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A RESEARCH ESSAY
ON
CHALLENGES OF CDM IMPLEMENTATION AND DEVELOPMENT IN NIGERIA

BY

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TABLE OF CONTENTS

COVER PAGE ................................................................. 1

TOPIC.............................................................. 2

TABLE OF CONTENT............................................... 3

INTRODUCTION..................................................... 4

WHAT IS CDM? ...................................................... 5

WHY CDM IN NIGERIA?................................. 6

IS THERE ANY POTENTIAL FOR CDM IN NIGERIA?...... 7

WHY IS NIGERIA LAGGING IN CDM?................. 8

WHAT ARE THE CHALLENGES OF CDM IMPLEMENTATION AND DEVELOPMENT IN NIGERIA?......................... 8

CONCLUSION.......................................................... 12

REFERENCES........................................................... 12
INTRODUCTION

In times past, news about earthquakes, hurricanes, landslides, and volcanic occurrences are most prevalent in certain parts of the world until more recently. The world has had cause to fight ozone layer depletion and deforestation also in recent years. Now in the last few decades, CO\textsubscript{2} which is part of Greenhouse Gases emission has given cause for concern all over the world. Greenhouse Gases (GHG) are gases responsible for climate change. The GHG gases considered under Kyoto Protocol include: CO\textsubscript{2}; SF\textsubscript{6}; PFCs; CH\textsubscript{4}; N\textsubscript{2}O and HFCs.

The threats of climate change experienced all over the world, has made man to come into realities of his over dependence on and exploitation of natural resources. The occurrence of Greenhouse Gas emission as a result of demand for energy and prolific human activities eventually led world leaders to come together in order to address climate change issues. As discussed by Nasiru Idris Medugu in his letter to Daily Trust from the University of Teknologi, Malaysia, on the effect of climate change in Nigeria, scientific studies have shown rapid disappearance of snows, increase in average global temperatures, drying up of lakes and dams with fewer water supplies for agricultural produce and hydropower generation. In Africa, off seasons rains throwing growing seasons out of orbit, incessant flooding and persistent droughts are a few of the effects of climate change confirmed following the release of the 4\textsuperscript{th} IPCC Assessment report on Africa which Nigeria is part of.

One of the most pragmatic ways of encouraging and improving a healthy environment is by facilitating mechanisms through which the world can come together as one and decisively face the reality of climate change effects on Earth without inhibiting the growth and economic development of other developing economies. An example of such mechanisms was birth through Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) - The Clean Development Mechanism (CDM).
This paper seeks to give an overview of the challenges faced by Clean Development Mechanism, its implementation and development in Nigeria as an incentive to facilitate speedy abolishment gas flaring, that has been taking place for over 40 years in the country and yet the energy sector still suffers, as against the flipside of no incentive by the expiration of the gas flaring deadlines given by the Federal Government of Nigeria.

**What is CDM?**

The Clean Development Mechanism is a market mechanism under the Kyoto Protocol targeted at reducing GHG emissions in a cost effective way and still maintain sustainable development in host countries by encouraging energy-efficient, capital and technology transfer into those countries (UNFCCC 2005:29).

According to Joel D. Carlman in his article titled Jaunty Expansion or Mortal Decline – The Clean Development Mechanism’s Moment of Truth, “CDM is an important system because it is designed to bridge the gap between industrialized countries which are responsible for the majority of historical greenhouse gas (GHG) and emissions and the developing world which is expected to be the major source of future emissions”.

Under the Kyoto Protocol, three flexible mechanisms were provided; One, in which Annex 1 parties (mostly developed countries) with mandatory emissions limitations or “emissions caps” were called to reduce, of the six GHG emissions by at least 5% below that of 1990 taken as base year level within the first commitment period (2008 – 2012). Two, in which non-annex 1 party (mostly developing countries) with no emissions reductions limitations can also contribute towards global GHG emission reduction through CDM project hosted in such countries and carbon credits generated in such projects are purchased by Annex 1 parties in addition to sustainable development contribution in such host countries. Three, in which one annex 1 party assists another annex 1 party in implementing GHG emission reduction projects e.g. Joint Implementation (JI) and/or the credits (carbon) generated or carbon caps are traded in an emission trading scheme e.g. European Union Emission Trading schemes (EU ETS).
Why CDM in Nigeria?

The Nigerian economy which is part of the Sub Saharan African economy is mainly driven by Oil. Hence the activity surrounding its exploration, exploitation, generation and production account for a certain percent of CO$_2$ emission particularly through gas flaring. In the light of gas flaring health implications and negative environmental impact, the Federal Government of Nigeria has put a deadline for the abolishment of gas flaring since 1984 and thus gas flaring became illegal in Nigeria. Despite the illegality of gas flaring it is very sad that this illicit act has not been stopped.

On one hand the Oil and Gas sector drives the economy and on the other hand the agricultural sector contributes some percentage of the Nigerian GNP and on which the employment of majority of the rural populace is hinged. The devastating socioeconomic consequences of climate deteriorations make the consideration of Kyoto Protocol imperative to the Nigerian Government. Despite the vulnerability of the Nigerian oil sector to the negative short term effect on economic development being the 8$^{th}$ largest oil producer in the world and the 9$^{th}$ largest gas deposit, the disproportionate impact on agriculture produce and increasingly desertification and incidence of disease has induced a very urgent attention from the stake holders.

Consequently, the effect of incessant gas flaring on the environment manifested in the immediate communities in the Nigerian coastal regions with extreme weather changes. Local communities relying mainly on agriculture can no longer survive on agric produce. Food shortages and diseases related to malnutrition are evident in the villages around this region. Acid rain, soot particles and corroded building are resultant effect of this abuse.

Against this backdrop, Nigeria ratified and accepted the Kyoto Protocol on 10$^{th}$ December, 2004. This has given her a platform for participation in the carbon market and a safe haven from the dilemma of gas flaring and deteriorating agricultural productivity.
Is there any potential for CDM in Nigeria?

During the International Renewable Energy Conference (IREC) 2009 in Nigeria, the conveyer, Mr. Bolade Soremekun, the CEO of Bas Associates Consulting claimed that Nigeria has the highest equivalent of CO$_2$ gas abated in terms of total volume in Africa. Although South Africa and Egypt are leading in terms of number of projects registered so far under CDM, Nigeria by the first two projects registered has the highest since the projects were on gas flaring which is methane and 21 times GHG effect of CO$_2$. He also said that the country’s potentials is large as identified by expert basically due to being the largest producer of oil and associated gas but which has been flared for close to 50 years of exploration. The environmental impact of more than 45 years of oil exploitation and gas flaring has made the country the only country in the world with the highest daily pollution of CO$_2$ into the atmosphere.

It is also very critical to note the economic implications of gas flaring aside from health implication and environmental degradation. A recent report showed that an estimate of about $2.5 billion represent an annual economic loss to the country.

Environmentally, the World Bank has attributed the highest sources of Greenhouse Gases contribution to Earth’s atmosphere in the sub-saharan Africa to Nigeria. This came despite no economic benefit nor any improvement or contribution to the decaying energy sector of Nigeria.

Yet with the adoption and ratification of CDM by the Nigerian government, the country still lags in its implementation and development. One would naturally assume that the multinationals involved in gas flaring will willingly embrace CDM in other to improve the condition of the generality of its host communities. Also it is embattling to sit back as Nigerians and expect gas flaring to die a natural death when carbon credits can be employed to the advantage of the betterment of the teeming Nigerian coastal region populace. Faced with the numerous benefits that can be derived from CDM as against the country’s former state of vulnerability, it is worth investigating, the barriers to the development and implementation of CDM in Nigeria.
**Why is Nigeria lagging in CDM implementation and development?**

The World Bank’s estimates have clearly shown that the African countries have failed to live up to the great emission reduction credits potentials within its confines. With more than 3,200 clean energy projects and 740 million tons of GHG reduction per year, the continent still has just 2% share of global CDM pipeline.

In 2000, studies showed that over 3-5 billion standard cubic feet (scf) of associated gas was produced and more than 70% was burnt off. This made Nigeria the world’s largest gas-flarer with about 2 billion standard cubic feet a day being flared.

**The challenges of CDM implementation and development in Nigeria are summarized as follows;**

**Access to conventional finance:** The business math behind CDM projects as enunciated under Kyoto Protocol is that carbon finance can only turn borderline projects into viable ones as a result of GHG reduction. Hence CDM, according to Durando Ndongsok of First Climate in his write up on CDM IN AFRICA - Facing the hurdle of conventional Finance, is not “a panacea for projects that make no financial sense at all”.

The basic math calculations of any CDM project must give an internal rate of return (IRR) that is potentially viable enough to lure investors. What carbon finance is to achieve is the increase in such IRR by for example a 2 % more in order to raise the threshold of profitability and therefore favor implementation of such a project.

As simple as the case may look, investigation has shown that access to conventional finance is one of the bane of the development of CDM in Africa as also in Nigeria. The underlying factor responsible is attributed to economic viability of most ideas which are not bankable projects.
**Awareness of most Nigerian financial institutions:** Project developers in pursuit of the above mentioned views have come to develop a notion that most banks in Nigeria do not know what CDM is all about. This led to a sampling of most banks in the country and it showed that most do not have any idea of what climate change, Greenhouse Gases and CDM is all about. According to Bolade Soremekun statement during IREC 2009, he said that “despite all the local and international media reports and features, meetings, workshops, you will hardly find a bank with an Environment/Climate Change/Renewable Energy Desk in Nigerian banks”. This shows that something is fundamentally not right.

The underlying course of any Foreign Investment in any project, as in the case of CDM, is the acute interest, devotion, commitment and understanding on such project by the locals which is not evident in this case in Nigeria. Institutional developers have the potential to develop carbon assets but it has to be with the collaboration of the Nigerian organizations.

Although the banks have few projects registered or in the offing, those projects are only registered on the basis of the usual loans and project finance but not on the basis of provision of sophisticated financial projects such as required and eligible under CDM.

**Lack of Capacity building:** One of the major barriers to CDM development in Nigeria is the lack of viable project with respect to the underlying business math and adequate knowledge base. No investor will be attracted by just any great idea without the basic study done on viability.

In a recent World Bank study focusing on low-carbon energy in sub sahara Africa, over 750 CDM projects opportunities were identified in Nigeria. And from this study, slightly over 100 million tCO$_2$e of GHG emission reduction can be generated at the prevailing global carbon market price of $12.5/tCO$_2$e. This will amount to over $1.25 billion carbon credits sales if these projects were implemented. Also in addition to this implementation is the possibility of over $18 billion worth of clean energy technology transfer to the Nigerian economy annually. But the complexities associated with CDM projects
registrations, validation and implementations processes needs to be addressed by the stakeholders in this fields.

In capacity building, country specific barriers to CDM development such as pre-project, mid-project and launch issues also need to be redress adequately. For example, inadequate knowledge base, non-existing support services and government bottlenecks are most prevalent barriers as identified by Professor Felix B. Dayo in his paper. (a CDM methodology expert in the Preparatory Assistance to 10 Francophone African countries on CDM – A UNIDO funded program YA/RAF/05/005/11-53.

The need for active participation of stakeholders such as the government in capacity building cannot be over emphasized which include the provision of adequate infrastructure by the government among other things.

**Perception of host countries and policy barriers:** The perception of international investors of Nigeria to be very risky for investment is considered to be of prime importance in CDM development barriers considerations. The Niger Delta unrest plays another role in driving home these perceived beliefs of outsiders. Although the risk in CDM revenue accounts for only 20% of the overall revenue, the expected growth in CDM development is absent as most institutional investors are wary of investing.

There is a need therefore for government to come up with regulatory policies that will ensure the safety of potential investors. The need to revamp the existing national regulatory framework to promote and protect carbon credit investment and project finance is also very necessary and pivotal to the growth of CDM in Nigeria.

**The complexities of CDM processes and technical framework:** The aforementioned complexities of CDM project requirements for eligibility under the Kyoto protocol also acts as a deterrent to CDM implementation and development in Nigeria. For instance, there is a debate on going the debate on whether gas flaring will no longer qualify as a CDM project since there is government regulation for its stoppage. Therefore, with the
requirement that every CDM project must qualify under “additionality”, gas flaring would no longer be “business as usual” or the baseline scenario. “Additionality” is a way by which Executive Board of CDM assures that the activities rewarded with credits would not have occurred anyway (Houser, Bradley, Chids, Werksman,& Hedmayr 2008:5).

Another consideration that is peculiar to Nigeria and inhibits CDM implementation is the typically small sized CDM projects scattered in different locations, which are of their own, unattractive and less economically viable to potential investors. Saddled with the responsibility of taking care of registration costs and risks, project developers find it a herculean task to bring such small projects to financial closure and ensure bankability due to its size before potential investor gets attracted. This constitute a reasonable set backs for most CDM projects of this categories in Nigeria since the knowledge of programmatic approach is lacking.

**Kyoto Protocol 2012 first commitment period expiration:** Beyond 2012, the future of CDM projects poses a challenge. On the market side, only few investors would take the risk beyond the first commitment period expiration. Kyoto Protocol expires in 2012, most CDM projects life span beyond 2012 and thus there is limited or no carbon credit market for such project. There is a certain school of thought that are of the opinion that Kyoto is bound for a natural death due to the non-inclusion of China and refusal of adoption by United States. Another school of thought has it that Kyoto Protocol has a political undertone in monitoring the growth of developing countries and are wary of the credibility of the carbon markets

This poses a threat to energy efficiency and infrastructure-oriented CDM projects in seeking for conventional finance as African generally are very conservative in delving into new frontiers agog with different information such as Kyoto is going to get bigger such that developing countries would eventually get caps and therefore economic growth will be suppressed.
CONCLUSION

As earlier mentioned, Nigeria’s potential in CDM project development is huge and the socio economic advantage is numerous. The various benefits range from enabling increased free flow of investment to infrastructure development and vibrant private sector through technology transfer. Hence the call for aggressive participation in capacity building which is the most critical of all barriers iterated above is a call in the right direction. For example, the Trigeneration at Cadbury Nigeria Plc was identified through a UNIDO capacity building initiative.

Also proffering solutions to finding conventional finance through awareness and training of the stake holders, such as the Nigerian Financial Institutions and the Government would go along way to mitigate the eternal problem with national and foreign direct investments. This would also stimulate interests in research and development which CDM requires. It will in both long and short term benefit the country at large.

Post 2012 Carbon Credit Fund advised by First Climate is a fund established by five leading European public financial institutions and its currently buying carbon credits that spans beyond 2012 when Kyoto expires.

REFERENCES


