PROJECT IDEA NOTE

Description of size and quality expected of a PIN

Basically a PIN will consist of approximately 5-10 pages providing indicative information on:

- **A.** Project participants
- **B.** Project description, type, size, location and schedule
- **C.** Avoided / reduced GHG emissions
- **D.** Financial aspects
- **E.** Expected environmental and socio-economic benefits
- **F.** Risks
- **G.** Other relevant information

Name of the Project	Bagamoyo Afforestation Project

A. Project Participants

Project developer (proponent)	
Name of the project developer	Main proponent: Ms. Community Development Corporation Limited Collaborators: The National Tree Seed Programme and Tanzania Forestry Research Institute (TAFORI)
Organizational category	Private company
Other function(s) of the project developer in the project	Financing preliminary project activities, project implementation, and technical and managerial aspects of the project.
Summary of the relevant experience of the project developer	Community Development Corporation Limited has over 25 years of experience in carrying out both public and private sector projects. The corporation is a member of Tanzania Chamber of Commerce and its main task is to create awareness for business opportunities in Tanzania both nationally and internationally.
Address	P O Box 70278, City Depot, Nyerere Road, Dar es Salaam, Tanzania
Contact person	Mr. Amini N. Kimaro - Chief Executive Officer
Telephone / fax	Tel: + 255 22 2123 871/80 Fax: +255 22 2112 753/54
E-mail and web address, if any	bfptanzania@yahoo.co.uk
Project sponsors	
(List and provide the following information for all project sponsors)	
Name of the project sponsor	To be identified
Organizational category	
Address (include web address, if any	

Main activities	
Summary of the financials	

B. Project Description, Type, Size, Location and Schedule

Technical Summary of the Project	
Objective of the Project	The objective of the project to sequester carbon by establishing both natural and exotic forests on degraded agricultural lands with both biodiversity and climate change mitigation considerations.
Project description and proposed activities (including a technical description of the project)	Bagamoyo Afforestation Project is a private-owned undertaking, which intends to achieve various objectives in terms of rehabilitation of degraded lands through improvement in vegetative cover, enhancing forest production, and ensuring sustainable consumption of wood fuel, timber and non-wood forest products to local communities. The proposed project plans to establish a mix of indigenous and exotic tree species plantations, which will be cost effective option to restore the degraded lands in the project area. The tree species to be planted have been screened against the Global Database on invasive species and no species were considered invasive in Tanzania.
Technology to be employed	The main technology to be employed in this project is afforestation through direct planting of seedlings with environment friendly techniques on degraded lands. The Geographical Information System (GIS) and Geographical Positioning System (GPS) will be employed in verification and monitoring of the implementation of the project activity. Mechanization work is planned for site preparation (e.g., removing of brushes) and soil preparation (including ploughing and leveling).The transplanting will be usually done by hand, as well as the forest maintenance/tending operations until canopy closure. The scheme and schedule of planting to be employed will avoid the negative effect of frequent flooding or summer drought, fencing of the project site to protect plantations against cattle grazing will be done. The project will adopt the good practice guidance on afforestation activities as well as experiences from key institutions in the country such as Tanzania Forest Research Institute (TAFORI), The National Tree Seed Programme, and Division of Forestry (Ministry of Natural Resources & Tourism). The district and national forestry departments and institutions will be consulted in order to provide necessary technical and advisory guidance like trainings, and quality control during the preparation and implementation phases of the project. Both exotic and indigenous species will be planted as follows: Exotic species: *Eucalyptus Camaldulensis, Eucalyptus Citrodora,*

	Eucalyptus Tereticornis, Casuarinas Equisetifolia, Cedrella Odorata, Acacia Mangium, Tectona Grandis, Indiginous species: *Afzelia Quanzensis, Khaya Annthotheca, Milicia Exelsa, Pterocarpus Angolensis, Gmelina Arbores, Terminalia Superba, Terminalia Ivorensis, Trichilia Emetica*
Type of Project	
Greenhouse gases targeted	Carbon Dioxide (CO_2)
Type of activities	CO_2 Sequestration / Conservation
Field of activities	Reforestation of degraded land or arid lands through planting trees manually under Land Use, Land Use Change and Forestry (LULUCF)
a. Energy supply	N/A
b. Energy demand	N/A
c. Transport	N/A
d. Industrial processes	Replacement of high carbon intensive fuel (Heavy fuel oil) with less carbon intensive fuel (natural gas)
e. waste management	N/A
Location of the Project	
Governorate	United Republic of Tanzania
City	Dar es Salaam, Morogoro and Coast Regions
Brief description of the location of the plant	The project will be implemented adjacent to three villages of Bagamoyo District , Coast Region namely Kwang'andu, Kimange, and Rupungwi about 190 kilometers from Dar Es Salaam city centre Bagamoyo District is one of the administrative units of Coast Region and lies between: 1: **Kwang'andu Village** Location from the North 5^0.55' S to 6^0.00' S Latitudes and 38^0.10'E to 38^0.13'E Longitudes 2: **Kimange Village** Location from the North 6.05'S to 6.07' S Latitudes and 38.15'E to 38.18'E Longitudes 3: **Rupungwi** Location from the North 6^0.10'S to 6^0.12' S Latitudes and 38^0.18'E to 38^0.22'E Longitudes The areas to be under reforestation consist of previous pasture lands used by villagers/public. It is a marginal and degrading land but potential for forest vegetation, is a bit highland. **Topography** Bagamoyo District covers 9,842 squire kilometers of dry land, and is in a costal belt zone (from 0 to 100 meters above sea level) which is dominated by sandy loam soils and for lower land areas with heavy clay water logged soils. **Soils**

	Soils are of low natural fertility, a nice variety of agricultural uses with maintenance of soils organic matter and nutrient levels. Land fit for grazing is estimated to 170,000ha whereas the tsetse fly infested is estimated to 170,000ha. **Type of Climate** The climate is a typical tropical climate with an average of 28 centigrade Celsius temperatures; with two (2) rainy seasons with an average of 800mm to 1,000mm per year. **Tree Growing Potential** The project area shows high growing potential for indigenous and exotic tree species if proper forest management is practiced. There are some risks (especially grazing) but the level is very limited.
Expected schedule	
Earliest project start date	The project plans to be implemented towards mid or end of year, 2009
Estimate of time required before becoming operational after approval of the PIN	required for financial commitments: 2 months Time required for legal matters: 3 months Time required for negotiations: 3 months Time required for construction: 8 months
Expected first year of CER delivery	Year 2012, allowing first 3 years for tree to grow 2011
Project lifetime	60 years.
Current status or phase of the project	The establishment of Bagamoyo Forest Project was endorsed by Kwang'andu Village Government Council and subsequently full Village Council meeting on 21st July 2007, Kimange full Village Council meeting on 23rd September, 2007 and Rupungwi full Village Council meeting on 21st June, 2007. The Ward Development Council (WDC) endorsed and approved the Bagamoyo Forest Project on 09th November, 2007.
Current status of the acceptance of the Host Country	The project has been forwarded to DNA for Letter of Non-Objection. The country is very much positive in CDM LULUCF projects especially in those degraded or semi arid and arid areas. The DNA through its publication "CDM Guide" recognizes that establishment of A/R projects in degraded and or semi / arid lands as a priority and terms this as a "fast track" project opportunity in the sector category. The project promoter recognizes that there are no significant risks that the host country through the DNA will not endorse Bagamoyo Forest Project.
The position of the Host Country with regard to the Kyoto Protocol	The host country is the signatory to the Kyoto Protocol and a party to the UNFCCC. Tanzania has signed and ratified the Kyoto Protocol
Project Size	
Is the project a small-scale project?	Yes

C. Avoided/ Reduced GHG Emissions

Selected Crediting Period
20 - year two times renewable crediting period
Estimated Avoidance/Reduction of emissions in accordance with the Kyoto Protocol

□ Carbon Dioxide(CO_2)	150,000 tCO_2 equivalent per year
□ Methane (CH_4)	N/A
□ Nitrous Oxide (N_2O)	N/A
□ Hydrofluorocarbons (HFCs)	N/A
□ Perfluorocarbons (PFCs)	N/A
□ Sulphur Hexafluoride SF_6	N/A

Reference Scenario or Baseline

Description of the reference level:

Baseline Methodology to be used
Methodology to be employed: AR-AM0003: "Afforestation and reforestation of degraded land through tree planting, assisted natural regeneration and control of animal grazing"

Applicability
This methodology is applicable to the afforetation or reforestation of degraded land, which is subject to further degradation or remains in a low carbon steady state, through assisted natural regeneration, tree planting, or control of pre-project grazing and fuel wood collection activities (including on-site charcoal production).

Leakage
There are three sources of the leakage covered by this methodology:

- GHGs emissions caused by vehicle fossil fuel combustion due to transportation of seedling, labours, staff and harvest products to or from project sites;
- Carbon stock decreases caused by displacement of pre-project grazing and fuel wood collection activities;
- Carbon stock decreases caused by the increased use of wood posts for fencing.

$LK = LK_{Vehicle} + LK_{Activity\ Displacement} + LK_{fencing}$

where:

LK = Total GHG emissions due to leakage; tonnes CO2-e
$LK_{Vehicle}$ = Total GHG emissions due to fossil fuel combustion from vehicles; tonnes CO2-e
$LK_{ActivityDisplacement}$ = Leakage due to activity displacement; tonnes CO2-e

$LK_{fencing}$ = Leakage due to increased use of wood posts for fencing up to year t*; tonnes CO2-e

What modifications the project would induce?
The project activity will reduce emissions of CO_2 to the atmosphere by replacing the heavy fuel oil currently used in heat/power generation with natural gas. The project will also contribute to achievement of sustainable development by promoting cleaner industrial production in Tanzania

What would be the situation in the absence of the project activity?
The most likely scenario in absence of the proposed project would be the continuation of the current land use. The historic carbon stocks, adopted from the decision 19/CP.9 is relevant in the proposed project due to patterns of the land use and the result in the three project areas which highlights the demands on land use and the resulting loss of productivity over the years.

The project choice of this baseline scenario is based on the fact that there is lack of economically attractive alternative uses for lands under the project areas. The low and highly variable above and below ground carbon pools also highlight the low productivity and few economically viable alternatives. The baseline carbon stock changes for the degraded lands are in project land whose carbon pools are expected to lead to low steady state or negative carbon stock changes. Due to the degraded status of lands and their lack of economically attractiveness alternative uses for such lands, the continuation of historic land use is the only feasible alternative that can be identified in the absence of the project. It is considered that if further, the rehabilitation of these lands may not be technically and financially feasible in future.

It is considered that over 90% of population in these areas live in rural areas and depend primarily on agriculture for their livelihood; due to that, most of environmental problems in the area have a bearing on agriculture.

These include cultivation close or in water sources and stream – valley bottoms; cultivating very near to riverbanks, flat cultivation in both valley bottoms and steep mountain slopes, poor managed irrigation schemes.

Estimate of carbon sequestered or conserved
Total Certified Emission Reductions (CERs) per year: 150,000tCO_2 -equivalent Total emission reduction for the Crediting period: 3,000,000tCO_2 -equivalent

D. Financial Aspects

Total Estimated Costs(*)	
Development Costs	US$ 0.5M
Installation Costs	US$ 2.0 M
Other Costs	US$ 1.0 M
Total Cost of Project	US$ 3.5 M
(*) Please add any additional relevant information in this table if needed.	
Sources of Identified Financing	
Cash	
Long Term Loan	
Short Term Loan	
Expected Revenues from <u>CERs transfer</u>	
Projected Price of the CERs	US$ 15/tCO_2 equivalent
Estimated total CDM Revenues	US$ 2.25M per year
Details of the expected Revenues during the accountability period	US$ 45.00Mfor a period of 20 years
Amount and Modalities for the transfer of the CDM Contribution Advanced allocation…… Yearly transfers……	 …….In $ US …….In $ US
Additional Financing	
Will the project receive co-financing under ODA (Overseas Development Aids) or from any other sources like GEF? Please mention the amount(s)	No

E. Expected Environmental and socio-economic Benefits

Specific global & local environmental benefits	*(In total about ¼ page)*
Which guidelines will be applied?	Tanzania environmental and social guidelines for sustainable

	development as identified in the CDM national investor's Guide of 2004
Local benefits	• **Protected areas** The proposed project site location in protected areas, ecologically valuable habitats and or encompass the protected habitats of endangered species designated of by national or international treaties and conventions, therefore there is no possibilities that the project will affect the protected areas. • **Ecosystem** The project operations such as large scale timber harvesting will not result in loss of breeding and feeding grounds for wildlife. There will be no adverse effect of wildlife habitats in the case of establishment of mono-species plantations in the project. The new plantations to be established will provide wildlife habitants and increase local biodiversity through re-establishment of native species. • **Hydrology** The project will not cause any impact on the hydrology of the surrounding areas due to large-scale timber harvesting and the access roads construction and or any possibilities that could cause an alteration of rainwater runoff and runoff characteristics. • **Topography and Geology** There is no possibility that will cause slope failure or landslides due to timber harvesting or loss of forest stability. • **Resettlement** The areas where project is earmarked to be established there are no affected persons, therefore no compensation required and hence no budget required for implementing resettlement plan.
Global benefits	The project will generate heat using natural gas which emits less CO_2 than the currently used heavy fuel oil, hence helps mitigates the negative impacts of global warming.
Socio-economic aspects What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project? Explain the relationship between the project and the benefiting community/ies.	The local communities will benefit from the increased supplies of forest products. In the medium and long term, the project will provide multiple products, services and additional income from the sale of timber and non-timber products such as animal fodder**,** medicinal plants, fruits, beekeeping etc, and biomass energy such as fuelwood, billets, briquettes and charcoal to alleviate the dependence on fossil fuels. The project activities will only be possible with the active cooperation of the surrounding communities. The project will result in creation of new employment opportunities through planting, weeding, tending, thinning, protection and harvesting of tree species. The employment provision in remote rural areas for men and women can be categorized as follows, with men they will find employment in site preparation, seedbed preparation, seedling

	planting, plantation tending/maintenance until the canopy closure and harvesting whereas women in the nurseries management, weeding and the collection of non-timber forest products.
Which guidelines will be applied?	Tanzania environmental and social guidelines for sustainable development as identified in the CDM national investor's Guide of 2004
What are the possible direct effects (e.g., employment creation, capital required, foreign exchange effects)?	- Decrease unemployment by employing semi-skilled workers during the construction process. - Improve environmental friendly technology transfer for cleaner industrial production
What are the possible other effects? For example: - training/education associated with the introduction of new processes, technologies and products and/or - the effects of a project on other industries	• **Living and livelihood** There are no possibilities that project establishment will adversely affect the living conditions. Adequate measures are considered to reduce the impacts through establishment of their woodlot within their homestead. • **Heritage sites** The project will not damage the local historical, cultural and heritage sites, adequate measures should be considered to protect these sites in accordance with the national laws and regulations. • **Landscapes** It is considered that, there will be no possibility that the project will adversely affect the landscape as it mainly main aimed in conserving the afforestation of degraded land through establishment of trees planting programmes • **Promote Community Tree Planting** The establishment of project activities in degraded lands shall promote community tree planting around the project areas. This shall relieve pressure on the natural forest resources by producing timber, building materials, fencing poles, construction poles and transmission poles, tree seeds, fuelwood and charcoal. The surrounding communities will form the major workforce, thus improving their incomes in addition learning new ideas and technologies. • **Creation of New Employment Opportunities** The project envisage to employ Tanzanians both professional and technical staff to manage the project. In this case to improve their work efficiency and enable them to adapt to new and changing technologies in which training program will be implemented. **Employment Creation Benefits** the project will help to decrease rural unemployment by creating new possibilities in planting and other forestry activities and by establishing small-scale forest based industries; it is estimated that Tanzania's forests provide employment opportunities from between 1 million and 10 million people; the project will increase

	availability of building materials; • **Increase Fuelwood Availability** The project will increase fuel wood availability, through establishment of forest plantation and a better forest management; The project will help planting shelterbelts that will limit wind erosion and drying of the soils; also the trees planted will enhance the quality of water and air, and finally contribute to soil conservation and reduce erosion. • **The Sustainable Development** The forestry investments will foster economic development and rehabilitate degraded lands; The proposed forestry project will support and help communities most affected by climate change to adapt to the stresses caused by increased climate variability and changing climates; **Carbon credits** will provide extra cash flows to the project as well as villagers who will undertake tree planting which is envisaged to be one of the mainstream business opportunities.
Environmental strategy/ priorities of the Host Country	Tanzanian prioritizes environmental protection and promotes renewable energy technologies for achievement of sustainable development.

F. Risks

Risks in the Project	Please describe the factors that may cause delays in, or prevent implementation of the project
Estimate the Degree of Risk	
Technical risk	☐ High since the proposed technology is not commonly practised in Tanzania
Timing risk	☐ Low since project implementation depends very much on the finalization of CDM legal process, which might take longer time.
Budget risk	☐ Low since the developer will finance the project.

G. Other Relevant Information

Please mention any additional information or precisions to justify the project under CDM