

**Salient Experiences:  
CDM Capacity Building Project in Nigeria and  
Membership of the CDM Methodology Panel.**

By

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## **1. BACKGROUND**

In the early part of the last quarter of 1999, I was appointed a member of the African team which worked with Dr. Peter Pembleton of UNIDO on a CDM Capacity Building program for six African countries: Nigeria; Ghana; Senegal; Zambia; Kenya and Zimbabwe. The appointment gave me the opportunity to coordinate the UNIDO capacity building activities for CDM in Nigeria. This capacity building activity which was completed in the early parts of 2003, culminated in: the building and strengthening of capacities of Nigerian Professionals including myself on CDM and Kyoto Protocol; culminated in the development of two Project Idea Notes (PINS) which were adopted by the Prototype Carbon Fund (PCF) for further development; and led to the publishing of a minimum of two articles in international journals <sup>(1,2)</sup>.

In July 2004, I was appointed a member of the Methodology Panel of the CDM Executive Board (CDM EB) of the United Framework Convention for Climate Change (UNFCCC), with headquarter in Born, Germany. The appointment is for two years in the first instance. In addition the Methodology Panel, nominated me in September 2004 to represent it on the small scale CDM Working Group (SSC WG). Both the Panel and the Working Group are saddled with the responsibility of providing professional recommendations on the quality of new baseline and monitoring methods submitted by CDM project proponents from all parts of the world, for both large and small scale projects respectively to the CDM EB. This paper provides some salient highlights of some of my experiences as a Coordinator of the UNIDO CDM capacity building project in Nigeria, as well as from my memberships of both the CDM Methodology Panel and the Small Scale CDM Working Group.

## **2. THE CDM CAPACITY BUILDING IN NIGERIA**

As mentioned in an earlier section of this paper, UNIDO appointed me in late 1999 to coordinate capacity building for CDM in Nigeria. With this appointment, I worked with Dr. Peter Pembleton of UNIDO, Vienna, Austria who served as the Project Manager and five other African Professional representing: Ghana; Zambia; Kenya; Senegal; Nigeria; Zimbabwe. The activities of these African Expert Group and especially the Nigerian component are summarized as follows:

### **2.1 Expert Group Meeting in Vienna**

In October 1998, UNIDO hosted the Expert Group Meeting on CDM and sustainable Industry in Developing countries. The Meeting, inter alia concluded “Africa will need to build it institutional and infrastructure capacity in order to take full advantage of the opportunities under the CDM to attract a meaningful amount of additional investment resources”. The Meeting also requested UNIDO to “step up assistance to Africa in order to create the necessary conditions to attract an in-flow of investment, including CDM investment”. <sup>(3)</sup>

In response to these challenges, UNIDO commissioned experts from six African countries (Ghana, Kenya, Nigeria, Senegal, Zambia and Zimbabwe) and from the Netherlands to examine the implications of the climate convention and the CDM for industry in general as well as in the context of six countries. They commenced their work with an Expert Group Meeting in Vienna in October 1999 during which, the structure of the CDM capacity building project was developed. The Experts then proceeded to their countries to implement the framework. Some of the key capacity needs to support the implementation of industrial CDM in these African countries as identified by the project can be summarized as follows:

- **Pre- project Issues:**
  - ❖ Identification and removal of barriers to technology transfer and absorption;
  - ❖ Identification of national sustainable (industrial) development objective and appropriate criteria.
  - ❖ Identification of technology and technology information needs
  - ❖ Access to and utilization of appropriate sources of information.
  - ❖ Preparation of sectoral and national baselines
  - ❖ Support to the process of Foreign Direct Investment (FDI) (e.g. matchmaking services, investment events);
  
- **Project Issues:**
  - ❖ Formulation and development of CDM projects;
  - ❖ Application of baselines and determination of additionality for CDM projects;
  - ❖ Assessment of technologies to determine their appropriateness;
  - ❖ Negotiation with project/technology sponsors.
  
- **Post Project Launch Issues**
  - ❖ Management of the process of technology transfer;
  - ❖ Management of the project (technical and economical aspects);
  - ❖ Management and absorption of the technologies once transferred under the CDM;
  - ❖ Monitoring of the projects; and
  - ❖ Certifying emission reductions from the project.

These capacity needs to support CDM projects in African industries were addressed during the implementation of each country's activities. Apart from addressing these issues, the Nigerian project identified the following barriers to CDM projects in Nigeria:

#### 2.1.1 **General Barriers**

The following general barriers were identified:

- Inadequate knowledge base.
- Inadequate support services
- Government bottlenecks

### 2.1.2 Sector Specific Barriers

Two industrial sectors were initially evaluated; these are: Cement; and food processing. Later on wood-processing industry was added. Some of these specific sector barriers identified include:

- ❖ Technical knowledge base
- ❖ Provision of adequate infrastructure by government.

## 2.2 Participation of Stakeholders in the Capacity Building Project

Stakeholders in the CDM program in Nigeria were broadly classified into the following categories: Government Institutions; Private sector; Non-government organizations (NGO'S), and international organizations. These stakeholders were sensitized as part of the program, on the goal, and objectives of the protocol and the CDM. Particular emphases were placed on the objectives of the UNIDO initiative. The sensitization effort yielded the following results:

- We were able to get the attention of the following government parastatals albeit with various levels of final impacts: Federal Ministry of Environment; Nigerian National Petroleum Corporation (NNPC); National Electric Power Authority (NEPA); Energy Commission of Nigeria (ECN); and the center for Energy Research and Development,
- In terms of capacity building only marginal results were achieved in many of these governmental organizations.
- Five industrial operators were identified. These include: Cadbury Nigeria Plc; Nestle Nigerian Plc; Ashaka Cement Plc; West African Portland Cement Plc, and the Okobaba Saw millers Association.
- In the food manufacturing sector, we obtained extensive support from Cadbury Nigeria Plc. The implication of this is that, the capacity building effort resulted in the identification of a Trigeneration project, for which a Project Idea Note (PIN) was developed. The Pin was eventually adopted for further development by the Prototype Carbon Fund of the World Bank
- There was a very low support from the Management of Nestle Nigeria Plc. It is not surprising that the capacity building effort in this company did not result in the identification of any potential CDM project.
- Along the way, the minimum cooperation initially obtained from the top management of the West African Portland Cement Plc evaporated when La Farge of France took over Blue Circle of UK. The project team were actually informed that Management were not interested in the UNIDO CDM initiative at a point in time.
- The Okobaba Sawmillers Association has been ever supportive of the UNIDO initiative as a fuel was identified and was the second PIN that was adopted by PCF for further development.
- Another pertinent result of the UNIDO CDM Capacity Building initiative is the strengthening of the capacity of some Nigerian experts as well as the outright

building of the capacity of others on CDM and Kyoto Protocol. For example, my capacity on the subject of CDM in particular and the Kyoto Protocol in general was strengthened through the initiating workshop in Vienna, and UNIDO's sponsorship of my attendance at SBSTA 13 and COP 5 meetings. Similarly, the implementation of the initiative in Nigeria assisted in the building of the capacity of several Nigerian professionals who now have varying levels of expertise in the following areas: identification and concept engineering of CDM projects; legal aspect of CDM; development of GHG emission baselines; technology transfer issues; etc.

### 2.3 Some Pertinent Final Thoughts

The UNIDO intervention focused at developing capacity for CDM in the Nigerian industry in my opinion has yielded beyond marginal results. Not only do we have 2 CDM projects, one up to the Project Design Document (PDD) stage, we have in place in the country a low level of capacity to design of CDM projects, from a pre-1999 zero level. What the initiative has not been able to do is to move the capacity developed so far beyond the current low level, to a more significant level through the implementation of pilot CDM projects, from identification, through concept engineering and the various stages of the CDM project cycle. This would have assisted in developing the capacity of more professionals in the country.

The UNIDO capacity building initiative ended with the identification of CDM projects in the industrial stakeholder's facilities. For example as soon as the Trigeration at Cadbury Nigeria Plc was identified, the initiative came to an end. This I believe has contributed in no small means to the project not proceeding from the PIN/PDD stage to the UNFCCC project cycle, despite the fact that it was one of the first CDM projects identified in Nigeria. I believe a more effective strategy, with the power of hindsight would have been to extend funding to such a pioneering project to move it through the UNFCCC CDM project cycle as part of the UNIDO initiative.

### **3. THE METHODOLOGY PANEL OF THE CDM EXECUTIVE BOARD**

#### **3.1 General Overview of the Work of the CDM Methodology Panel**

I was appointed a member of the Methodology Panel of CDM Executive Board (CDM EB) in July 2004 with the mandate to serve for a period of two years minimum. The Methodology Panel has been put in place by the CDM EB, in accordance with the directive of the Kyoto Protocol, in accordance with the procedure and consideration of a proposed new methodology (of CDM Projects), and guidance by the EB CDM and mandated to::

- ❖ Prepare recommendations on submitted proposals for new baseline and monitoring methodologies;
- ❖ Prepare draft reformatted versions of proposed new baseline and monitoring methodologies approved by the EB CDM;
- ❖ Prepare recommendations on options for expanding the applicability of methodologies and provide tools for project participants to choose among approved methodologies of a similar nature;
- ❖ Maintain a roster of experts and select experts who are able to undertake desk reviews to appraise the validity of proposed new methodology.

The Panel is also expected to carry out the following additional functions with the assistance of the EB CDM Secretariat which are mainly focused at generating outputs to be considered and adopted by the EB CDM:

- ❖ Revision to the project design document, in particular on sections relevant to baseline and monitoring;
- ❖ Draft “decision trees, and other methodological tools, where appropriate, to guide choices in order to ensure that the most appropriate methodologies are selected, taking into account relevant circumstances” (in accordance with para (b) (iv) of Appendix C of the CDM modalities and procedures);
- ❖ Guidance on identified modalities and procedures contained in the annex to decision 17/CP.7 with a view to facilitating the development of project based methodologies by project participants. Such modalities and procedures shall be identified by the Panel and addressed in accordance with guidance provided by the CDM EB;

- ❖ Further work on items identified in Appendix C of the CDM modalities and procedures, as appropriate;
- ❖ Amendments on the annex on indicative simplified methodologies for CDM small-scale project activities.

### **3.2 Highlights of Methodology Issues Relevant to the Francophone CDM Capacity Building Initiative of UNIDO**

In this section, I have attempted to illuminate some salient issues in the CDM project pipeline, especially those relating to methodologies, tapping on my experiences as a member of the Methodology Panel over the last fifteen months.

#### **3.2.1 Project Additionality and the Additionality Tool**

A key requirement of the CDM process is that the project must be additional to that which would have been implemented in the absence of CDM. The implication of this Kyoto Protocol requirement for CDM projects is that, a project is additional if it would not have been implemented in the absence of the CDM process. Project participants must provide convincing arguments in their submission of projects to the CDM EB to prove that their project is additional. Experiences gathered by the Methodology Panel during the review of new methodologies since 2001 indicate that proving additionality of new projects, is a major constraint in the development of new CDM projects that passes the approval hurdle. As a result, the CDM Methodology Panel recommended to the CDM EB sometimes in 2004 the development of a tool to assist project proponents to flexibly and transparently determine project additionality.

The CDM EB approved the recommendation of the Panel, which was aimed at facilitating “common” interpretation of additionality. The tool was developed by the Panel and named “Tool for the Demonstration and Assessment of Additionality”. The tool’s six steps are described below:

Step 0: Preliminary Screening--- Starting Date and Eligibility for Early Start;

Step 1: Identification of Alternatives to Project Activities;

Step 2: Investment Analysis; OR

Step 3: Barrier Analysis;

Step 4: Common Practice (Credibility Test);

Step 5: Impact of CDM Registration (Credibility Test).

It is important to note that Steps 2 and 3 are alternates. A project proponent utilizing this tool can either proceed via Step 2 OR Step 3. This flexibility was built into the tool to

ensure that the application of the investment analysis option does not constrain project development in developing countries, which may find it easier and more flexible to use the barrier option. This tool was approved by the CDM EB and released to project stakeholders for additionality determination sometimes in the year 2005. Feedback from project stakeholders over the last few months indicates one problem area, difficulty in the use of the tool to identify alternatives to project activities. The last three meetings of the Methodology Panel has devoted some time to reviewing the problem and working on solutions. Other interested stakeholders are also working on how to ensure that the tool can be effectively used to identify alternatives to CDM project activities.

### **3.2.2 Critical Elements of a Baseline Methodology**

The following is a summary of the critical element of a CDM baseline methodology:

#### **(i) Applicability Conditions**

In this element, a description of the situations in which the proposed method is applicable is summarized. The similarities that must exist in the common application of the method to a similar type of project are also described within this element. The element also provides necessary and sufficient conditions for applying the baseline methodology to projects.

#### **(ii) Baseline Scenario and Additionality**

In this element, a listing of the baseline options that would have been implemented in the absence of the CDM project. In addition to these, status quo projects as well as the proposed CDM project are listed along. Proper procedure to screen this list of projects to determine the baseline will also be elucidated within this element.

#### **(iii) Emission Reduction Calculations**

This element provides the calculation protocol for emissions at the baseline, from the CDM project activity, and from leakages. Emission reduction (ER) is defined as follows:

$$ER = \text{Baseline Emissions} - \text{Project Emissions} - \text{Leakages}$$

#### **(iv) Other Important Elements**

Other issues that are included in the CDM baseline Methodology report include:

- ❖ The approach of the baseline methods;
- ❖ Boundary and Leakages;
- ❖ Handling of Uncertainties;

- ❖ Conservativeness and Transparency.

### 3.2.3 A Summary of the Methodology Pipeline

As of June 2005, the following summarizes the CDM project pipeline:

- ❖ As of that date, 101 new methodologies had been submitted to the CDM EB;
- ❖ Of these submissions, 21 were approved by the CDM EB as Approved Methodologies (AMs), while 2 were Approved Consolidated Methodologies (ACMs);
- ❖ The AMs and the ACMs covered about 49 New Methodologies (NMs) submitted to the CDM EB;
- ❖ As of that time, about 91 CDM projects were in various stages within the project pipeline;
- ❖ As of this time, of the 91 projects at various stages in the pipeline, 3 had been registered as CDM Projects, 2 were under review for registration while the rest were at validation stage;
- ❖ The 91 CDM Projects, that had scaled the CDM EB approval hurdle and were in the project pipeline represented the following emission reductions:
  - 131,627 Ktons
  - 15,732 Ktons/Year
  - 173 Ktons/Project/Year
- ❖ The regional spread of the 91 projects can be summarized as follows:
  - Latin America---59%
  - Asia & Pacific---29%
  - Europe (FSU)---2%
  - Africa----1%
  - Middle East---1%
- ❖ 45% of these projects are Small Scale CDM projects;
- ❖ 32% of these projects in the pipeline utilized the fixed crediting period of 10 years, while the balance utilized the 7 years X 3 crediting period.

#### **4. CONCLUSIONS**

It can be seen that the UNIDO Capacity Building initiative in Nigeria, which started in 1999, went a long way to focus some of my professional activities to CDM issues. Although not discussed in this paper, the capacity building initiative also accentuated my professional interest in mitigation and adaptation research areas, which are pertinent to the Kyoto Protocol. These activities assisted in no small way to make it possible for me to contribute my quota towards the development of CDM projects in Nigeria, and enabled me to participate meaningfully in other greenhouse mitigation and adaptation research activities, many of which resulted in international publications <sup>(4)</sup>. It is likely that many of these outputs facilitated my appointment as a member of the Methodology Panel of the CDM EB.

In addition, various types of capacities for CDM projects, Kyoto Protocol Issues have also been built in Nigeria as a result of the UNIDO CDM Capacity Building initiatives, which commenced in 1999. These capacities can be found in at least one of the industrial companies where a full blown CDM is still inching its way to the project pipeline (Cadbury Nigeria Plc.), and also at Triple “E” Systems Associates Ltd, the consulting Firm that offered me the base station from where I participated in the UNIDO CDM Capacity Building initiative.

## **REFERENCES**

1. **Dayo F.**, Bogunjoko, S.B., Sobanwa A.C., Cogeneration: A Win-Win Option for Cadbury Nigeria,' in Cogeneration and On-Site Power Production (COSPP), Vol. 2, Issue 1, Jan.-Feb. 2001.
2. **Dayo F.**, 'Cogeneration and the Clean Development Mechanism in Nigeria', A Paper presented at the 2<sup>nd</sup> International Symposium on Combined Heat and Power, Amsterdam, Netherlands, May 2001.
3. **Pembleton P.**, "Preface", UNIDO: African Industry & Climate Change Project Proceedings, 2002.
4. **Dayo F. B.** "Concept for Developing National Capacity to Implement Industrial CDM Projects in Africa: The Nigerian Case Study", In UNIDO: African Industry & Climate Change Project Proceedings, pgs 83 – 125, 2002.