



**CAPACITY DEVELOPMENT FOR CLEAN DEVELOPMENT
MECHANISM
THIRD MINIWORKSHOP REPORT**

**13TH FEBRUARY, 2008
BLUE PEARL HOTEL-UBUNGO PLAZA, DAR ES SALAAM,
TANZANIA**

Organized by
**ENVIRONMENTAL PROTECTION AND MANAGEMENT SERVICES
(EPMS)**

TABLE OF CONTENTS

INTRODUCTION.....	3
SUMMARY OF PRESENTATIONS	3
INTRODUCTION TO CLEAN DEVELOPMENT MECHANISM (CDM).....	3
CDM OPPORTUNITIES UNDER WASTE MANAGEMENT IN TANZANIA.....	4
MTONI LANDFILL GAS RECOVERY PROJECT-TANZANIA CASE STUDY	5
A VISIT TO MTONI LANDFILL PROJECT	5
QUESTIONS	6
APPENDIX.....	9

INTRODUCTION

The workshop was the third and last CD4CDM mini workshop from the series of three national workshops and three mini workshops organized by Environmental Protection and Management Services. The programme was funded by UNEP Risoe, Denmark. The one day workshop was specifically for municipal waste managers and energy experts.

The workshop's objectives are to give an overview understanding of Clean Development Mechanism activities particularly in waste management and energy sectors as well as to initiate efforts for people (experts) working in these sectors to start being involved in developing CDM projects in their area of practice. One registered CDM project in Tanzania is under the waste management sector. Taking it as an example, the workshop also aimed at encouraging development of more projects in Tanzania under these sectors as it was observed that energy and waste management sectors are among the most potential sectors for CDM activities in Tanzania

The workshop was officiated by Mr. Tharsis Hyera, the Programme Manger of EPMS on behalf of the Executive Director, Mr. Mike Nshangeki at around 0900 hours. In his remarks, Mr. Hyera briefly explained the purpose of the workshop and mentioned the available CDM opportunities in waste management and energy sectors. The workshop was attended by a total of 20 participants, 2 from Kagera, 1 from Mbeya and the rest from Dar es Salaam. The workshop had two parts: presentations in the morning and a field visit to Mtoni land fill where one of a first CDM projects in Tanzania (Landfill Methane gas capture) is being implemented.

SUMMARY OF PRESENTATIONS

Introduction to Clean Development Mechanism (CDM)

Mr.Hyera gave the first presentation on the overview of Clean Development Mechanism concept. The general CDM concept at both global and national level was well elaborated by the presenter. The presenter emphasized the key elements of CDM which need to be observed carefully in the process of developing projects to reduce the risk of being rejected at a later stage. Necessary steps to be followed when developing a CDM project before its registration to the CDM Executive board and implementation were elaborated in the presentation. CDM projects normally involve different players but four key players are project proponent, host country, CDM

Executive Board and CERs buyers. Challenges which cause difficulties in implementation of CDM activities in Tanzania were also explained as well as what need be done to ensure that Tanzania embarks and benefits from CDM projects opportunities.

CDM opportunities under waste management in Tanzania

The second presentation was from Mr. Damian Casmiri who covered specific CDM opportunities under waste management sector in Tanzania. Damian gave introduction to various management options of solid wastes especially Municipal waste in Tanzania. He mentioned that majority of the management options can be practiced in the context of CDM. In his presentation he explained a bit on Biogas recovery technology which is largely used in landfills to capture Methane gas which will then either be flared or used to generate electricity. In elaborating the potential of waste management sector, the presenter elaborated the projected amount of municipal solid waste for Tanzania up to 2020 and the amount of Methane gas likely to be emitted as a result of the accumulated wastes. It was observed that if the gas to be emitted will be utilized full in electricity generation then several tons of fossil fuels that would be used to generate electricity will be displaced hence reduce significant amount of GHGs to be released to the atmosphere.

There are many benefits associated with the utilization of municipal solid waste under CDM projects. Apart from revenues to be accrued from Selling CERs, CDM projects lead to environmental protection, healthier community, and generation of more gas than other traditional methods. Others are job creation, technology transfer and production of less waste residues which can then be utilized in the field as mulch / soil amendment.

Mr. Damian took a chance to elaborate various small scale CDM methodologies for waste management projects which have already been registered or/and implemented in other countries. These methodologies can also be applicable in Tanzania whenever the conditions and feasibility of the project is relevant to the country's situation.

In concluding his presentation, Mr. Damian emphasized the above explained issues particularly the potential of waste management related CDM projects in Tanzania as well as CDM project benefits compared to other conventional projects under the waste management sector. He encouraged participants from municipals to start being part of the implementers of the Kyoto Protocol's commitments through participation in CDM projects.

Mtoni Landfill gas recovery project-Tanzania case study

The last presentation was made by Mr. Elias Chinamo from Dar es Salaam City Council (DCC). Representing Dar city council (project developer), his presentation was about the registered CDM project in Tanzania i.e. Mtoni land fill methane recovery. He gave a brief history of the dumpsite which started operation in 2001 and closed in 2007. It was established that in 2004 the council started planning for the closure of the dumpsite by conducting a pre-feasibility study on leachate management. In his presentation he pointed out that a private firm, Consorzio Stabile Globus from Italy approached the City Authority in 2005 for the dump gas flaring project. From there a study was conducted and the idea of having a CDM project was agreed. The type of the project is large scale under ACM001 methodology (version 04). The crediting period of the project is 10 years expected to reduce about 202 271 metric tones of carbon dioxide equivalent per year. The project was registered by CDM Executive Board on the 2nd June 2007.

Mr. Chinamo elaborated the exhaustive CDM benefits expected from the project. These includes income generation from selling of both CERs and electricity to be generated, technology transfer and know how, long term and short term employment but most importantly are greenhouse gases emission reductions and improved waste management systems. He further raised some recommendations from the lessons learned from the project including realization of the huge potential of CDM activities in all other dumpsites of Tanzania particularly the ones in cities because of the huge populations.

After these presentations participants were given sometime (half an hour) to discuss the three well presented papers from the experts, give out their comments and questions. Generally, majority of the participants were more concerned about the applicability of CDM projects, sustainable development criteria of Tanzania and the financial analysis of CDM projects.

A VISIT TO MTONI LANDFILL PROJECT:

In the afternoon, participants visited Mtoni landfill gas project area to see the ongoing CDM project implementation. The trip was led by Mr. Mkumbwa from Dar es Salaam City Council who gave general over view of the project. More technical information was given by two engineers/site supervisors who have been working on the project since its inception. The project is still at the initial stages i.e. setting up equipments for methane recovery process. At the project site it was observed that a lot of Methane gas was produced from the landfill due to its unpleasant smell covering the project and nearby areas.

QUESTIONS

What does Tanzania benefit from CDM projects owing to low technology and limited access to financial?

For a CDM project to be registered in Tanzania it has to meet certain criteria set by Designated National Authority (DNA). The developer is required to show how the proposed project will contribute towards achieving sustainable development in Tanzania. The sustainable development criteria include poverty alleviation, socio-economic growth, environmental conservation etc. CDM project activities involve various steps from development to the implementation stage. For the successful CDM project, either local or transferred environmental safe and friendly technology which does not destroy the country's depended natural resources and which lead to reduction of greenhouse gases emission is highly needed. This is also well elaborated among the sustainable development criteria hence DNA has to make sure it is well done.

From the fact that most of project developers in LDCs can not afford the transaction costs and financial capital involved in CDM projects, there are various potential investors who are basically financing CDM projects under the legal contract/MoU in the agreement of sharing the amount of CERs expected from the project. On implementing the project, the project developers (Tanzanians) will benefit from the selling of the CERs to developed countries, depending on the percentage secured in the contract/Mou in yearly bases. The project developer will also benefit from the products of the project e.g. electricity generated, biogas, increased production efficiency etc depending on the type of the project.

Who is responsible to prepare sustainability criteria in Tanzania and what are they?

CDM Executive Board requires all CDM projects to meet sustainability criteria of the host country before the project is registered. The task of setting sustainability criteria has been left to the host country. In Tanzania the sustainability criteria are set by the Designated National Authority (DNA) which is in the Vice President's Office, Division of the Environment. The criteria are categorized under three aspects:

***Social** (Increase energy access, Gender issues, poverty alleviation, education and training, health, etc), **Environmental** (use of renewable resources, biodiversity, local environmental benefits and GHGs emission reductions) and **Economic** (cost effectiveness, provide financial returns to local entities, generate employment, reduce economic burden of energy imports and technological change).*

***Caution:** Project developers are encouraged to read a hand book for CDM activities in Tanzania found at the DNA office.*

Do we have enough emissions that can attract investors to finance our project?

Tanzania has many CDM potential areas which have been so far identified. There are more than 10 CDM projects which are in pipeline. The areas encompass, inter alia, land fill/dumpsites, wind projects, mini hydro, biomass and solar. Hence this prove that, although it wont be majority of large scale projects but Tanzania has enough emissions which can be reduced through CDM projects system

What are the limits for large and small scale projects?

Small scale a project limits varies depending on the category of the project. There are three categories of small scale projects namely Renewable energy projects, Energy efficiency projects and Other projects which include the rest of the projects.

Under the Renewable energy projects, the maximum output of 15MW or less is considered as Small Scale project. Reduction of energy consumption up or equivalent to 60KJ and emission reduction of 60Ktonnes or less of CO₂ eq in other projects are the limits of small scale projects. Going above that limit the project will be considered as a large scale project.

Is it a must to have sorted wastes before developing a CDM project?

The designing, development and implementation of the CDM projects in a well waste sorted landfill are much easier and more convenient than the unsorted landfill/dumpsite but implementation in both types of landfill is possible. The Mtoni landfill was an open and unsorted landfill and large amount of CERs are expected from this project hence it is possible to develop the CDM project in that condition.

How long did you take to prepare CDM project.

The duration of developing a CDM project depends on the type of the project but approximate one year or less is required for the development of the CDM documents (PIN, PDD and other related reports) and registration before the implementation of the project start.

The capital/costs of the project of the Mtoni landfill gas recovery project-

1.6 million Euro.

What is the probability of returns from the project?

The baseline emission and the technology to be used as well as the feasibility of the project determine the probability of returns from the project. If the projects have less risks its probability of returns is high because as long as the project is implemented throughout the year, the project developer expect to receive CERs according to the amount of GHGs emission reductions acquired in that year. For the case of Mtoni landfill gas recovery project, the probability of returns is high because the inception work have already shown the possibility of harvesting large amount of methane gas in the landfill.



APPENDIX

APPENDIX A



CAPACITY DEVELOPMENT FOR CLEAN DEVELOPMENT MECHANISM (CD4CDM) PROJECT

Programme for the Mini workshop on CDM for the Municipal Waste Management and Energy Experts and Decision makers held on 13th Feb 2008 at Blue Pearl Hotel.

Time	Activity	Presenter
0830	Registration	All
0900	Introduction	All
0910	Introductory remarks	Mr. Nshangeki
10:00	Group photo and Tea Break	All
1015	Introduction to CDM	Mr. Hyera
1045	CDM opportunities under waste management in Tanzania	Damian Casmiri
1130	The Mtoni landfill gas recovery CDM project-Case study	DCC representative
1200	Discussion and Questions	All
1215	Renewable energy and CDM projects-Lessons from Tanzania	Ngeleja
1245	Discussions and workshop lessons, comments and possible solutions	All
1300	Closing remarks	Mr. Hyera
1315	Lunch	All
1415	Trip to Mtoni dumpsite	All
1530	Trip back to the Hotel	All

**APPENDIX B
LIST OF PARTICIPANTS**

1. MR. ELIAS CHINAMO
DAR CITY COUNCIL
DAR
2. MR. JASPER KILANGO
DAWASCO
DAR
3. DR. ANDREAS
BOHRINGERS
SAFIANZANIA
DAR
4. MELIACHI LUPALA
ILALA MUNICIPAL
COUNCIL
DAR
5. KASULWA MVANO
KINONDONI MUNICIPAL
COUNCIL
DAR
6. ALY SAID KHATIBU
TEMEKE MUNICIPAL
COUNCIL
DAR
7. ODAS ARON
MBEYA MUNICIPAL
COUNCIL
MBEYA
8. MR. OSCAR KASHINGILI
MINISTRY OF ENERGY
DAR
9. PROF. GABRIEL
KASENGA
ARDHI UNIVERSITY
DAR
10. DAVID STEPHEN
EPMS
DAR
11. MR. THARSIS HYERA
EPMS
DAR
12. NANGULA MWAMPAMBA
ECOSYSTEMS EAST
AFRICA LTD
DAR
13. JULITHA KATO
EPMS
DAR
14. MR. JOHN KALOKOLA
KARAGWE
KAGERA
15. MR. ANDREW KAZIMOTO
KARAGWE
KAGERA
16. JIBA MWAIJIBE
ARUSHA MUNICIPAL
COUNCIL
ARUSHA
17. ROSE MERO
EPMS
DAR
18. EUSTER KIBONA
EPMS
DAR