



Harnessing the Role of Corporate Social Responsibility (CSR) in Environmental Awareness and Environmental Management in Jigawa State

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Abstract

T*he environmental problems in Jigawa State are both man-made and naturally induced; this paper is not trying to identify these problems, but identifies areas whereby Corporate Social Responsibility (CSR) can be employed to take care of the numerous environmental problems in Jigawa State. Some of these problems can be taken care of through attitudinal change by the people and this can only be done through public enlightenment and advocacy. The paper defined what CSR is, identified areas where CSR has been working on in Nigeria, and looked at other literatures around the world that have identified ways on improving the environment through CSR. Finally, it proffered whereby the Jigawa State Government can work with the private sector through CSR to take care of the environmental issues in Jigawa State other ways are liaising with stalk holders in the society such as academic institutions and local authorities and host communities in the aspect of environmental worries, and the need for synergy and cooperation among stakeholders and encourage corporate organization to report as their CSR in their annual report to show their commitment to environmental sustainability.*

Key words: Corporate Responsibility, Dutse Jigawa State, environment.



Introduction

Corporate Social Responsibility (CSR) is defined in the ISO 26000 “Guidance on social responsibility” (2010) as the “responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that contributes to sustainable development, including health and the welfare of society; takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behaviour; and is integrated throughout the organisation and practices in its relationships.” (GIZ). Corporate Responsibility (CR) has emerged as a significant theme in the global business community and is gradually becoming a mainstream activity of corporate bodies all over the world. CSR can also be defined as “the integration of stakeholders’ social, environmental and other concerns into a company’s business operations.” (*The Economist*).

CSR is a concept that is constantly evolving with time and the concept CSR also has different words that are used globally to mean the same thing. Terms like - corporate responsibility, corporate accountability, corporate ethics, corporate citizenship or stewardship, responsible entrepreneurship, responsible competitiveness or corporate sustainability. These terms are all used overtime, in different societies, different literatures, and by different scholars and corporate bodies.

CSR is continually developing around the world based on the peculiarities and the uniqueness of the various places corporate bodies find themselves. But with the constant evolution that goes on overtime the bottom line is that CSR “is understood to be the way firms integrate social, environmental and economic concerns into their values, culture, decision making, strategy and operations in a transparent and accountable manner and thereby establish better practices within the firm, create wealth and improve society.” (*Corporate Social Responsibility: An Implementation Guide for Business*). From the above statement one can realise that CSR is all about sustainability, accountability, and transparency.

There is an increase in the attention and the advantage that CSR provides to the society as a whole, this attention is increasingly being taken advantage of by the corporate bodies and the society at large. Earlier, most companies and firms are more or less into community based development, staff and social welfare, (social responsibilities) etc., but now they are take care of the environment, how to use cheaper and efficient ways in production and exploitation of factors of production (that is, environmental responsibilities). A recent survey was conducted by the United Nations Global Compact (UNGC) and Accenture whereby 766 Chief Executive Officers (CEOs) were interviewed, 93% of them believe that sustainability will be critical to the future success of their businesses, and 91% reported that their company will employ new technologies (e.g., renewable energy) to address sustainability issues over the next five years (Accenture & UNGC, 2010). Furthermore, in October 2004, *The Economist* did an online survey of corporate executives around the world and a separate online survey of institutional investors, asking them to assess the importance of corporate social



responsibility. In all, 136 executives and 65 investors responded and 85% of executives and investors surveyed said CSR is now a “central” or “important” consideration in investment decisions.

Asemah *et al* (2013) further broadened the scope of CSR by corporate bodies by stating that they work around the following themes - employee health and wellness, environmental integrity, ethical responsibilities, legal responsibilities, philanthropic responsibilities, and economic responsibilities. The environmental integrity Asemah *et al* are talking about “commitment to protecting and even improving the environment for the benefit of current and future generations”. Also they proposed action that can be done by the companies and firms through “Environmental responsibility which covers precautionary approaches to prevent or minimise adverse impacts, support for initiatives, promoting greater environmental responsibility, developing and diffusing environmentally friendly technologies and similar areas”.

The Earth Summit in Rio 1992 that produced its “communique” called the “Agenda 21”. In this document it specifically highlights the start of sustainable development in business to meet the challenges of the 21st century. The decisions taken in the Rio Summit led to the formation of bodies like the World Business Council for Sustainable Development (WBCSD) and the Business Action for Sustainable Development that promote sustainable development among the business community. “These bodies promote sustainable business culture among companies integrating economic, social and environmental framework in their operations. The rapid adoption of sustainable business in many companies has provided opportunity to develop closer collaboration with government, communities and other stakeholders” (Amiolemen and Adegbite)

The World Business Council for Sustainable Development (WBCSD) endorsed eco-efficiency as the way forward for companies individually and business collectively to contribute towards sustainable development. The eco-efficiency was said to be first coined by World Business Council for Sustainable Development in its report titled *Changing Course*, which the UN requested as a business input to the Rio process. The eco-efficiency is a management philosophy that encourages business to become more competitive, innovative and environmentally responsible. Eco-efficiency embraces other concepts such as pollution prevention, source reduction, waste reduction, waste minimisation and clean (or cleaner) production.

The objectives of this paper are as follows:

- To identify the significance of CSR in managing the environment in Jigawa State and;
- To ascertain ways that Corporate Social Responsibility (CSR) can provide support in taking care of the environment in Jigawa State.

Study Area

Jigawa State comprises of 27 Local Government Councils. Dutse as the State Capital acts as the commercial, administrative and residential hub of the state. With about 3.11% of the Nigerian population, Jigawa State ranked 8th among the most populous states in Nigeria. The population of the State, based on the 2006 Population Census, is 4,361,002 of which 50.4% are males and 49.6%



females. 85% of the population of the State lives in rural areas. Population density is estimated to be 178 people per square kilometres. This is above the average national population density of 139 people per square kilometres as at 2006. In terms of age distribution it is estimated that about 42.2% below the age of 15 years, 49% are between 15 - 59 years while 8.8% are 60 years and above (Sanusi *et al*, 2013).

Based on national estimates, life expectancy at birth in Jigawa State is 47.8 years - 47.2 years for males and 48.5 years for females as at 2008 (Sanusi *et al*, 2013). The overall literacy rate in 2002 was 37%, with the primary school enrolment rate of 29.6%. Jigawa State has a surface water volume of approximately 477 mcm (streams, rivers and ponds), ground water volume of 30,000- 40,000 m³ per km² yearly and water recharge is 3,676 mcm /year from rainfall (Sanusi *et al*, 2013). These authors, stated further, that the state's economy is largely characterised by informal sector activities with agriculture as the major economic activity. Over 80% of households in the state derive their income from farming, including animal husbandry. With its agriculture based economy and a population of 4.4 million people, the state has a high potential for both production and consumption (Sanusi *et al*, 2013).

The major ecological problems in Jigawa state are drought, desertification and the menace of soil and wind erosion. The sparse vegetation renders the bare surface deposits very susceptible to erosion. Gullies are rampant, resulting in soil removal from farm lands and the collapse of roads, bridges and other structures. The other ecological hazard, desertification, is more pronounced in the northern fringes of the State (*Environmental and Social Management Framework for SLOGOR Project 2013*).

Literature Review

Most firms and companies in Nigeria operate around being philanthropic, economic support and compensation to the government or the community they work in. They do philanthropic work by donating for community development (either in cash or kind) and other charitable services they might provide. Through economic support, they provide potable water, schools, empowerment skills to the less privilege and vulnerable in the society, and provision of basic health care facilities in local communities around their areas of operations. In the case of compensations, these organisations provide compensations to local communities, State Governments or Federal Government for deviating from the laws governing the operations of their business in the country. (*Corporate Social Responsibility and the Legal Regulation in Nigeria 2012*)

The United Bank for Africa (UBA) PLC Foundation stated that the dedication of its resources to Corporate Social Responsibility (CSR) should not be conceived as a marketing tool in the corporate world. Rather UBA foundation recognises CSR as a corporate contribution toward promoting sustainable development in communities. Since 2006, the UBA Foundation has spent over 560 million naira in the following focus area referred as E.E.E.S (acronym that connotes EASE) providing ease to the community through education, environment, economic empowerment, and special projects (UBA Foundation 2007).



Ngakwe (2008) researched on the “possible relationship between sustainable business practice and firm performance”. He surveyed 60 corporate bodies in Nigeria, categorised them into environmentally “responsible firms” and “environmentally irresponsible” firms, respectively. The results show that the sustainable practices of the “responsible” firms are significantly related with firm performance, while “irresponsible” firms are related with fines and penalties. He concluded that “within the Nigerian setting at least, sustainability affects corporate performance and sustainability may be a possible tool for corporate conflict resolution as evidenced in the reduction of fines, penalties and compensations”.

In the Niger Delta, some of the oil firms operating in the region have made claims of active involvement in corporate social responsibility activity in agricultural assistance, community empowerment, and community development & the Environment. However, these projects have not met the required impact to the communities due to poor planning, financing and execution.

The Central Bank of Nigeria (CBN) also embarks on CSR through capacity building and the provision of financial and other forms of assistance to institutions and organisations. It provided financial support towards the implementation of 271 CSR projects in 2015, compared with 288 in the preceding year. The projects covered critical areas such as education and research, community and economic development, women empowerment and health. Other areas included youth and sports development and disaster relief (*CBN Annual Report 2015*).

Furthermore, in order to integrate the Nigerian Sustainable Banking Principles (NSBP) with the Bank’s work ethics and engender a sustainable banking environment, the CBN trained 99 staff on environmental and social risk assessment. In addition, environment and social risk assessments were conducted in nine (9) states of the Federation where the CBN had some intervention projects, to ensure compliance with the NSBP. Also, to promote sustainable waste management in currency disposal, in depth chemical analysis of the currency wastes was carried out with a view to reducing carbon emissions. The CBN Governor led the Management of the Bank to plant a tree to commemorate the World Environment Day on June 5, 2015 with the theme: “Seven Billion Dreams, One Planet, Consume with Care”.

The United Nations Environmental Programme (UNEP) introduced the United Nations Environmental Programme Finance Initiative (UNEP FI) to promote linkages between the environment, sustainability and financial performance within the world’s financial institutions. Over 170 financial institutions across the world with about 6% from Africa region work are participating in the Initiative. UNEP FI carries out its mission to train, identify, promote and realise the adoption of best environmental and sustainability practice at all levels of financial institution operation (unepfi.org). The UNEP FI presently has 7 financial institutions as members in Nigeria, which include Access bank, Bank of Industry, Fidelity Bank, Oceanic Bank, Rewet Group, UBA Foundation and Zenith Bank which all the financial institutions have adopted to sustainable business.



Amiolemen *et al* (2012) concluded that the principle of sustainable development awareness by business organisations in Nigeria needs to be examined. They discovered that the awareness and knowledge of employers on sustainable development, most especially on the protection of the environment is low. But, majority of the organisations they surveyed in Nigeria have shown more commitment to socio-economic development with less priority to environmental protection, control and management. They further recommended the need for the Nigerian government to take the leading role in providing a policy on CSR in Nigeria.

Global companies like Nestlé have a role to play and can make a valuable contribution to the efforts to address some of the critical issues the world faces, such as food security, nutrition and health, water, sustainability and human rights. In one of their Dairy plants in Mexico, Nestle transformed the plant into their first “zero water” manufacturing site in the world. Whereby they extract the water from the milk (which is 88%) and use it in the factory’s systems thus saving enough water to meet the average daily consumption of 6, 400 people in the surrounding area of the plant. Work is now underway to deploy similar technology in five other manufacturing sites in water stressed areas around the world. (*Nestle Annual Report, 2014*).

The mission statement of the Nigerian Breweries PLC states that they want “to be the leading beverage company in Nigeria, marketing high quality brands to deliver superior customer satisfaction in an environmentally friendly way” and that “sustainability is one of their core commitments”. In order to achieve their mission statement and core commitments, the Nigerian Breweries understood that they need a rigorous and balanced stakeholder engagements for them to reach or surpass their goals.

With that in mind, the Nigerian breweries adopted a materiality matrix (after doing a survey amongst the stakeholders and engaging with all stakeholders) where they identified the following the material aspects as part of their CSR: economic (unemployment, poverty and competition); environmental (pollution, waste, energy and raw materials); and social (corruption, insecurity, education and skills).

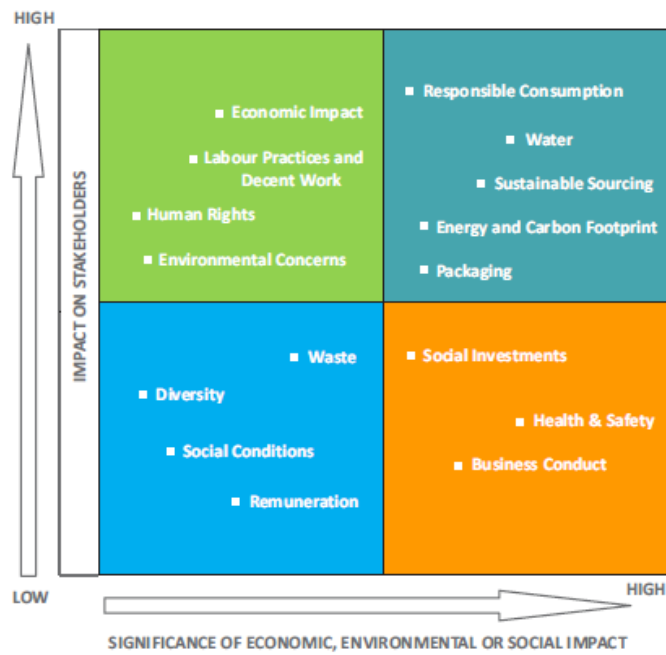


Figure I: Materiality Matrix of Nigerian Breweries

Source: Nigerian breweries Plc (2015) www.nbplc.com

The stakeholders of the Nigerian Breweries remain critical partners in their overall operations (figure ii). Also, through a sustained proactive dialogue and other engagement with them, they are able to clearly identify and understand their perceptions and expectations of the company's efforts towards sustainable development.



Figure II: Nigerian Breweries Stakeholders

Source: Nigerian breweries Plc (2015) www.nbplc.com



They also partner partnered with the United Nations Industrial Development Organisation (UNIDO) and the Federal Government of Nigeria to organise a 3-Day Stakeholder Workshop on Water Stewardship. The objective is to engage stakeholders on issues of protecting water resources and achieving water balance in Nigeria. In addition, as a pilot project to address main water challenges for Ibadan, (one of our host communities), they embarked on projects that include water reduced storage capacity sedimentation, climate stress, loss in water distribution, population pressure and socio-economic prosperity.

Furthermore, in February 2015, HEINEKEN (a subsidiary of Nigerian Breweries) established a partnership with the United Nations Industrial Development Organisation (UNIDO) to- amongst other things; stimulate water conservation in developing countries around the world. Four of HEINEKEN’s breweries in Nigeria (Ibadan, Ijebu-Ode, Lagos and Sango-Ota) operate in a water stressed catchment area, and these plants were selected as the pilot for the roll out of the UNIDO-HEINEKEN Public Private Partnership for Water Stewardship. HEINEKEN also upgraded and commissioned the wastewater treatment plant in Ota Brewery to improve their water usage and environmental footprint around the brewery community. The new plant will also help to improve the handling of wastewater and enhance water consumption records as well as our environmental performance. (*Nigerian Breweries Sustainability Report 2015*).

Etisalat Nigeria has as its values the following - ethics & anti-corruption, core values, compliance, health & safety, and environmental management. The figure III below illustrates the various levels of how they appreciate their individual values from the perspectives of their stakeholders and their operations.



Figure III: Etisalat Nigeria's Values



In line with their environmental management values, Etisalat Nigeria takes their responsibility to the host communities very seriously. They embark on an Environmental Impact Assessment (EIA) of every base station they plan to setup to ascertain potential risks and mitigate those risks. As part of their environmental management they have now started co-location of base stations in collaboration with other communication companies in order to reduce cost and less environmental problems.

Objective	Target	Result/Outcome
Improve air quality	70% monitored sites not exceed regulatory limit	Achieved
Minimize impact of noise on residence	70% of monitored sites achieve 65DBA noise level	35% Achieved
Reduction complaints of vibration	20% reduction from 2014	Achieved
Proper handling and disposal	Proper handling of both hazardous and non hazardous waste	Achieved
Reduce soil, surface and G.Water contamination	100% clean up reported spills with 3 weeks	Achieved

Figure IV: Etisalat Nigeria Meeting their 2015 Targets on Environmental Management

Etisalat Nigeria (2015) www.etisalat.com.ng/2015-etisalat-CSR-report.pdf

The Company, in 2015, celebrated the World Environmental Day at the Akande Dahunsi Junior and Senior Memorial High Schools. At the event Students competed on how to create innovative solutions to global warming and climate change issues faced by Nigeria. This served to raise public awareness, especially amongst Secondary School Students, on the need to be mindful of our environment and how to take care of it. (*Etisalat Nigeria Sustainability Report 2015*).

Coca-Cola has a long history of bringing people together and working towards a shared vision through their support of community programmes. Over the years, their community initiatives have evolved from philanthropic contributions to value-adding, long-term programmes linked to the business strategy to create shared value and measurable, positive impact. Their community investment focuses on three key strategic areas, which have been identified based on existing societal and environmental needs in the countries where they operate. These are:

- Community well-being
- Environmental and water stewardship; and
- Youth development



In the key strategic area of environmental and water stewardship, the company involve detailed source vulnerability assessments and source water protection plans, which are performed for all of our manufacturing sites. This is done in order to safeguard clean water supplies and thereby contribute to sustainable development Goal Number 6 (Ensure availability and sustainable management of water and sanitation for all).

From the protection of water resources, through wetlands, biodiversity and ecological processes at the watersheds, to waste water treatment and sanitation after our water use, all activities are done engaging local water users, authorities and other key stakeholders in the community. Their water stewardship strategy is driven through partnerships with environmental ministries as well as intergovernmental and civil organisations to preserve and protect important ecosystems, such as watersheds and wetlands in key regions and river basins, such as the Danube, the Volga, and the Sava among others.

Their long-term multi-country Green Danube initiative increases awareness of the wetland habitat, including the preservation of unique flora and fauna, to the community and the environment. In 2016, awareness raising events to encourage citizens to protect the Danube River were held in Austria, Bosnia and Herzegovina, Bulgaria, and Ukraine. The initiative's signature event held in partnership with the International Commission for the Protection of the Danube River (ICPDR), is the widespread celebration of Danube Day, in collaboration with citizens, governments, civil organisations and businesses.

The global commitment of the Coca Cola System to replenish 100% of the water used in final beverage products includes a number of water initiatives in their markets. Through the efforts of *Let's Save Yelnya's Blog Together*, an initiative of Coca-Cola's Belarussian operations, and other projects conducted in partnership with the World Wildlife Fund and the Global Partnership-Mediterranean, they replenished 182% of the water used in final beverages in 2016.

Coca-Cola see water as a material issue for both the company and society, this makes them to engage in other environmental protection initiatives of various kinds in their operational communities. With the dedicated support of their employee volunteers, they have collected 1,441 tonnes of waste at river and sea shores and cleaned more than 1,164 kilometres of river banks and beaches in 2016. During the same time period, they also contributed to reforestation by planting over 152,000 trees in more than 529,000 square metres of land. (*Coca-Cola 2016 Integrated Annual Report*).

In Sterling Bank, their social investment strategies focuses on 3 areas - education, entertainment, and environment.

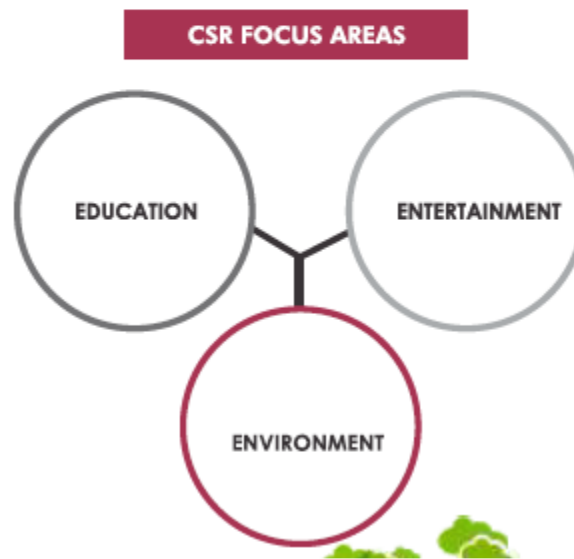


Figure V: Sterling Bank's CSR Focus Areas

Source: Sterling Bank sustainability report (2014)

Sterling Bank's environmental initiatives include the following:

- a. Partnering with the Lagos State Waste Management Authority (LAWMA) and the Lagos State Traffic Management Authority (LASTMA) to promote and maintain a clean environment and safety on the roads;
- b. Reduction in paper usage by staff and customers through recycling of used papers, e-communication in official correspondences within the Bank, and usage of electronic transactions by customers instead of filling out papers for deposits, withdrawals or transfers;
- c. Depreciated hardware and equipment are auctioned off to staff or immediate communities for further usage or disposed of in line with environmental regulations if there is no further usage; and
- d. Their "Green" Initiative scheme involves planting of flowers and grasses in their various branches for beautification and to serve as carbon sink for removal of carbon dioxide from the atmosphere.

Furthermore, the table below also shows the various energy efficient initiatives embarked upon by the Bank to minimise their carbon footprints in their various operations.



S/N	Energy Efficient Initiatives	Impact
1	Installation of low energy consuming air-conditioners and heat extractors in some of our locations.	Reduction in green house emissions.
2	Installation of Gas Power engine Generating Set at the Head Office.	Clean burning (excellent environmental impact) preventing production of harmful emissions; Reduction in noise pollution-quiet engine noise.
3	Installation of hybrid power solution (solar panels and inverters) at our branches as power sources:	Reduction in carbon emissions.
4	Installation of video conferencing facilities in strategic locations bank-wide.	Reduction in travel time and carbon emissions due to the Bank's operations.
5	Replacement of Modular fluorescent fittings with energy saving bulbs at Sterling Towers and some branches.	Elimination of incidences of fire outbreak that may arise from the burning of chokes ; Reduction in energy consumption ; Reduction in heat energy released into the environment.
6	Installation of Easyfuel gadget in our vehicles.	Better control of fuel consumption which in turn reduces carbon emissions into the environment.
7	Synchronization of staff movement via staff buses to reduce the number of cars plying the road	Reduction in energy consumption and green house emissions.

Figure VI: Sterling Bank's Energy Efficient Initiatives

Source: Sterling Bank sustainability report (2014)

Research Methodology

The methods used in this research is to collate the various activities done by corporate bodies in Nigeria such as Nigeria breweries Plc, telecommunication companies like Etisalat Nigeria financial institutions like the central bank of Nigeria, sterling bank, and other corporate bodies and in other parts of the world to pinpoint how these activities can be channelled towards coming to the aid of the environment through public awareness and advocacy. So, basically, the research is a documentary analysis of the various companies operating in Nigeria and other parts of the world. The desk work involved analysing annual reports of companies, newspaper reports, and reports of other Non-Governmental Organisations (NGOs) and International Non-Governmental Organisations (INGOs).

Following the collation done, we concluded that corporate organisations can help the environment in areas where they operate by doing the following:

- a. Liaise with the host communities, the local authorities and the academia to know what aspect of the environment worries the community and how they can help out. Also, the needs of the communities might not be all about the environment directly so the firms should also try and know what the communities need in terms of infrastructure or any other social and immediate need;



- b. Corporate organisations should report as their CSRs in their Annual Reports (which they do) what they do about the environment in order to show that corporate commitment to sustainability is no longer an option, but rather a requirement. Other companies that are not into aiding the environment or showing little regard will be encouraged to look into the local environmental problems of their host communities. Government should also encourage corporate bodies who are into “green operations”, sustainability, and “environmental care” in ways that will encourage them to be proactive on the environment in the countries they operate.
- c. Flammer (2012) found out that companies reported to have behaved responsibly towards the environment experience a significant stock price increase, whereas firms that behave irresponsibly face a significant stock price decrease. She further recommended that since shareholders value eco-friendly behaviour, managers and boards of directors may find it worthwhile to design and implement effective environmental CSR policies in research & development, day to day operations of the firms, and to consider the environmental implications of managerial decision-making before making them.
- d. Increased cooperation and synergy between legislators, companies, and environmentalists will benefit the environment tremendously if all stakeholders are cooperate;
- e. GIZ recommended that a low-impact design of mining sites has high potential for avoiding environmental harm. For example, Cameco Corporation and Cogema Resources Inc., two uranium companies from Saskatchewan, Canada, have controlled the environmental effects of their mine development by minimising the number of cut down trees, designing access roads for minimal intrusion, and reducing of excess noise. Education and trainings are also used by some mining companies to introduce environmental thinking and analysis techniques and create awareness for health and safety mechanisms in the communities they operate;
- f. Good labour practices, education programmes, environment and community health protection, and local economic development not only help to reduce social risks in the short and medium run, but enhance long term synergetic value creation and build a supportive business environment for long lasting operations;
- g. Initiation of school programmes such as conservation clubs and tree planting campaigns;
- h. Strengthening of community leadership to enforce community driven environmental protection initiatives;
- i. The provision of small scale research grants for research and documentation of environmental problems in the local communities;
- j. Ugwunwanyi and Ekene (2016) recommended the following:
 - the Government of Nigeria should put into law, which is providing a legal framework for companies on Corporate Social Responsibility
 - Federal government should provide enabling social and political environment to motivate companies in Nigeria to carry out sustainable social responsibility to improve the lives of Nigerians
 - The Government of Nigeria should try as much as possible to domesticate International Corporate Responsibility Instrument, which include the Organisation for Economic and Development (OECD), the 1988 ILO Declaration on Fundamental Principles and Rights at



works, Guidelines for Multinational Enterprises and the United Nation (UN) Global Compact;

- k. Mazurkiewicz (2004) recommended the embarking of environmental audit of every operation of the firm, green procurement (materials and raw materials), and green production chain, and produce.

Recommendations on how CSR can help the environment in Jigawa State

Looking at the various ways CSR can help in taking care of the environment as listed above, Jigawa State can benefit from listed aids and adapt it in line with the peculiar and unique character and environmental problems faced in the State.

The following recommendations are proffered for the State:

- i. The Jigawa State Government (JGSG) should enact the policy on CSR keeping in mind that the policy shouldn't be made to scare away investors this strategy can also be adopted by the federal government;
- ii. The Jigawa State Government should encourage corporate bodies in to be more committed in taking care of the environment through incentives that would lessen their production costs;
- iii. Communities should be enlightened to be partners with investors and not see them as oppressors to avoid conflict and help them in their communal needs;
- iv. Corporate bodies in the state should endeavour in raising the public awareness on environmental problems, its effects, how individuals can help save the environment, and environmental preservation through public enlightenment in the media, schools and campaigns;
- v. build partnership among all stakeholders in the state including government at all levels, international institutions and governments, non-governmental agencies and communities on environmental matters;
- vi. CSRs should endeavour to identify the environmental intervention instruments and strategies developed by environmentalists directed at addressing specific environmental problems and implement this in the State;
- vii. Firms in the state should try and include all stakeholders in the management, harvesting and the utilisation of revenue from the use of natural resources, and also in the extraction and production of products gotten from the natural resources;
- viii. Public Private Partnership (PPP) in environmental management should be encouraged by the JGSG especially in the area of waste management;
- ix. The JGSG should establish an Environment Endowment Fund derived from voluntary contributions by governments, individuals and corporate bodies. This fund shall be revolving and be managed by the relevant government department, agency or authority established by law for environmental disasters and restoration of abandoned desert areas;
- x. Companies should attempt as much as possible to abide by the laid down environmental laws and regulations in their production operations in order to reduce the impact of their activities on the environment, and to adopt sustainable ways of their operations from extraction to production to transportation of produce to the market;



- xi. Liaise with the tertiary institutions in Jigawa State in research and development with regards to the environment and sustainability;
- xii. Periodically hold Workshops and Seminars with other companies, academia, and the State Government in Jigawa State on how to take care of the environment by exchanging ideas and learning new things;
- xiii. Promote periodical days to taking care of the environment by sanitation within the communities.

Conclusion

Corporate social responsibility (CSR) from the research has been harnessed and used in many parts of the world in the management of the environment therefore It can also be an excellent tool if properly hernessed in Jigawa state. It is also important to note that there must be a synergy and unreserved commitment among government, corporate bodies, the communities and all stakeholders for CSR to be effective.

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