Social Responsibility as a Conflict between Shareholders, *Journal of Business Ethics*, 97, pp. 71-86.
13. Barrier M. (2003). Mervyn King: Principles, Not Rules, *The Internal Auditor*, 60, pp. 68-72.
14. Bassen, A. & Kovacs, A. (2008). Environmental, social and governance key performance indicators from a capital market perspective, *The Journal for Business, Economics and Ethics*, 9 (2), pp. 182-192.
15. Berry, M. & Rondinelli, D. (1998). Proactive corporate environmental management: a new industrial revolution, *Academy of Management Executive*, 2 (12), pp. 1-13.
16. Bidvest Ltd. (2008). *Sustainability Report 2008*. Retrieved September 16, 2012, from: http://financialresults.co.za/bidvest_ar2008/revw_ops_BidServ.htm.
17. Bidvest Ltd. (2010). *Group Annual Report 2010*. Retrieved September 07, 2012, from: http://bidvest.com/financials/ar/bidvest_ar2010/012.php.
18. Bidvest Ltd. (2011). *Carbon Footprint Report 2011*. Retrieved September 07, 2012, from: http://bidvest.com/ar/bidvest_ar2011/downloads/15-governance-for-a-sustainable-business.pdf.
19. Bidvest Ltd. (2013). *Annual Integrated Report-2013*. Bidvest Group.

Conclusion

Water efficiency as an environmental aspect of CSR seeks to improve the unnecessary waste of water as well as support the use of technologies that utilize little water. For this reason, banks must implement appropriate water-efficiency practices that result in the attainment of sustainable development goals as they command an influential part in the business sector by way of handling funds. This paper was based on water-efficiency practices in the South African banks. A sample of eight banks was examined using sustainability reports available on the Internet. Though satisfactory commitment has been shown by the banks, areas of improvement include, namely: setting up green management divisions; auditing water consumption on regular intervals; promoting joint partnerships with other banks by using similar water efficiency standards; supporting internal and multi-disciplinary research on water-efficiency issues; as well as undertaking principal duties by leading as distinguished leaders on green-development matters such as water efficiency.

20. Bowen, F. (2000). Environmental visibility: a trigger of green, organizational response? *Business Strategy and the Environment*, 9 (2), pp. 92-107.
21. Bowen, F. (2002). Does size matter? Organizational slack and visibility as alternative explanations for environmental responsiveness, *Business & Society*, 41 (1), pp. 118-124.
22. Buysse, K. & Verbeke, A. (2003). Proactive environmental strategies: a stakeholder management perspective, *Strategic Management Journal*, 24 (5), pp. 453-470.
23. Clarke, T. & Clegg, S. (1998). *Changing Paradigms: The Transformation of Management Knowledge for the 21st Century*, Harper Collins Business, London.
24. Derwall, J., Bauer, R. & Guenster, N. (2005). *The Economic Value of Corporate Eco-Efficiency*, *European Financial Management*. Retrieved February 28, 2013, from: <http://ussif.org/pdf/research/Moskowitz/2005%20Winning%20paper%20-%20Moskowitz.pdf>.
25. DeVilliers C.J. (1996). *The awareness level of different stakeholder groups and their willingness to support corporate environmental reporting in South Africa*, Thesis, Faculty of Economic and Management Sciences, University of Pretoria.
26. Diale, A.J. (2012). The Importance of State-business Relations in Advancing Developmental Goals in South Africa – The case for Corporate Social Responsibility, *Journal of Public Administration*, 47 (3), pp. 684-694.
27. DiMaggio, P. & Powell, W. (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields, *American Socio-logical Review*, 48, pp. 147-160.
28. Du Plooy, P. (2006). South African Companies in the 21st Century, WWF's Trade and Investment Programme, Cape Town: WWF South Africa.
29. Du Preez L. (2005). Investing beyond the bottom line, *Personal Finance*, 1st Quarter, pp. 32-45.
30. Eccles, N.S., Hamann, R. & De Jongh, D. (2008). Corporate accountability in South Africa: an evaluation of sectoral differences. In Utting, P. & Clapp, J. (eds.). *Corporate Accountability and Sustainable Development*. New Delhi: Oxford University Press India.
31. Eccles, N.S., Pillay, V. & De Jongh, D. (2009). Correlates of Corporate Accountability amongst South Africa's Largest Listed Companies, *South African Business Review*, 13 (1), pp. 21-38.
32. Elkington, J. (1994). Towards the Sustainable Corporation: Win-win-win business strategies for sustainable development. *California Management Review*, 36 (2), pp. 90-100.
33. Engel, D. (2008). Three stages to a greener company, Retrieved February 28, 2013, from <http://www.harmoniousliving.co.za>.
34. Environmental Monitoring Group (1993). *Clean Production: A Preliminary Assessment of the Need and Potential for the Introduction of Clean Technology in some Industrial Sectors in South Africa*, Cape Town.
35. Epstein, M.J. & Roy, M.J. (2001). Sustainability in Action: Identifying and measuring the key performance drivers, *Long Range Planning*, 34 (5), pp. 585-604.
36. Esser, I.M. (2011). Corporate Social Responsibility: A Company Law Perspective, *SA Mercantile Law Journal*, 23, pp. 317-335.
37. European Commission (2002). *Communication from the Commission Concerning Corporate Social Responsibility: A business contribution to sustainable development*. Retrieved February 28, 2013, from http://europa.eu.int/comm/employment_social/soc-dial/csr/csr2002_en.pdf.
38. European Investment Bank (2010). *A public financier's perspective on the efficiency of water systems Water Scarcity and Droughts Policy Review*, 27th April 2010.
39. First Rand (2006). *Sustainability Report 2006*. Retrieved September 02, 2012, from: <http://www.firststrandsustain.co.za/files/5813/1885/5062/SustainabilitySummary2006.pdf>.
40. FNB (2008). *Report to Society 2008*. Retrieved September 08, 2012, from: http://www.firststrandsustain.co.za/files/2813/3069/0642/FNB_Sustainability2008.pdf.
41. Freeman, R.E. (1984). *Strategic Management: A Stakeholder Approach*, Prentice-Hall, Englewood Cliffs, NJ.
42. Freemantle, A. & Rockey, N. (2004). *The good corporate citizen, pursuing sustainable business in South Africa*. Cape Town: Trialogue.
43. FTSE/JSE Socially Responsible Investment (SRI) Index (2007). Retrieved February 28, 2013, from: <http://www.jse.co.za/sri/>.
44. Gao, S.S. & Zhang, J.J. (2006). Stakeholder engagement, social auditing and corporate sustainability, *Business Process Management Journal*, 12 (6), pp. 722-740.
45. Gilberthorpe, E. & Banks, G. (2012). Development on whose terms? CSR discourse and social realities in Papua New Guinea's extractive industries sector, *Resources Policy*, 37 (2), pp. 185-193.
46. Godschalk, S.K.B. (2011). *An assessment of the relationship between environmental reporting and financial reporting by South African listed companies in the mining sector*, Masters Thesis, University of Pretoria, Pretoria, South Africa.
47. Graafland, J., Dubbink, W. & Van Liedekerke, L. (2008). CSR, transparency and the role of intermediate organizations, *Journal of Business Ethics*, 82 (2), pp. 391-406.
48. Gray, R., Kouhy, R. & Lavers, S. (1995). Corporate social and environmental reporting, *Accounting, Auditing & Accountability Journal*, 8 (2), pp. 47-77.

49. Global Reporting Initiative (2006). G3 Sustainability Reporting Guidelines, available at: www.globalreporting.org/ReportingFramework/G3Online/ (Accessed 13 December 2013).
50. Grindrod Ltd. (2006). *Annual Report 2006*. Retrieved September 02, 2012, from: http://www.sharedata.co.za/Data/000626/pdfs/GRINDROD_ar_06.pdf.
51. Grindrod Ltd. (2009). *Annual Report 2009*. Retrieved September 07, 2012, from: <http://www.grindrod.co.za/Uploads/Documents/1/Grindrod%20AR%/2009%20FINAL.pdf>.
52. Grindrod Ltd. (2011). *Annual Report 2011*. Retrieved September 07, 2012, from: <http://www.grindrod.co.za/Uploads/Documents/1/Grindrod%20Integrated%20Annual%20Report%202011.pdf>.
53. Grindrod Ltd. (2012). *Integrated Annual Report 2012*, Grindrod.
54. Hamann, R. & Acutt, N. (2003). How should civil society (and the government) respond to 'corporate social responsibility'? A critique of business motivations and the potential for partnerships, *Development Southern Africa*, 20 (2), pp. 255-270.
55. Henriques, I. & Sadorsky, P. (1999). The relationship between environmental commitment and managerial perceptions of stakeholder importance, *Academy of Management Journal*, 42 (1), pp. 87-99.
56. Hill, J. & Schneeweis, T. (1983). The Effect of Three Mile Island on Electric Utility Stock Prices: A note, *Journal of Finance*, 38 (4), pp. 1285-1292.
57. Hoffman, A. (1997). *From Heresy to Dogma: An Institutional History of Corporate Environmentalism*, New Lexington Press, San Francisco, CA.
58. Hoffman, A. & Ventresca, M. (2002). *Organizations, Policy and the Natural Environment: Institutional and Strategic Perspectives*, Stanford University Press, Stanford, CA.
59. Horst, J., Renneboog, L. & Zhang, C. (2008). Socially Responsible Investments: Institutional aspects, performance, and investor behavior, *Journal of Banking and Finance*, 32 (9), pp. 1723-1742.
60. Hunter, T. & Bansal, P. (2007). How standard is standardized MNC global environmental communication? *Journal of Business Ethics*, 71 (2), pp. 135-147.
61. Institute of Directors (2002). King Report on Corporate Governance for South Africa, Johannesburg: IOD.
62. Integrated Reporting Committee (IRC) (2011). Discussion paper: Framework of Integrated Reporting and the Integrated Report, IRC [On-line]. Available: <http://www.sustainabilitysa.org/Portals/0/IRC%20of%20SA%20Integrated%20Reporting%20Guide%20Jan%202011.pdf>. (Accessed 23 April 2012).
63. Investec Ltd. (2005). *Sustainability Report 2005*. Retrieved September 05, 2012, from: http://www.quickreport.co.za/investec_ar_2005/downloads/Fur_sustainability.pdf.
64. Investec Ltd. (2007). *Our Business Responsibility Report 2007*. Retrieved September 07, 2012, from: <http://www.investec.co.za/content/dam/investec/investec-international/documents/OBR/OBR%20report%202007.pdf>.
65. Investec Ltd. (2009). *Sustainability 2009*. Retrieved September 05, 2012, from: <http://viewer.zmags.com/publication/f9aade6a#/faade6a/56>.
66. Investec Ltd. (2011). *Sustainability 2011*. Retrieved September 06, 2012, from: <http://viewer.zmags.com/publication/98e2e8f9#/98e2e8f9/1>.
67. Investec Ltd. (2013). *Investec Sustainability Report 2013*, Investec Group.
68. ISEA (1999). *Accountability 1000 (AA1000): Standard, Guidelines and Professional Qualification*, Institute of Social and Ethical Accountability, London.
69. Jeucken, M. (2001). *Sustainable Finance and Banking: The Financial Sector and the Future of the Planet*, Earthscan Publication, London.
70. Jo, H. & Harjoto, M.A. (2011). Corporate Governance and Firm Value: The Impact of Corporate Social Responsibility, *Journal of Business Ethics*, 103, pp. 351-383.
71. Johannesburg Stock Exchange (2013). *Development of Index*, Retrieved February 28, 2013, from: http://www.jse.co.za/About-Us/SRI/Development_of_Index.aspx.
72. Klassen, R. (2001). Plant-level environmental management orientation: the influence of management views and plant characteristics, *Production and Operations Management*, 10 (3), pp. 257-275.
73. KPMG (2008). *KPMG International Survey of Corporate Responsibility Reporting 2008*, October 2008, KPMG International.
74. Kuznetsov, A., Kuznetsova, O. & Warren R. (2009). CSR and the Legitimacy of Business in Transition Economies: The case of Russia, *Scandinavian Journal of Management*, 25 (1), pp. 37-45.
75. Leeman M. (2005). Sifting through socially responsible investment jargon, *Business Report*, 8, February 9.
76. Levy, D. & Rothenberg, R. (2002). Heterogeneity and change in environmental strategy, in Hoffman, A. and Ventresca, M. (eds.), *Organizations, Policy and the Natural Environment: Institutional and Strategic Perspectives*, Stanford University Press, Stanford, CA, pp. 173-193.
77. Mackenzie, F. (2003). *Our Changing Planet An Introduction to Earth System Science and Global Environmental Change*, 3rd ed., Upper Saddle River NJ: Pearson Education, Inc, 2003.
78. Maia, J., Giordano, T., Kelder, N., Bardien, G., Bodibe, M. & Du Plooy, P. (2011). *Green jobs: An estimate of the direct employment potential of a greening South African economy*, Johannesburg/Pretoria: Industrial Development Corporation (IDC), Development Bank of Southern Africa.

79. Maon, F., Lindgreen, A. & Swaen, V. (2010). Organizational Stages and Cultural Phases: A critical review and a consolidative model of corporate social responsibility development, *International Journal of Management Reviews*, 12 (1), pp. 20-38.
80. Margolis, J.D. & Walsh, J.P. (2003). Misery Loves Companies: Rethinking Social Initiatives by Business, *Administrative Science Quarterly*, 48 (2), pp. 268-305.
81. Margula, S., Steurer, R. & Martinuzzi, A. (2008). *Socially Responsible Investment in EU Member States. Vienna: Final Report to the EU-High Level Group on CSR*, EU, Vienna.
82. McCarthy, J.E. and Perreault, Jr W.D. (1993). *Basic Marketing*, 11th edition, Irwin, Boston, MA.
83. McKinsey and Company (2009). *Charting our Water Future: Economic Frameworks to Inform Decision Making*, 2030 Water Resources Group, Munich.
84. Miles, R.H. (1987). *Managing the Corporate Social Environment*, Prentice-Hall, Englewood Cliffs, NJ.
85. Mitchell, R., Agle, B. & Wood, D. (1997). Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts, *Academy of Management Review*, 22 (4), pp. 853-886.
86. Nandy, M. & Lodh, S. (2012). Do Banks Value the Eco-friendliness of Firms in their Corporate Lending Decision? Some empirical evidence, *International Review of Financial Analysis*, 25, pp. 83-93.
87. Nedbank Group (2006). *Nedbank Group 2006 Sustainability Report*. Retrieved September 02, 2012, from: http://www.nedbankgroup.co.za/financials/2006Sustainability/pdf/Nedbank_sustainability2006.pdf-new.
88. Nedbank Group (2008). *Nedbank Group 2008 Sustainability Report and Transformation Report*. Retrieved September 03, 2012, from: http://www.nedbankgroup.co.za/financials/2008sustainability/pdf/sustainability_2008.pdf.
89. Nedbank Group (2009). *Nedbank Group 2009 Sustainability Report*. Retrieved September 02, 2012, from: <http://www.nedbankgroup.co.za/financials/2009Sustainability/environmentalApproach.asp>.
90. Nedbank Group (2011). *Nedbank Group Annual Report 2011 Environmental Sustainability Report*. Retrieved September 09, 2012, from: <http://www.nedbankgroup.co.za/financial/Nedbank-ar 2010/sustainable/environmental.asp>.
91. Nedbank (2013). Environmental Sustainability. Retrieved February 2014, from: <http://www.nedbankgroup.co.za/sustainEnvironmentalIntro.asp>.
92. North Carolina Department of Environment and Natural Resources (2009). *Water Efficiency Manual for Commercial, Industrial and Institutional Facilities*, United States.
93. North, D. (1990). *Institutions, Institutional Change and Economic Performance*, University Press, Cambridge.
94. Peattie, K. & Ring, T. (1993). Greener strategies: the role of the strategic planner, *Greener Management International*, 3, pp. 51-64.
95. Polonsky, M.J. (1995). A stakeholder theory approach to designing environmental marketing strategy, *Journal of Business & Industrial Marketing*, 10 (3), pp. 29-46.
96. Relano, F. & Paulet, E. (2012). Corporate Responsibility in the Banking Sector: A proposed typology for the German case, *International Journal of Law and Management*, 54 (5), pp. 379-393.
97. Roberts, R.W. (1992). Determinants of corporate social responsibility disclosure: an application of stakeholder theory, *Accounting, Organizations and Society*, 17 (5), pp. 595-612.
98. Saeed, K. (2004). Designing an environmental mitigation banking institutions for linking the size of economic activity to environmental capacity, *Journal of Economic Issue*, 38 (4), pp. 909-937.
99. SAPA (2009). South African firms "not green enough". Retrieved 20 September 2011, from www.southafrica.info/news/business/207879.htm.
100. Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy, *Academy of Management Journal*, 43 (4), pp. 681-697.
101. Sharma, S. & Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities, *Strategic Management Journal*, 19 (8), pp. 729-53.
102. Skinner, C. & Mersham, G. (2008). Corporate social responsibility in South Africa, *Society and Business Review*, 3 (3), pp. 239-255.
103. Standard Bank (2007). *Sustainability and Black Economic Empowerment Report 2007*. Retrieved September 14, 2012, from: https://sustainability.standardbank.com/downloads/previous/2007-Sustainability_and_BEE_Report.pdf.
104. Standard Bank (2011). *2011 Sustainability Report: Environment*. Retrieved September 15, 2012, from: http://sustainability.standardbank.com/downloads/segmented/segment_12.pdf.
105. Standard Bank (2012). *Sustainability Report 2012 – Integrated report 2012*, Standard Bank, South Africa.
106. Steurer, R. (2005). Mapping stakeholder theory anew: from the stakeholder theory of the firm to three perspectives on business-society relations, *Business Strategy and the Environment*, 15 (1), pp. 55-69.
107. Thomlison, B.M. (1992). Environmental consumerism must meet needs of corporate stakeholders, *Marketing News*, 26 (9), p. 12.
108. Trialogue (2007). *The sustainable business handbook: smart strategies for responsible companies* (4th ed.), Cape Town: Trialogue.
109. Trialogue (2009). *The Sustainability Handbook*, Sixth Edition July 2009, Cape Town: Trialogue.
110. UNEP (1992). *Banking and the environment: A statement by banks on the environment and sustainable development*. Geneva: United Nations Environment Program.
111. UNEP (2008). *Vital Water Graphics, An Overview of the State of the World's Fresh and Marine Waters* (second ed.), UNEP.

112. UNEP (2007). Africa's Banks Starting to Rise to Challenge of Wider Environmental, Social and Governance Concerns, *UNEP News Release 2007/22*, June 9. Available at: <http://www.unep.org/Documents.Multilingual/Default.Print.asp?DocumentID=512&ArticleID~5613&I~en>.
113. UNEP-FI (2006). *Financing Water: Risks and Opportunities*. Retrieved February 29, 2013, from: http://www.unepfi.org/fileadmin/documents/WRR_Issues_Paper.pdf.
114. Van den Berg, U., Labuschagne, J.-P. & Van den Berg, H. (2013). The effects of greening the supplier and innovation on environmental performance and competitive advantage, *Journal of Transport and Supply Chain Management*, 7(1).
115. Visser, W.A.M. (2005). Corporate citizenship in South Africa – A review of progress since democracy, *Journal of Corporate Citizenship*, Summer (18), pp. 29-38.
116. Viviers S. (2007). *A critical assessment of socially responsible investment in South Africa. Ph.D. dissertation*, Department of Economics, Nelson Mandela Metropolitan University, Port Elizabeth, South Africa.
117. Viviers, S., Bosch, J.K., Smit, E. & Buijs, A. (2008). The risk-adjusted performance of responsible investment funds in South Africa, *Investment Analysts Journal*, 68, pp. 39-55.
118. WBCSD (2005). *Water Facts and Trends*, World Business Council on Sustainable Development, Washington, DC (Version 2).
119. WCED (1987). *Our Common Future*, Oxford, Oxford University Press.
120. Weber, O., Fenchel, M. & Scholz, R.W. (2008). Empirical Analysis of the Integration of Environmental Risks into the Credit Risk Management Process of European Banks, *Business Strategy and the Environment*, 17, pp. 149-159.
121. WHO (2010). *Progress on Sanitation and Drinking Water*, Retrieved February 29, 2013, from: http://www.unwater.org/downloads/JMP_report_2010.pdf.
122. Wiig, A. & Kolstad, I. (2010). Multinational corporations and host country institutions: A case study of CSR activities in Angola, *International Business Review*, 19 (2), pp. 178-190.