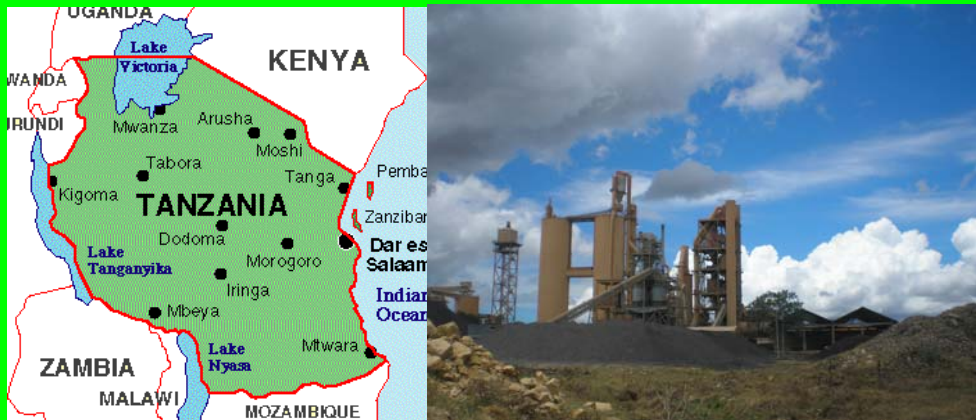
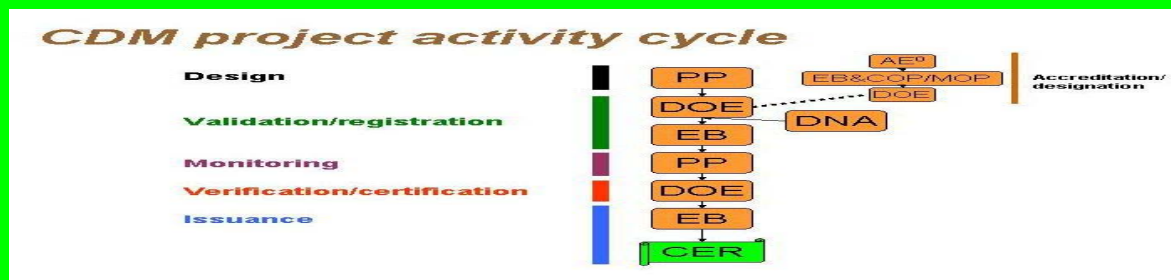




THE UNITED REPUBLIC OF TANZANIA  
 VICE PRESIDENT'S OFFICE



A HANDBOOK  
 FOR CLEAN DEVELOPMENT MECHANISM (CDM)  
 PROJECT ACTIVITIES IN TANZANIA



DIVISION OF ENVIRONMENT  
 DAR ES SALAAM

JULY 2007

## **Foreword**

One of the key mechanisms to address climate change mitigation at the international level is The Clean Development Mechanism (CDM). CDM is an incentive created under the Kyoto Protocol for projects which reduce greenhouse gas emissions in the developing country Parties at the same time generating substantial revenue for developers of CDM projects. Many of the projects which could be relevant for Tanzania are relatively small but developers face difficulties in understanding the complex project cycle of the CDM project with its multiple levels of independent steps. The Vice President's Office, Division of Environment which is a Designated National Authority (DNA) has realized the difficulties project developers are facing and has thus developed this handbook which provides a stepwise elaboration of the CDM cycle and potential project activities in Tanzania. Nevertheless, it is important to note that CDM rules require professional and relevant experts and thus this handbook serves as a quick guide for those who have the potential to engage in CDM project activities.

Based on the CDM rules and modalities, this handbook has been drafted to assist project developers without any CDM experience in the development of their CDM project activities including determination of CDM project baseline and monitoring methodologies as well as key concept of project development. The handbook also provides information which can assist project participants to negotiate sales of certified emission reductions (CERs) from their projects. Examples of potential CDM projects for Tanzania are also provided in this handbook.

Users should pay attention to the fact that CDM rules are constantly changing and that should always strive to seek for the most recent information from for example the CDM Bazaar (<http://unfccc.int/cdm/bazaar>), which has been established by the CDM Executive Board (CDM EB) as a forum for exchange of information on CDM activities and opportunities.

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## 1.0 Introduction

The Clean Development Mechanism (CDM) is an arrangement under Article 12 of the Kyoto Protocol<sup>1</sup> of the United Nations Framework Convention on Climate Change (UNFCCC) which allows developed country parties (so called Annex I countries) with a greenhouse gases (GHG) reduction commitment and developing country Parties (so called Non Annex I countries) to jointly undertake emission reduction project activities in developing countries that contribute to sustainable development and result in certified emission reduction (CER)<sup>2</sup>. The Protocol was established in 1997 and entered into force in February 2005. Tanzania ratified the Protocol in August 2002. The greenhouse gases identified in the Protocol are: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur hexafluoride (SF<sub>6</sub>). The Kyoto protocol sets GHG reduction targets of 5% below 1990 levels of emissions between 2008 and 2012, for developed countries.

Article 12 of the Protocol therefore creates an innovative international emission trading scheme with unprecedented levels of coverage in terms of activities and types of partnerships. By creating assets with market value, CERs, the CDM is intended to help channel private sector investment towards climate friendly projects that might not otherwise have taken place. Such projects must be additional. Additionality means that the project is not business as usual and would therefore not be implemented in the absence of CDM incentive. The CERs are then received by the developed country investor to comply with its emission reduction targets under the Protocol. Developing countries are assisted to achieve sustainable development in a cleaner manner.

In undertaking CDM projects three approaches are possible. These are:-

- a) The "classic" model where a developed country Party or its legal entity invests in project in partnership with developing country Party (bilateral approach);
- b) The unilateral approach where a developing country Party undertakes CDM activities without a developed country Party counterpart (unilateral approach); and
- c) Multilateral or portfolio approach, where an international financial institution or other intermediary puts together a portfolio of CDM project on behalf of the others.

## 2.0 Objective of CDM

The objectives of CDM are:-

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<sup>1</sup> The Kyoto Protocol is available for download at <http://unfccc.int/resource/docs/konvpc/kpeng.pdf>

<sup>2</sup> CER refers to 1 ton of CO<sub>2</sub> equivalent avoided by the CDM project

- a) To assist developed country Parties to meet their emission reduction commitments to the Kyoto Protocol; and prevent further climate change.
- b) To assist developing countries to achieve sustainable development. Each country defines its sustainable development needs. Tanzania's sustainable development needs for CDM are defined in the National CDM Implementation Guide 2004<sup>3</sup> and are addressed in National Strategy for Growth and Reduction of Poverty (NSGRP, 2005) and Vision 2025.

### **3.0 Institutional arrangement**

To ensure that CDM projects lead to real, measurable and long-term emission reductions, complex system of rules and institutions has been set up, which is unprecedented in its degree of scrutiny<sup>4</sup>. These institutions range from national to international level.

#### **3.1 Designated National Authority**

At national level, the institution responsible for dealing with CDM project is the Designated National Authority (DNA). Its functions are to provide written approval of the voluntary participation of each Party involved in the proposed project and to confirm the project's sustainable development credentials. In Tanzania<sup>5</sup> the DNA is the Vice President's Office, Division of Environment.

Other functions of DNA include:-

- Awareness raising on CDM project activities;
- Coordination of national agencies/stakeholders; and
- Provision of procedures for registering and in-country monitoring of CDM projects.

In so doing, the DNA is assisted by the review committee with members from the relevant sector of the proposed project (s). Through such process the DNA is able to track and control CDM project activities so as to conform to the national sustainable development priorities. Letters of approval for each project activities by the DNA are provided after the PDD has been developed. Thus it is important to involve the DNA right from the beginning of the project development. At global level the DNA is linked to the CDM Executive Board.

#### **3.2 CDM Executive Board**

The CDM Executive Board (EB) main functions are to accept validated projects formally as CDM projects,

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<sup>3</sup> The National CDM Implementation Guide is under review

<sup>4</sup> The complete set of rules is available at the official CDM website of the United Nations: <http://cdm.unfccc.int>

issue CERs and accredit operational entities provisionally pending their formal designation by the Conference of the Parties serving as a Meeting of the Parties (COP/MOP). The operational functions of the EB involve close and direct liaison not only with Parties and International Organizations (IGOs) but also with business project developer, NGOs and other private entities involved in implementing CDM projects. Finally, because its work involves financial investments worth millions of dollars, it must be seen to be acting in an impartial manner. For this reason special requirements have been built in to safeguard commercial confidential information that members of CDM Executive Board come across during their duties as well as after their term has expired.

### **3.3 Designated Operational Entities**

Designated Operational Entities (DOEs) are responsible for checking that CDM projects are in conformity with CDM modalities. In so doing the DOE undertakes two main functions:-

- Validate proposed CDM project activities and put them forward for registration by the EB; and
- Verify and certify reductions in emissions.

Additional functions of the DOE include:-

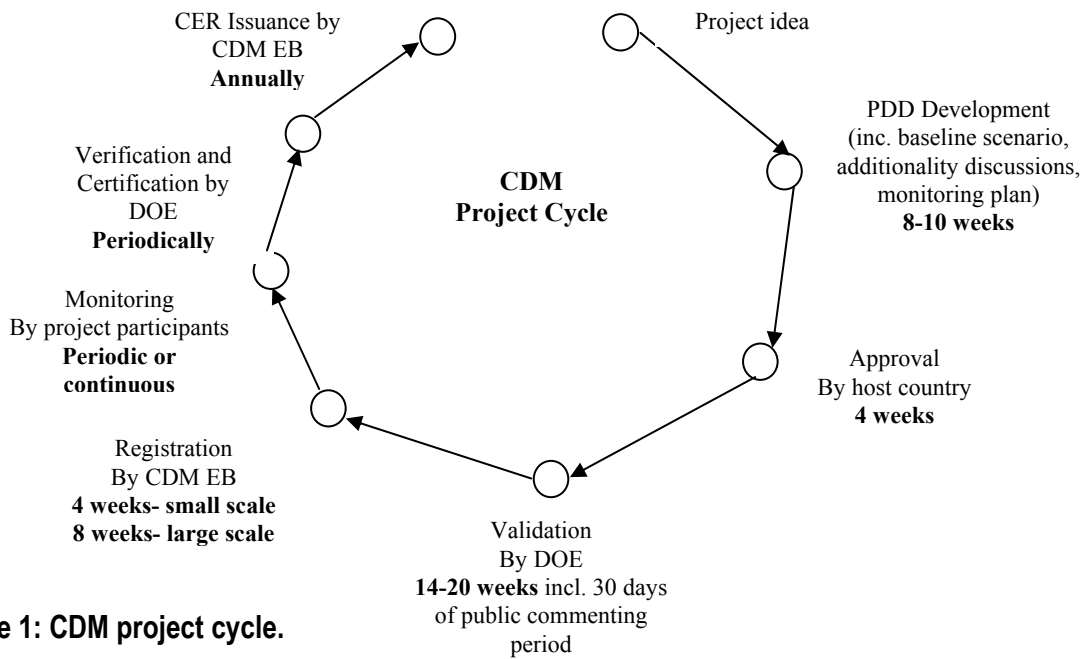
- Be responsible for ensuring that the DOE complies with host country applicable laws when carrying out its functions;
- Demonstrate that it has no real or potential conflict of interest in the CDM project;
- Maintain a publicly available list of all CDM projects in which it is involved;
- Submit annual activity reports to the EB; and
- Make non-confidential information from CDM project publicly available as required by the Board.

### **4.0 The CDM Project cycle**

A developer of any CDM project activity will have to complete eight major steps before he/she can receive CERs (see figure 1). Each of these steps is summarized below:-

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<sup>5</sup> Institutional structure of Tanzania's DNA is appended as Appendix 1.



**Figure 1: CDM project cycle.**

Therefore, CDM project cycle entails a number of steps which must be followed before you can generate CERs. These steps are as follows:-

#### 4.1 Step 1: Project idea

On the outset, the project developer or project participant (PP) needs to assess whether the project has a fair chance of being accepted as a CDM project activity. The developer also needs to define his basic strategy towards the sell of the CERs. In this regard the developer needs to develop a project idea note (PIN) which elaborates the key project concepts. The PIN is submitted to the DNA which can issue the letter of no objection (LONO) or reject the PIN before the project design document (PDD) development commences. Writing a PIN is a voluntary step that allows a project developer to become clear about aims and to start interaction with possible CER buyers. The following questions should be addressed in the PIN phase:-

- Can a project qualify as additional? Additionality means that the project is not business as usual and would therefore not be implemented in the absence of CDM incentive.
- Does the project have a right starting date? The development of CDM should be initiated before the project is physically implemented (i.e. commissioned). Theoretically projects which are already in operation could apply for CDM and receive CERs from the date of CDM registration, on the condition that they started after 01 January 2000. However, in practice such projects are likely to encounter problems with additionality and hence they should not pursue CDM.
- Does the project qualify as small scale or large scale? This involves the assessment based on the size limit specified in section 5 of this handbook. It is important to note that the projection of

emission reduction for type III requires good understanding of the CDM methodology planned to be applied. However, it is also important to note that type III project will not be disqualified if it turns out to exceed the 60,000 t CO<sub>2</sub> equivalents annually. Instead the CERs will simply be kept at this maximum level in any given year of the crediting period.

- Does the project qualify to use one of an existing small scale or large scale CDM project methodology? If the answer is no, a new small scale or large scale methodology may be developed. However, specific risks should be evaluated carefully.
- Should the project be bundled? Bundling is a way to mitigate the burden of CDM transaction costs for small projects. A bundle project of the same category e.g. small wind energy turbines can be registered as a single CDM activity. To qualify as a small scale the bundle in totality has to stay within the respective size limit. In addition, bundling of several projects may also help to obtain a better price per CER because it reduces transaction costs of buyers in the conclusion and implementation of CERs sales contracts.
- When to contract a CER buyer? Timing of the CER sales has an impact on the price which can be obtained. Contacting buyers at the PIN or PDD stage can be advisable if financing for the CDM registration is sought, or if the price per CER needs to be locked in at the early stage. For example for the purpose of collateralizing a bank loan. In this case however, it is advisable to obtain the view of the specialized CDM blocker to ensure that the buyer does not ask for excessive price discount or similar commitments.

#### 4.2 Step 2: PDD Development

A higher quality PDD is a necessary condition to achieve registration. Thus a project participant has to be professional in the development of PDD or should seek the service of a consultant. If the project participants choose to hire a consultant they should check whether the consultant has the necessary qualification, experience and competence in PDD development. In contrast to most of the business documentations, PDD is scrutinized several times by different independent observers. First they are available for comments by anyone in the world. Even if comments are infrequent, they can become difficult to deal with since CDM is observed critically by some stakeholders. Secondly, validators increasingly feel that their reputation is at stake when validating project and thus their scrutiny has been increasing. Third, the RIT members have accumulated sizable experience in identifying weak spots overlooked by the validators. Therefore, PP should design and submit information about a proposed project using a specific format<sup>6</sup>. Key elements of the PDD include:

- Project location;

- Technology use;
- Contribution to sustainable development;
- Start date and duration of crediting period;
- Baseline scenario and emissions estimates. For this section, an approved baseline methodology has to be used.
- Additionality of this project. A project is additional if it will not be realized in the absence of CDM project. A CDM project will qualify as additional if it can be shown that the CDM helped to overcome barriers facing the project.
- Projection of project emissions and emission reductions below the baseline emissions level;
- Monitoring plan for project emissions including a list of data that is monitored. The monitoring plan has to be derived from the baseline and monitoring methodology;
- Description of socio-economic impacts;
- Description of local environmental impacts;
- A description of how stakeholders comments have been solicited and been dealt with.

All requirements relevant for writing a PDD are described in an official EB guidance document<sup>7</sup>.

#### **4.3 Step 3: Approval by host country**

The project developer has to submit a project idea note (PIN) and the PDD to the DNA, the Vice President's Office-Division of Environment. If the project participant involves foreign investors from the developed country, they also have to get project approval from the DNA. The DNA will check whether the project addresses the following:-

- Social welfare: the CDM project activity should be consistent with National Strategy for Growth and Reduction of Poverty, 2005 and that it should aims at poverty alleviation by generating additional employment and improving standard of life.
- Economic welfare: the CDM project activity should bring in additional finance investment and should be consistent with the Vision, 2025 and Vision 2020 for Tanzania mainland and Zanzibar respectively.
- Environmental friendly: the project activity should be consistent with National Environmental Management Act, 2004 and its Environmental Impact Assessment and Audit Regulation, 2005. The project should reflect resource sustainability and resource degradation if any, impact on biodiversity, human health and other environmental issues.
- Technological issues: the CDM project activity should lead to transfer of environmentally

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<sup>6</sup> CDM-PDD Versions are available at <http://cdm.fccc.int/reference/documents/cdmpdd/English/cdmpdd.doc>

benign and sound technologies to Tanzania.

After the submission the DNA convenes a Technical Committee meeting to review the project and provide recommendations to the DNA before the decision is made. .

#### **4.4 Step 4: Validation**

Once the PDD is completed, the project developer has to hire a DOE officially accredited with the CDM EB<sup>8</sup> to validate whether the PDD is accordance with CDM rules. This is normally done in parallel with getting host country approval or just after the DNA/ host country approval. Since the DOEs are private business companies, they do charge a fee for such services. Once validation is completed the PDD will be posted in the UNFCCC web<sup>9</sup> for public comments for a period of 30 days. If any comments are submitted then the DOE will be required to explain how these comments were taken into account in the validation. The DOEs use a checklist known as Validation and Verification Manual<sup>10</sup> which is strongly recommended for reading by a project developer. If the developer ascertains himself/herself with all the questions in the manual then validation should be possible without major problems. The Validator follows the iterative process through a checklist by defining a Corrective Action Request (CARs) and Clarifications (CL) that the developer has to answer in the PDD. If the PDD does not address the checklist, then that PDD has to be revised or changed.

#### **4.5 Step 5: Registration**

Once the validator is convinced that all the corrective action requests have been resolved will formally determine that project activity is in compliance with CDM modalities and procedures and issue a letter of request in the form of validation report along with the PDD to EB for registering the project. Registration is in the form of acceptance of the validated project as a CDM project activity by the EB. Normally, this is an automated procedure as the registration will happen four weeks and eight weeks for small and large scale project respectively after the request for registration has reached the EB. However, a minimum of three members of EB can request a review of a project if they feel like the project does not fulfill the CDM rules. The EB is assisted by the registration and issuance team (RIT) in the checking of the PDDs and validation/verification reports submitted.

In the request for registration, developers have to specify the channel of communication. This means

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<sup>7</sup> See [http://cdm.unfccc.int/reference/documents/GUID\\_SSC/English/SSCPDDguide.pdf](http://cdm.unfccc.int/reference/documents/GUID_SSC/English/SSCPDDguide.pdf)

<sup>8</sup> For a list of accredited DOEs see <http://cdm.unfccc.int/DOE/list>

<sup>9</sup> [www.unfccc.int](http://www.unfccc.int)

<sup>10</sup> [www.vv-manual.org](http://www.vv-manual.org)

that in case of several participants have been involved in the same project, only one is responsible for contact with the EB. This becomes important for the issuance and allocation of the CERs to different project participants.

#### **4.6 Step 6. Implementation and Monitoring**

The developer will monitor the emission reductions of the project after its implementation in accordance with the monitoring plan defined in the PDD. Monitoring involves collection archiving of all relevant data necessary for estimating or measuring or calculating anthropogenic emissions by sources of greenhouse gases occurring within the project boundary during the crediting period. For project developers it is important to carefully develop and implement the monitoring plan since it requires use of sophisticated measurement devices and collecting of external data. Deviation from the monitoring plan can result in a partial or even complete loss of CERs for the relevant period.

#### **4.7 Step 7. Verification and Certification**

This is an independent periodic review of the monitoring by the DOE. The developer is free for the choice of a verification interval. Certification is the written assurance by the DOE that during a specific time period a CDM project achieved the reduction in GHG as verified. This is a necessary condition for CERs issuance.

#### **4.8 Step 8. Issuance of CERs**

The certification report from the DOE will be sent to the EB to request issuance of CERs equal to the verified amount of emission reduction. As for registration, the RIT checks the documentation and recommends a request for review in case of non conformities.

This distribution of the CERs to accounts of each project participant can be specified separately for each issuance, in accordance with the modalities of communication submitted earlier to the EB. If the project is unilateral, then the project developer has to set up an account in the CDM registry to be able to hold the CERs. If the CERs have been sold through a forward contract, the CERs will directly be issued to the account of the buyer in the CDM registry. In the near future, it will also be possible to transfer CERs from the CDM registry to the national registry of developed countries. As a pre-condition for such transfers, the so called international transaction log<sup>11</sup> must be put in place.

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<sup>11</sup> The transaction log is expected to be ready by the end of 2007

## 5.0 Types of projects

There are three types of projects which can be accepted as CDM:-

### (i) **Large Scale Projects**

All those projects with specifications greater than those of small scale projects (refer section 5-ii) are termed as large scale projects. For examples of approved projects with their respective status, amount of CERs and used methodology please see appendix 2.

### (ii) **Small-Scale projects**

#### **Overview**

Due to the fear that the cost for completing the project cycle will be prohibitive, for small scale projects, simplified modalities and procedures for small scale were adopted at the COP 8 in November 2002, New Delhi and have continuously been updated by EB. The small scale projects are differentiated into three types as follows:-

- Type I: These are renewable energy projects with a capacity of not more than 15 MW.
- Type II: These are energy efficiency improvement projects where annual savings do not exceed the equivalent of 60 GWh.
- Type III: Other project activities that result in emission reduction of less than 60,000 tonnes of CO<sub>2</sub> equivalent annually.

It is important to note that, the above types of small scale project sizes were adopted by CDM EB in October 2006<sup>12</sup>. Originally, the size limit of type II projects was 15 GWh of energy savings per year, and the limit for type III project directly emissions of not more than 15,000 tonnes of CO<sub>2</sub> equivalent annually which are no longer applicable.

#### ***Methodology for small scale projects***

CDM project developer must use an approved methodology for quantification of baseline emissions and emission reductions, and for the monitoring of project performance. For small scale projects, the EB has adopted a set of such simplified baseline and monitoring methodologies<sup>13</sup>. It is important to note that these methodologies are subject to periodic revisions, and that additional methodologies are adopted now and then. Therefore, it is advisable to always look for the latest version of the methodology from the official CDM

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12 See report of the 26<sup>th</sup> EB meeting paragraph 63 at <http://cdm.unfccc.int/EB>

13 The list of small-scale approved methodology is available at <http://cdm.unfccc.int/methodologies/SSC>

website before applying to a project.

If a project does not fit under any of these approved methodologies, the project developer can propose a new methodology, or a revision to one of the existing methodologies. Such proposals must be submitted to the EB in writing, using a specified document template<sup>14</sup>. The EB will make its decision based on the recommendation and work of its small scale working group. It is important to note that the many small scale methodology submissions till to date have been rejected by the CDM EB and thus it is advisable to use existing approved methodologies.

**Table 1: Categories of small-scale CDM project activities**

Project type	Small scale CDM activity category
<b>Type I</b>	<b>Renewable energy projects ≤ 15 MW</b>
A	Electricity generation by the user
B	Mechanical energy for a user
C	Thermal energy for the user
D	Renewable electricity generation for the grid
<b>Type II</b>	<b>Energy efficiency improvement projects ≤ 60 GWh saving</b>
A	Supply side energy efficiency improvements-transmission and distribution
B	Supply side energy efficiency improvements generation
C	Demand side energy efficiency programmes for specific technologies
D	Energy efficiency and fuel switching measures for industrial facilities
E	Energy efficiency and fuel switching measures for buildings
F	Energy efficiency and fuel switching measures for agricultural facilities and activities
<b>Type III</b>	<b>Other project activities ≤ 60 kt CO<sub>2</sub> annual emission reductions</b>
A	Agriculture
B	Switching fossil fuels
C	Emission reduction by low Greenhouse emission vehicles
D	Methane recovery in agricultural and industrial activities
E	Avoidance of methane production from biomass decay through controlled combustion
F	Avoidance of methane from biomass decay through composting
G	Landfill methane recovery
H	Methane recovery in waste water treatment
I	Avoidance of methane production in waste water treatment through replacement of anaerobic lagoons by aerobic systems
J	Avoidance of fossil fuel combustion for CO <sub>2</sub> production to be used as a raw material for industrial process

In principle a project fitting under the small-scale limits can also apply in existing large scale methodology, if it meets the criteria. The downside will be that large scale methodologies set relatively demanding definitions and monitoring, resulting in higher transaction cost for the project developer.

### ***Oversimplifications for small-scale projects***

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methodologies.

14 <http://unfccc.int/methodologies/SSC> methodologies

In addition to the pre approved methodologies introduced in the previous section, small scale projects have the following simplification:-

- Faster registration, only four weeks after the submission;
- Exempted from the registration fee;
- They can be validated, verified and certified by the same DOE.

For examples of approved projects and their respective status, amount of CERs as well as used methodology please see appendix 2.

### **(iii) Afforestation/Reforestation (A/R) projects**

Modalities for afforestation and reforestation projects for CDM were adopted by COP 9<sup>15</sup> in December 2003. The rules for AR projects are identical to those for emission reduction projects with a few exceptions. A project must be implemented on the land that was not forested on January 1990. The project may choose a single crediting period of 30 years or a renewable crediting period of 20 years with up to two renewals for the total of 60 years. The project developer must consider the socio-economic and environmental impacts of the proposed projects in accordance with the procedures referred by the host Party. In Tanzania, priority for undertaking A/R projects is given to semi-arid and arid areas.

Projects may specify which of the carbon pools, i.e. above ground biomass, below ground biomass, litter; dead wood and the soil organic carbon- are to be included in the project. Project participants may choose not to account for one or more carbon pools, if they can provide transparent and verifiable information, that the exclusion will not increase the quantity of reduction claimed.

The rules for Small-Scale A/R project activities under the CDM were also defined at COP 9 and are those which are expected to result in net removals by sinks of less than 8 kilotonnes of CO<sub>2</sub> per year and are developed or implemented by low income communities and individuals as determined by the host country Party.

In Tanzania, before the DNA can approve the A/R project activities, it is addressed by the Ministry of Natural Resources and Tourism through the Forest and Beekeeping Division which has formed a task force to looking at A/R project activities and other factors related to carbon trade opportunities. The aim is to ensure that A/R projects indeed benefit the local community and the country generally.

However, the Local NGOs, CBOs, and private individuals are expected to take a lead in stimulating development of such projects. Simplified rules for small-scale A/R were adopted at COP 10 in December 2004.

Due to the complexity in developing A/R projects, only few A/R CDM projects have been approved and registered by the EB as compared to other sectors. Example of approved projects and their respective status, amount of CERs and used methodology see also appendix 2.

## **6.0 Eligibility criteria for CDM projects in Tanzania**

One of the two objectives of CDM is that the project should promote sustainable development in the host country Party. Assessment of these criteria is prerogative of the host country, the DNA. There are no international standards that have been prescribed in this context. The Tanzania DNA has identified the following as the key criteria for CDM project:-

- The CDM project activity should be consistent with National Strategy for Growth and Reduction of Poverty, 2005 and that it should aim at poverty alleviation by generating additional employment and improving standard of life.
- The CDM project activity should bring in additional financial flows through investment and should be consistent with the Vision, 2025 and Vision 2020 for Tanzania mainland and Zanzibar respectively.
- The project activity should be consistent with the Environmental Management Act, 2004 and its Environmental Impact Assessment and Audit Regulations, 2005. The project should reflect resource sustainability and resource degradation if any, impact on biodiversity, human health and other environmental issues.
- The CDM project activity should lead to transfer of environmentally benign and sound technologies to Tanzania.
- Congruence with the national environmental policy and related action plans and strategies;
- Energy projects particularly in rural areas are accorded the highest priority;
- There should be a partnership between investor country company or institution and the host country local private company, NGO, Research /Academic Institutions or government department (Unilateral projects are encouraged) where no additional technology or finance is not requested. .

## 7.0 CDM Transaction Costs

The different steps of the CDM project cycle involve substantial transaction costs which may vary depending on the project, the consultancy involved and DoE. The key cost components include the following:-

- Validation. charged by DoE depending on the size of projects
- Registration and administration. The EB charges registration fee depending on the estimated annual CERs. On average it is US \$ 0.1 per CER for up to 15000 tons of CO<sub>2</sub> equivalent and US \$ 0.2 for volumes above 15,000 CERs. The registration fee is deducted from administrative fee, i.e. the registration fee is effectively an advanced payment towards administration cost of the EB.
- Adaptation levy. Except for projects implemented in LDCs like Tanzania, 2% of the CERs issued from all other projects in other developing Parties are deducted to cover for adaptation fund.
- Verification of the monitoring by a DOE. This will depend on the size of the project and is done once a year

In addition, a project developer will also incur cost if she or he hires a CDM consultant and or broker. The cost can vary in a wide range, depending on the nature of the project and the competitive strength of the consultant or broker.

In Tanzania, an administrative fee of at least 2.5% of the estimated CERs is charged by the DNA for the technical and administrative reviews of both the PINs and PDDs.

## 8.0 Selling CERs

So far, CDM project activities have proved to be among the fastest growing business in the world. Since entry into force of the Kyoto protocol over 800 CDM project activities have been registered with estimated annual certified emission reduction (CER) of over 160 millions tones of carbon equivalent. Global statistics indicate that CERs from CDM projects were in 2006/07 traded on a forward basis for between US\$ 5 and US\$ 20 per tone CO<sub>2</sub> equivalent. By end of 2012, expected annual CER to be issued is over US\$ 960 million.

For the CDM project developer, it is key to develop a strategy how the CERs can be monetized. Currently there is a big difference between contractual forms of CER sales that reaches about the factor of five. Generally the price is lower, earlier in the project cycle CER sales contracts are entered into. A contract with a small developer for a project that needs up front financing will fetch prices of US\$ 5 to US\$ 10 per CER. So the strategy of a developer who has sufficient capacity of financing a project from his own balance sheet will be completely different from the strategy of a developer urgently requiring finance before he/she can embark on the project.

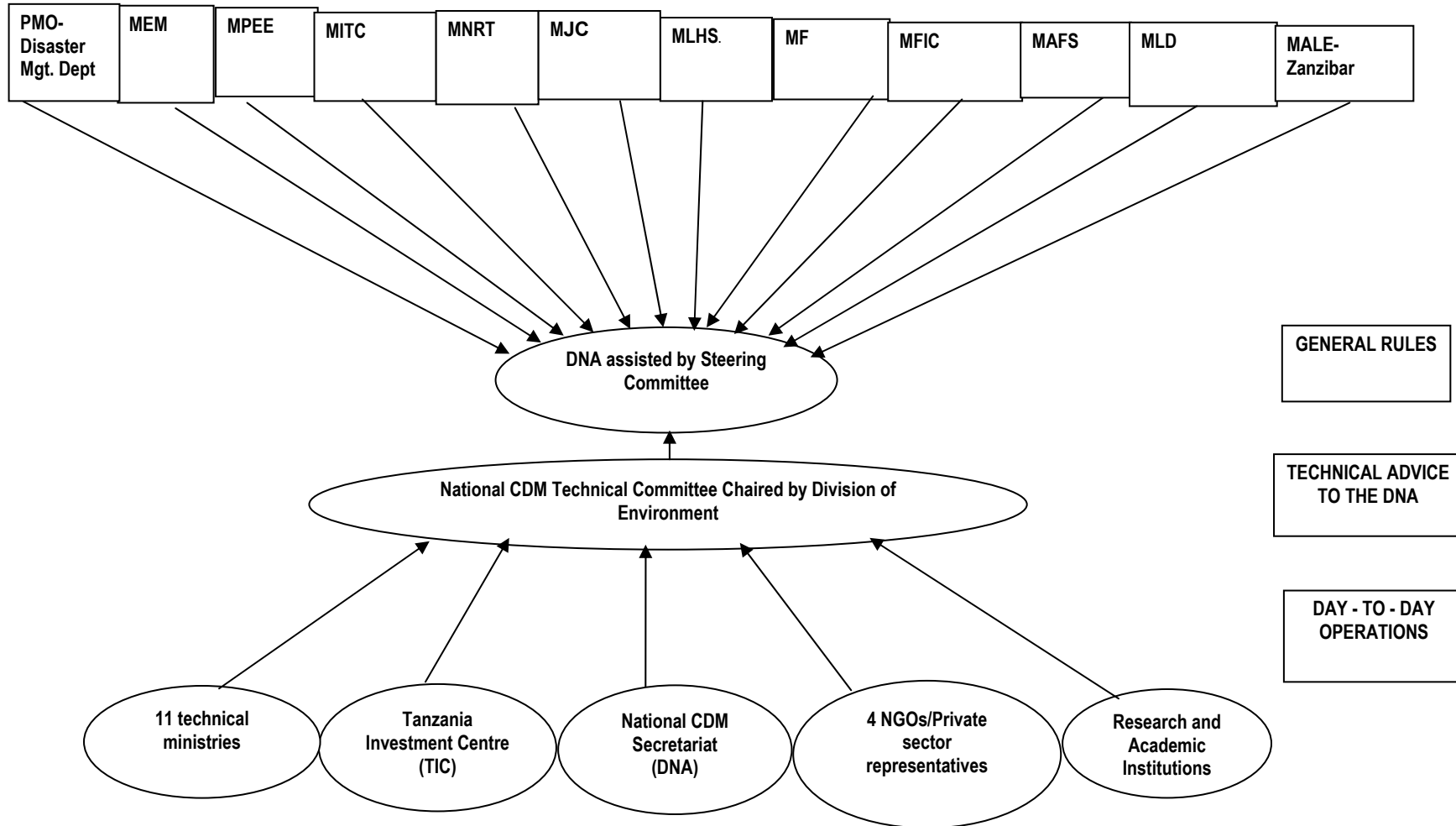
While in the past CER acquisition was limited to the World Bank and some European governments, the higher prices in the EU emission trading scheme spurred direct demand from companies and the set up of funds and aggregation vehicles by banks as well as other financial intermediaries. In this context, project developer should carefully define their sales strategy and ensure a competitive (win-win) sales process. Contracting an experience advisor/broker can be very worthy while for this purpose.

## Appendices

### Key to the abbreviations used in appendix 1.

PMO-RALG:	Prime Minister's Office-Regional Administration and Local Government
MEM	Ministry of Energy and Minerals
MPEE	Ministry of Planning, Economy and Empowerment
MITC	Ministry of Industry, Trade and Marketing
MNRT	Ministry of Natural Resources and Tourism
MJC	Ministry of Justice and Constitutional Affairs
MLHS	Ministry of Land, Housing and Human Settlement Development
MF	Ministry of Finance
MFIC	Ministry of Foreign Affairs and International Cooperation
MAFS	Ministry of Agriculture, Food Security and Cooperatives
MLD	Ministry of Livestock Development
MALE- Zanzibar	Ministry of Agriculture, Livestock and Environment

## Appendix 1: Structure of the Tanzania's DNA



## Appendix 2: Examples of CDM Projects and Methodologies in Africa

### Landfill gas

Methodology Number	Methodology	CERs	Status	Country
AM001	Landfill gas capture and electricity generation	202,271	Registered	Tanzania
AM0010	Landfill gas capture and electricity generation where not mandated by law	350170	Registered	South Africa

### Afforestation

Methodology Number	Methodology	CERs	Status	Country
AR-AMS0001	Small-scale afforestation and reforestation project activities	5579	Registered	Uganda

### Biomass

Methodology Number	Methodology	CERs	Status	Country
ACM0006	Electricity generation from biomass residues [Grid-connected]	95521	Validation	Kenya

### Energy efficiency

Methodology Number	Methodology	CERs	Status	Country
AM0038	Improved electrical energy efficiency of an existing submerged electric arc furnace used for the production of SiMn [Grid-connected]	55044	Registered	South Africa
AMS-I.C AMS-II.C AMS-II.E	Thermal energy for the user with or without electricity Demand-side energy efficiency programmes for specific technologies Energy efficiency and fuel switching measures for buildings	6580	Registered	South Africa

### Flaring

Methodology Number	Methodology	CERs	Status	Country
AM0037	Flare reduction and gas utilization at oil and gas facilities	2263165	Review Requested	Equatorial Guinea
AM0009	Recovery/utilization of gas from oil wells that would otherwise be flared	2531500	Registered	Nigeria
AM0009	Recovery/utilization of gas from oil wells that would otherwise be flared	1496934	Registered	Nigeria

### Renewable Energy Small Scale

Methodology	Methodology	CERs	Status	Country
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Number				
AMS-I.D	Grid connected renewable electricity generation [Hydro]	25737	Registered	South Africa
AMS-I.D	Grid connected renewable electricity generation [Biogas]	29933	Registered	South Africa
AMS-I.D AMS-II.B	Grid connected renewable electricity generation [Hydro] Supply side energy efficiency improvements – generation	36210	Registered	Uganda



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