

VCS Project Validation Report - TIST Program in Kenya VCS-005



PROJECT NUMBER VO11041.00

Project Title	The International Small Group and Tree Planting Program, Kenya, VCS-005
Version	Version 01 02-November-2011

Report Title	VCS Validation Report for TIST Program in Kenya VCS-005
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Pages	23
Date of Issue	16 December 2011
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Summary:

Environmental Services, Inc., (ESI) was contracted by Clean Air Action Corporation (CAAC) to conduct the project validation of the International Small Group and Tree Planting Program (TIST), Kenya, VCS-005 (PD dated 2 November 2011).

The International Small Group and Tree Planting Program (TIST) is a combined reforestation and sustainable development project in Kenya carried out by subsistence farmers. The farmers plant trees on their land and retain ownership of the trees and their products. They receive training from TIST and a share of the carbon revenues from CAAC. Carbon credit sales generate participant income and provide project funding to address agricultural, HIV/AIDS, nutritional and fuel challenges.

TIST provides an administrative backbone that supplies training in building nurseries, tree planting, conservation farming, building fuel-efficient stoves and malaria and HIV/AIDS prevention. Part of the backbone is a two-way communications network that includes newsletters, weekly meetings at the Small Group level, monthly meetings where groups of Small Groups receive training, periodic seminars at the national level and a monitoring system based on hand-held computers and GPS. The rotating leadership and the Small Group rules empower women and the undereducated. Those who are the most successful, regardless of education levels or gender, become mentors and leaders.

This project is for a subset of the TIST project in Kenya and initially applies to 1,179 of the Small Groups, 8,692 members, 6,710 project areas and 2,556.1 ha. The main species planted are Eucalyptus spp., Grevillea robusta and Cupressus spp.

The validation objective included an assessment of compliance with VCS Standard (Version 3.1) and the likelihood that implementation of the planned GHG project will result in the GHG emission removal enhancements as stated by the project developer (ISO 14064-3:2006). This validation assessed the GHG emission removals through AFOLU projects, specifically Afforestation, Reforestation, and Revegetation (ARR).

The scope of the validation included the GHG project and baseline scenarios; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHG's; and time periods covered. The geographic validation scope was defined by the project boundary, which included aggregated parcels (grouped), the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods.

The validation criteria followed the guidance documents provided by VCS and included the following: VCS Program Guide (8 March 2011), VCS Standard (15 July 2011, v3.1), Program Definitions (8 March 2011, v3.0), Agriculture, Forestry and Other Land Use (AFOLU) Requirements (8 March 2011, v3.0), AFOLU Non-Permanence Risk Tool (8 March 2011, v3.0), and CDM AR-AMS0001 Version 06.

A summary of all findings is included in Attachment A. There are no restrictions of uncertainty.

ESI confirms all validation activities including objectives, scope and criteria, level of assurance and the PDD adherence to the VCS Standard (v3.1, 15 July 2011) as documented in this report are complete and concludes without any qualifications or limiting conditions that the project description (PD) TIST Program in Kenya, VCS-005 dated 2 Nov 2011 meets the requirements of VCS Standard (v3.1, 15 July 2011).

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1 INTRODUCTION

1.1 Objective

The validation objective for this project included an assessment of compliance with VCS (Version 3) and the likelihood that implementation of the planned GHG project will result in the GHG emission removal enhancements as stated by the project developer (ISO 14064-3:2006). This validation assessed the GHG emission removals through AFOLU projects, specifically Afforestation, Reforestation, and Revegetation (ARR).

1.2 Scope and Criteria

The scope of the validation included the GHG project and baseline scenarios; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHG's; and time periods covered. The geographic validation scope was defined by the project boundary, which included aggregated parcels (grouped), the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods. The scope of the TIST Program in Kenya VCS-005 validation project was outlined by the project developer prior to the validation initiation and is re-defined as follows:

Baseline Scenario	The baseline field observation as detailed in the "Grove Summary" worksheet indicates the project areas are grassland and cropland prior to implementation of the project activity
Activities/Technologies/Processes	Afforestation, Reforestation, and Revegetation (ARR)
Sources/sinks/Reservoirs	Above-ground and below-ground biomass
GHG Type	Carbon-dioxide
Time Period	1 January 2004 to 31 December 2033 (project period is 30 years)
Project Boundary	Project Regions: Meru and Nanyuki, Kenya Small Groups: 1,179 Members: 8,692 Groves: 6,710 Hectares: 2,556.1

1.3 Level of assurance

The level of assurance was used to determine the depth of detail that the validator placed in the validation sampling plan to determine if there are any errors, omissions, or misrepresentations (ISO 14064-3:2006). ESI assessed the project (general principles, data, sampling descriptions, documentation, calculations, etc.) to provide *reasonable assurance* to meet the Project Level requirements of the VCS Program. The evidence used to achieve a *reasonable* level of assurance is specified in the following sections.

1.4 Summary Description of the Project

The International Small Group and Tree Planting Program (TIST) is a combined reforestation and sustainable development project in Kenya carried out by subsistence farmers. The farmers plant trees on their land and retain ownership of the trees and their products. They receive training from TIST and a share of the carbon revenues from CAAC.

TIST empowers Small Groups of 6-to-12 subsistence farmers in India, Kenya, Tanzania, Uganda Honduras and Nicaragua to combat the devastating effects of deforestation, poverty and drought. Combining sustainable development with carbon sequestration, TIST already supports the reforestation and biodiversity efforts of over 65,000 subsistence farmers. Carbon credit sales generate participant income and provide project funding to address agricultural, HIV/AIDS, nutritional and fuel challenges. As TIST expands to more groups and more areas, it ensures more trees, more biodiversity, more climate change benefit and more income for more people.

TIST provides an administrative backbone that supplies training in building nurseries, tree planting, conservation farming, building fuel-efficient stoves and malaria and HIV/AIDS prevention. Part of the backbone is a two-way communications network that includes newsletters, weekly meetings at the Small Group level, monthly meetings where groups of Small Groups receive training, periodic seminars at the national level and an award winning monitoring system based on hand-held computers and GPS. TIST is available to everyone and all are considered equal. The rotating leadership and the Small Group rules empower women and the undereducated. Those who are the most successful, regardless of education levels or gender, become mentors and leaders.

This project is for a subset of the TIST project in Kenya and initially applies to 1,179 of the Small Groups, 8,692 members, 6,710 project areas and 2,556.1 ha. The main species planted are Eucalyptus spp., Grevillea robusta and Cupressus spp.

2 VALIDATION PROCESS

2.1 Method and Criteria

The validation criteria followed the guidance documents provided by VCS and included the following: VCS Program Guide (8 March 2011), VCS Standard (15 July 2011, v3.1), Program Definitions (8 March 2011, v3.0), Agriculture, Forestry and Other Land Use (AFOLU) Requirements (8 March 2011, v3.0), AFOLU Non-Permanence Risk Tool (8 March 2011, v3.0), and CDM AR-AMS0001 Version 06: Simplified baseline and monitoring methodologies for small-scale A/R CDM project activities implemented on grasslands or croplands with limited displacement of pre-project activities.

The validation process closely followed the process outlined in the documents above and ESI's procedures for VCS validations outlined within our Management System Manual. The validation and sampling plan utilized the VCS guidance documents and ISO 14064-3. Sample size and techniques were based on the project parameters and best professional judgment. Tracts (groves) selected for detailed review were chosen at the discretion of the verifier. For this validation, the sample size was a minimum of 1.5%, with roughly 2.5% of the groves being validated in the field. A risk based approach was used to select the groves to allow a review of multiple small groups and members targeted to represent a wide geographic range of sites; sufficient to provide the necessary sample size to meet a reasonable level of assurance; as directed by the professional judgment of the Lead Verifier.

2.2 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from VCS program requirements (VCS v3.0), and the methodology (AR-AMS0001). Initial review focused on the PD and included an examination of the project details, data and parameters, and quantification of GHG emission reductions and removals.

The following are the final versions of the project documents reviewed during this validation:

- *TIST KE PD-CCB-002a PD Text 111102.doc*

- *TIST KE PD-CCB-002b App01 LSat1990 Map.jpg*
- *TIST KE PD-CCB-002c App02 LSat2000 Map.jpg*
- *TIST KE PD-CCB-002d App03 PA Plots 111102.kml*
- *TIST KE PD-CCB-002e App04 Data 111102.xls*
- *TIST KE PD-CCB-002f App05 Implementation Rpt 111102.doc*
- *TIST KE PD-CCB-002g App06 Monitoring Plan 111102.doc*
- *TIST KE PD-CCB-002h.App07 Monitoring Report 111102.doc*

2.3 Interviews

Interviews were conducted at multiple levels of the TIST program to assess understanding of program requirements and to determine if monitoring conducted in the field was implemented in accordance with the validated PD. Interviews included discussions with CAAC senior management, TIST field managers, trainers, auditors, quantifiers, IT staff and program members, and local stakeholders affected by the project. The following is a list of the main interviewees:

- Charlie Williams – CAAC vice president and project developer
- Charles Ibeere – TIST field manager
- Peter Hinga – TIST field manager
- Allen Koome – TIST IT manager
- Martin Weru – TIST field manager
- Mary Gichuru – TIST quantifier trainer/program member
- Jennifer Kithure – TIST quantifier trainer
- Joseph Kiogora – TIST quantifier
- Duncan Murimi – TIST quantifier
- Lawi Imathiu – Methodist Bishop/stakeholder
- Erustus Karamiti – Chief/stakeholder
- David Wamae – Sr. Chief/stakeholder
- Margret Mwangi – District Forest Officer/stakeholder
- Erestus Munene – Chief/TIST project member
- Agnes Kari – TIST program member
- Alexander Mbaya – TIST program member

In addition, interviews were conducted with 77 TIST program members. The names of the groves where interviews were conducted are included below:

- Faith Kairuthi
- Joseph Magiri
- Joseph Magiri B
- Kenneth Mutua
- Martha Nkatha
- Harrison kaima B
- Irene Kaburo
- Irene Kaburo B
- Irene Kaburo C
- Joyce Kaigongi
- Michael Murithi A
- Michael Murithi B
- Nathaniel Muchai
- Patrick Gitonga A
- Patrick Gitonga B

- Douglas magiri
- Murithi s. Rugoji
- Ringera m'athamba
- Samson kimathi
- Ayub b
- Ayub mwenda
- Evangeline nkatha
- Jenet kiriinya
- Joseph maina
- Charles mwangi Maina
- Hellen wanjiku
- Jane mumbi road
- Jecinta Wamuchii
- Mary Goreti Farm
- GAKUBI FENCE
- KARIMI FENCE
- MATUMBI FOREST A
- MUTHURI FARM
- MUTHURI FARM 2
- NKANKA HOME
- NKATHA FARM
- CATHERINE-ROAD
- KIOGORA HOME
- Charles kimondo
- Wamwarania
- Akwalu Itirikia
- ARON
- JULIAS
- Nelisah Ncekei
- Godfrey
- Ndiritu
- Ndiritu B
- ANN-FARM
- FAITH-HOME
- FLORENCE.FARM
- JOSPHEN-FENCE
- LYDIA-FENCE
- MUKIRI-HOME
- Mutuiri
- Mwangi
- Thaithi
- Loyd B
- Loyd Kiambi
- Mwandiki Mutunga
- Basilio Kamundi
- Eustus Mundi
- Linus Nyaga
- Hudson Mbaya
- Cecilia Gacheri Mbui
- Edward mbaabu
- Gabriel Kagane
- Josphat marangu
- Josphat upper

- Magiri mburugu
- Patrick Ramare
- Agnes Titus
- Monicah Mugambio
- Eustas Ntmungania
- Mercy Nkonge
- Francis Gitonga
- Fredric B nkonge
- Japhet Kibaara

2.4 Site Inspections

Within the tracts selected for detailed review, the detailed documentation described elsewhere in this document was required. In addition, field review of these tracts occurred in which the following aspects of the project were assessed:

- pre-project conditions, as evidenced by condition of adjacent or nearby non-project areas, by evidence of site-preparation activities, and related
- current project conditions, including reported tree species, reported planting density, reported current density, reported growth characteristics (diameter, or similar), reported biomass volume (above- and/or below-ground), implementation of management plan/monitoring (historical and contemporary), and related

Direct field measurement of tree density (number planted and species) and growth characteristics was performed in limited instances, with a detailed review of field measurement methodologies occurring at a minimum of one plot on each tract, sufficient to satisfy the professional discretion of the Lead Verifier.

2.5 Resolution of Any Material Discrepancy

During the validation process there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included notifying the client of the issue(s) identified, and expanding our sample to the extent that will satisfy the verifiers professional judgment.

During the course of the validation, one material discrepancy was identified and was satisfactorily addressed. The discrepancy was the result of a data sorting error which had the effect of counting some groves more than once. To address this discrepancy a script was written by TIST to identify and remove any potential grove overlaps. This process is now included in the PDD.

3 VALIDATION FINDINGS

3.1 Project Design

This project is seeking registration under the Verified Carbon Standard (VCS 3.1) as an Afforestation, Reforestation and Revegetation (ARR) project and has been developed in compliance with the Agriculture, Forestry and Other Land Use (AFOLU) Requirements (8 March 2011, v3.0). It is a grouped project.

3.1.1 Project Proponent and Other Entities

Project Proponents	Point of contact	Roles/ Responsibility	Contact Details
Clean Air Action Corporation (CAAC)	Charles E. Williams, Vice President	Project developer, implementer, manager	Clean Air Action Corporation 7134 South Yale Ave, Suite 310 Tulsa, Oklahoma 74136 United States of America Phone: +1-918-747-8770

Other Entities	Point of contact	Roles/ Responsibility	Contact Details
Institute for Environmental Innovation (I4EI)	Vannesa Henneke, Executive Director	Manages sustainable development components of TIST	Institute for Environmental Innovation 7134 South Yale Ave, Suite 310 Tulsa, Oklahoma 74136 United States of America Phone: +1-918-712-1866
United States Agency for International Development (USAID)	Enoch Kanyanga, Technical Officer	USAID provides funding for sustainable development components of TIST	USAID-Kenya c/o American Embassy United Nations Avenue, Gigiri, P. O. Box 629, Village Market-00621 Nairobi, Kenya
Environmental Services, Inc (ESI)	Shawn McMahon	Validator/Verifier	Environmental Services, Inc. 3800 Clermont St., NW North Lawrence, OH 44666 United States of America Phone: +1-330-833-9941

3.1.2 Project start date

The project start date is 01, January 2004

3.1.3 Project crediting period

The project crediting period is stated as 30 years starting 01-January-2004 and ending to 31-December-2033.

3.1.4 Project scale and estimated GHG emission reductions or removals

The TIST Kenya project will achieve GHG removals through reforestation/revegetation and sequester atmospheric CO₂ in live aboveground and belowground biomass.

Currently, over 52,000 TIST participants, in over 7,000 Small Groups, are registered in the TIST program in Kenya. The trees planted in tens of thousands of discrete groves and land parcels are contributing to reduce erosion, stabilize and enrich the soil, and will soon be providing shade. In the future, they will provide other benefits, including edible fruits and nuts, medicines, windbreaks, firewood and timber.

This validation is for a subset of the reforestation project in Kenya.

The following table outlines the estimated greenhouse gas removals as a result of this project.

Project	yes
Mega-project	no

Years	Estimated GHG emission reductions or removals (tCO ₂ e)
Year 2004	1,471
Year 2005	8,191
Year 2006	27,019
Year 2007	58,722
Year 2008	82,446
Year 2009	95,568
Year 2010	100,575
Year 2011	99,322
Year 2012	100,630
Year 2013	101,201
Year 2014	100,716
Year 2015	99,730
Year 2016	99,222
Year 2017	96,260
Year 2018	90,914
Year 2019	84,524
Year 2020	91,687
Year 2021	96,485

Year 2022	97,823
Year 2023	98,223
Year 2024	98,223
Year 2025	98,223
Year 2026	98,223
Year 2027	98,223
Year 2028	98,161
Year 2029	97,398
Year 2030	96,085
Year 2031	94,316
Year 2032	94,983
Year 2033	96,253
Total estimated ERs	2,600,818
Total number of crediting years	30
Average annual ERs	86,694

3.1.5 Project activities

The TIST Kenya project will achieve GHG removals through reforestation/revegetation and sequester atmospheric CO₂ in live aboveground and belowground biomass.

This is a grouped project where individual land owners plant and maintain trees on their property in exchange for payments for carbon reductions that result from the growth of their trees.

TIST empowers Small Groups of 6-to-12 subsistence farmers in Kenya with development of carbon sequestration. Carbon credit sales generate participant income and provide project funding. As TIST expands to more groups and more areas, it ensures more trees, more biodiversity, more climate change benefit and more income for more people.

TIST provides an administrative backbone that supplies training in building nurseries, tree planting, conservation farming, building fuel-efficient stoves and malaria and HIV/AIDS prevention. Part of the backbone is a two-way communications network that includes newsletters, weekly meetings at the Small Group level, monthly meetings where groups of Small Groups receive training, periodic seminars at the national level and utilize a monitoring system based on hand-held computers and GPS.

The technologies associated with tree planting have been developed through discussions with Kenya Forest Service (KFS, formerly Kenya Forest Department) and use of existing literature. In addition, TIST works with the Small Groups and local experts to develop best practices that are recommended to the members for adoption. The following describes the technologies employed.

General: The project involves direct tree planting of species selected by the individual Small Groups to meet their individual goals and needs. A list of suitable species was presented and was based on input from local experts, KFS and TIST members and their benefits are discussed at TIST training meetings.

Nurseries: TIST best practices call for Small Groups to acquire seeds and develop their own nurseries using either seedbeds or pots made from plastic bags. Some Small Groups acquire seedlings from other groups, other individuals and local forest services.

Tree Planting: Tree planting is accomplished by manual methods using hand tools.

Monitoring: TIST has deployed a system that consists of battery-operated palm computers, GPS receivers, data and image uploads through laptops or internet access points to monitor project activities. The data collection is conducted by trained local representatives, called Quantifiers, who are often Small Group members. They travel to each specific project area by walking, bikes, and local buses.

Internet: TIST uses Internet technology to make program results available transparently to a worldwide audience. It is also used to transfer field data collected with the palm computers to the TIST database server located in the USA.

Pest Management: Small Groups are trained to use local natural techniques to manage pests.

Ongoing management: Long-term management of the trees rests with the Small Groups. All species will be maintained for the 30-year life of the project. Small Groups have contracted to replant trees that die in the first 20 years. Management of the trees is dependent on the species.

3.1.6 Project location

The individual project areas of this PD are located in central Kenya in the Central, Rift Valley and Eastern Provinces. Most of the project activity is centered around Meru and Nanyuki generally around latitude 0.072200 N, longitude 37.659700 E.

TIST has adopted a "grouped project" approach for this PD, because it is expanding throughout Kenya. As required by VCS, a KML file has been prepared that defines the extent of the geographic area of the expanded program. The KML file defines the country of Kenya.

Info is provided regarding the district and village of each project area. The geographic locations and boundaries of each project area have been determined using a GPS and identified with a unique number and geographic coordinate. Maps showing the single point location of each project area on a 1990 Landsat 4/5 satellite image is provided. Google Earth KML files are also provided that identify each project area and plots each boundary. In addition, TIST maintains all of this data in an interactive format on a website that is publicly available to anyone with Internet access. Included on the site are GPS tracks of the project areas on a geographic grid.

3.1.7 Project compliance with applicable laws, statutes and other regulatory frameworks

As a tree planting program that takes place voluntarily on existing farm land, there are few laws that are relevant to TIST. A review of the potentially applicable laws and regulations was made

by CAAC's US staff, the Kenya Staff, local Kenya counsel and the local EIA consultant.¹ The following laws are applicable:

- The employment laws are listed below. CAAC uses Kenya counsel to advise on issues relating to employment. CAAC is not in violation of these laws.
 - o The Employment Act, 2007
 - o Regulation of Wages and Conditions of Employment Act
 - o National Hospital Insurance Fund Act, 1998
- Companies Act, (Law of Kenya Cap. 486).
 - o CAAC is registered as a branch and is in good standing to operate in Kenya.
- Environmental Management and Co-ordination Act, 1999.
 - o In conformance with the Act, TIST submitted an EIA to the National Environmental Management Authority (NEMA).²
- The Agriculture (Farm Forestry) Rules, 2009 of the Agriculture Act (Cap. 318) which requires the compulsory establishment and maintenance of farm forestry on a minimum of 10% of every agricultural land holding.
 - o CAAC sufficiently demonstrated that this law is not systematically enforced. This is further supported in discussions with VCS.
- NEMA Wetland and Riparian Directive following the Environment Management and Coordination Act, 1999
 - o CAAC has sufficiently demonstrated that the directive cannot be complied with until the government pegs and marks all wetlands as required by the directive. This is further supported in discussions with VCS.

3.1.8 Proof of title

Each project area is a tree grove planted by a Small Group. The landowner is a small hold farmer who is one of the TIST Small Group members. Kenya is going through a transition from customary tenure to land registry. The ownership of TIST project areas is both through customary tenure and registered land deeds.

- TIST is a project name, not a legal entity, and does not own, control or have any rights to any of the land.
 - The landowner covenants together with other farmers to form a Small Group. The Small Groups own the trees that they plant and determine how tree products and carbon revenues are divided among themselves.
 - Host Country land law is silent as to the ownership of carbon and carbon pools. However, the Small Groups own the trees that they plant together and grant the rights to all carbon associated with TIST to Clean Air Action Corporation (CAAC) under a "Carbon Credit Sale Agreement."
 - Under Paragraph 4 of the "Carbon Credit Sale Agreement," the members affirm their ownership or rights to the land designated as project areas.
 - CAAC is registered as a branch in Kenya under the Companies Act and is a legal entity in Kenya.
-

- Under this PD, VERs shall be issued to CAAC.
- The current land use is agricultural.

The status of the contractual relationship between the land owner and TIST will be monitored. This will include changes in ownership of the land and changes in Small Group membership.

3.1.9 Emissions trading programs and other binding limits

The Project Proponent declares that net GHG emission reductions or removals generated by the project will not be used for compliance with an emissions trading program, or to meet binding limits on GHG emissions.

3.1.10 Participation under other GHG programs

The Project Proponent declares the project has not been registered, nor is it seeking registration under any other GHG programs.

3.1.11 Other forms of environmental credit sought or received

The Project Proponent declares this project does not create another form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

3.1.12 Rejection by other GHG programs

The Project Proponent declares this project has not be rejected by any other GhG program, has not been submitted to any other GhG project for crediting and is not claiming credits associated with the trees planted and maintained by this project under any other program.

3.1.13 Eligibility criteria for grouped projects

Eligibility of this project was assessed at two levels. The first was based on the CDM methodology used and the second as a VCS grouped project.

CDM Methodology Eligibility Requirements. The eligibility for a small-scale A/R CDM reforestation project was assessed using CDM Executive Board Report 35, Annex 18, "Procedures to define the eligibility of lands for afforestation and reforestation project activities."³ To qualify as a CDM reforestation project, the project must meet the host country definition of a forest. Kenya defines the minimum area of a "forest" as 0.1 hectares with a minimum tree crown cover of 30%, with trees having the potential to reach a minimum height of two meters at maturity in situ. As a VCS project, however, this aspect of eligibility does not apply. VCS allows the use of smaller project areas and captures them as afforestation, reforestation and revegetation projects. The PD includes discrete project areas that are less than the minimum area to allow the inclusion of even the smallest small-hold farmer. It also deviates from the 30% crown cover requirement to allow continued subsistence farming in the project areas.

The additional demonstrations required by Annex 18 are based on the results of TIST's baseline monitoring of each project area and are presented on the "Grove Summary" worksheet. The information is collected on-site, through direct observation and measurement and through direct discussion with the landowner and members of his/her Small Group. Additional evidence is based on information discussed below and demonstrates adherence to these requirements.

- a) Demonstrate that the land at the moment the project starts does not contain forest by providing transparent information that:
 - (i) Vegetation on the land is below the forest thresholds (tree crown cover or equivalent stocking level, tree height at maturity in situ, minimum land area).

The physical survey of each parcel taken during the baseline monitoring indicates the lands were barren, cropland and/or covered with grass, shrub or litter and therefore did not meet the requirements for crown cover or height. Existing trees were identified by species and counted. As shown in the PD, the average stem density is well below the forest threshold.

- (ii) All young natural stands and all plantations on the land are not expected to reach the minimum crown cover and minimum height chosen by the host country to define forest.

As shown in the PD, there were relatively few existing trees when project activities began and most were found as isolated trees along the border of individual parcels. Given the history of continued deforestation, as indicated by the maps and satellite images and described in the PD, and continued use of the land by the project members, it is not expected that this area will revert to natural forest without intervention.

- (iii) The land is not temporarily unstocked, as a result of human intervention such as harvesting or natural causes.

The baseline monitoring indicates these areas have a history of cultivation.

- b) Demonstrate that the activity is a reforestation or afforestation project activity:
 - (i) For reforestation project activities, demonstrate that the land was not forest by demonstrating that the conditions outlined under (a) above also applied to the land on 31 December 1989.

The project areas did not contain a forest on 31 December 1989. As part of collecting the baseline information, the landowners are questioned about whether their project area was forested in 1990. 100% of them responded that it was not forested. In addition, baseline monitoring was conducted on each individual project area to confirm that there had not been deforestation of a parcel since that time. This generally included looking for stumps or evidence of recent harvest activity and looking at the surrounding lands to see if there were indications that the project areas were cleared of native ecosystems within the ten-year period prior to the proposed Project Start Date. Nothing was observed to indicate there had been deforestation activity.

Historical imagery from 1990⁴ and 2000⁵ was also looked at. Both images confirm that the project areas are situated on lands that have a history of human occupancy and farming. The protected forests can be seen on both images, to contrast with the areas where the project areas are located. These observations support the statements by the landowners and field

observations by validation personnel that the project areas were not deforested since 31 December 1989, or that project areas were cleared of native ecosystems within the ten-year period prior to the proposed Project Start Date.

Grouped Project Eligibility Criteria. Each instance, present and future, will meet the CDM requirements. This includes eligibility (Section 1.13.1), applicability (Section 2.2), additionality thresholds (Section 2.5), the technologies and measures used (Section 1.8), baseline scenario and determination (Section 2.4), boundary determination (Section 2.3) and monitoring (Section 4.0), all as described, herein.

In addition to the above, there are two other eligibility criteria for inclusion of new instances of each project activity. The first is that it must be in the geographic area defined in the PD.

The second is that the ex-ante carbon estimates for each project area (i.e. instance) must be below the pertinent capacity limits. In this case, the CDM small scale AR methodology has a 16,000 tonne per year average limit on a project. This equates to 480,000 tonnes CO₂e for a 30-year project life. VCS places a one percent limit on each instance and requires instances that exceed the limit to be divided into clusters. To be eligible for this PD, each project area shall either be at or below the one percent level (4,800 tonnes CO₂e) or will meet the requirements for inclusion as a cluster.

For the subset of TIST project areas that are in the PD, all of the instances are less than the one percent threshold. This is documented in the "Proj Life Ex ante CO₂e" column of the "Grove Summary" worksheet in the PD. The calculations are based on the ex-ante estimates for each strata in the "Strata" worksheet. The results were further modified to adjust for project areas that because of the area (ha) exceeded the ex-ante estimates, but because of the stem density does not. All of the documentation is presented in a transparent and verifiable manner in the worksheets. Information gathered both in site visits and through research support validation.

3.1.14 Leakage management for AFOLU projects

Leakage will be minimized as follows:

Fossil fuel emission: TIST owns no fossil fuel vehicles or equipment. Quantifiers and staff use public transport, walking and bicycles to go to various project areas. Use of palm computers and the Internet allows Quantifiers to upload their data at local Internet cafés or by using mobile phone technology, reducing travel and use of public transportation back to TIST offices.

Displacement of people: TIST member's plant trees, on their own lands. The Greenhouse Gas Agreement among the Small Group members and the Project Participant does not give the Project Participant any right to the Small Group's land or require that they leave. TIST does not displace any people.

Displacement of farming activities: TIST small hold farmers only plant trees to the extent that they can afford to, given their reliance on the remainder of their land for subsistence agriculture. The value of their crops far exceeds the GhG revenues that are available.

Displacement of primary fuel supply: TIST tree growing activities do not cause leakage in the form of harvesting wood outside the project area. First, a large numbers of the residents in the subject districts already use wood as their primary source of fuel, an activity that has resulted in regional deforestation. Second, TIST best practices call for the planting and management of sustainable woodlots that allows for the continuing growth of carbon stocks and the use of deadfall, or tree wood, available through managed thinning.

Commercially sensitive information: Commercially sensitive information that has been made available to the Validator but is being excluded from the public is:

- CAAC's proprietary financial model (Non-Permanence Risk Report)
- The International Small Group and Tree Planting Program, Carbon Credit Sale Agreement, TIST SG CO2 contract KE 050418.doc (multiple references)
- The International Small Group and Tree Planting Program, Carbon Credit Sale Agreement, TIST SG CO2 contract Kenya 080428.doc (multiple references)

3.2 Application of Methodology

3.2.1 Title and Reference

The approved baseline and monitoring methodology applied to the proposed VCS project activity was CDM AR-AMS0001 Version 06: Simplified baseline and monitoring methodologies for small-scale A/R CDM project activities implemented on grasslands or croplands with limited displacement of pre-project activities. The following tools were also used: Procedures for the demonstration of land eligibility, AR-AMS0001, Appendix A, and Procedures for the assessment of additionality, AR-AMS0001, Appendix B.

3.2.2 Applicability

Validation finds the proposed project activity fulfills all of the applicability conditions stated by AR-AMS0001.

The simplified baseline and monitoring methodologies are applicable if the conditions mentioned below are met.

- Project activities are implemented on grasslands or croplands.
- Project activities are implemented on lands where the area of the cropland, within the project boundary, displaced due to the project activity is less than 50 per cent of the total project area.
- Project activities are implemented on lands where the number of displaced grazing animals is less than 50 percent of the average grazing capacity of the project area.
- Project activities are implemented on lands where 10 percent of the total surface project area is disturbed as result of soil preparation for planting.

3.2.3 Project Boundary

The project area is a complex of thousands of discrete individual project areas spread out over thousands of square kilometers (Section 1.1 of PD summarizes project areas.). The project area boundaries are presented in a Google Earth KML file. Information gathered both in site visits and through research support validation of the project.

3.2.4 Baseline Scenario

Based on research and site visits, validation findings support the justification that the baseline land use scenario without the project will continue to be grasslands and croplands. This conclusion is supported by the following information:

- The project areas are all private lands owned by subsistence farmers conducting the project activity. They have a history of farming and use of the land, other than natural forest or long-term forestry.

- These lands are located in an area populated by subsistence farmers, who use wood for their primary fuel. As supported by the references below, wood use, agriculture and increasing population have been key factors in deforestation.
- These factors lead to the conclusion that there is little reason to believe that the project areas will revert to forest without intervention.
- There are no alternative uses of this land that can be reasonably expected.

The project area lands are owned and used by rural residents and are subject to constant pressure to provide fuel wood, food and livelihood for these subsistence-level farmers. Additionally, the forest areas surrounding the project areas are significantly impacted by the increase in human population and the resulting deforestation.

3.2.5 *Additionality*

Validation of additionality of the proposed project activity is confirmed, using the “Assessment of Additionality” contained in Appendix B of AR-AMS0001, which demonstrates that the project activity would not have occurred in the absence of the proposed project activity.

The PD describes several barriers to the proposed project occurring in absence of revenues due to carbon crediting:

Investment barrier. Tree plantations require investment to obtain seedlings and, in the case of TIST farmers, to take land out of current revenue production activities, such as cropland, for long-term gain. Investment requires access to credit. However, due to their low income, the farmers participating in TIST have little opportunity for investment loans or capital.

Barriers due to social conditions, lack of organization. Planting large plantations requires more than a single individual. The local communities lack the organizational structure to put together a volunteer effort to plant trees.

The project activities implemented by TIST will allow the project participants to overcome these barriers, and the incentive payments are entirely dependent on the carbon market. These kinds of activities are not possible, without external financing of some kind. TIST’s operational budget for the project is funded through an investment from CAAC, which is contingent on returns of future GhG revenues. Validation finds that without carbon revenues, the TIST project is neither viable nor sustainable.

3.2.6 *Quantification of GHG Emission Reductions and Removals*

The methodology allows the change in baseline carbon stocks to be deemed zero in the absence of the project activity. As shown in the PD, the baseline carbon stocks and assumed to increase in absence of the project activity, however the increase is calculated to be less than 10% of the ex-ante project carbon tons. Validation confirms demonstration that the project meets the requirements that allow the change to be considered zero.

While no test or analysis of project emission are required or presented in the PD, the following comments are provided:

- Fertilizers. The policy of TIST is for the farmers to refrain from using chemical fertilizers and instead to rely on dung and plant material. Neither of these is the result of project activity and need not be considered. However, if considered, the nitrogen emissions from natural fertilizers are estimated to be less than 0.1% of the actual net greenhouse gas removal by sink and may be considered de minimis.

- Nitrogen-fixing species. Emissions from nitrogen fixing species are also insignificant. Though present, the nitrogen-fixing trees are a minor component of the overall tree inventory. Because any deadwood will be used for domestic fuel, the trees will not be left to rot or decay. The lands where the trees are being planted are degraded and likely have a nitrogen deficit.
- Fossils Fuels. There will be no burning of fossil fuels or biomass for site preparation, monitoring, tree harvesting, or wood transportation; nor does TIST involve any industrial processes, as all labor is manual. Thus, no other GHGs are expected to be emitted as a result of the implementation of the proposed project.

In accordance with the conditions of the approved baseline and monitoring methodology AR-AMS0001, "project emissions are considered insignificant and therefore neglected."

Based on research and site visit, validation findings support this information.

Leakage relating to displacement of farming activities.

TIST farmers are small hold farmers that rely on their land for subsistence agriculture. Since they need most of their land to grow foods and because the value of their crops far exceeds the GhG revenues that are available, displacement of farming activities is limited. As part of the data collection for the baseline activity, Small Groups are asked, "Will any activities be displaced?" This question is asked in the context of the CDM Executive Board's interpretation that if moving to one's own existing farm plots "does not trigger activities outside the project boundary that would be attributed to the small-scale afforestation or reforestation project activity under the CDM, such that the increase in greenhouse gas emissions by a source occurs, a leakage estimation is not required."⁶ A survey of TIST members controlling the project areas indicated that activities were displaced on 0 hectares.

The methodology provides that if project participants demonstrate that the project does not result in displacement of activities or people or does not trigger activities outside the project boundary that would increase GhG emissions, an ex-ante leakage estimate is not required.⁷ It also states that if evidence can be provided that if displacement of pre-project activities does not cause deforestation, leakage can be considered zero.

Based on the above, an ex-ante leakage calculation is not necessary and validation findings and site visit support this conclusion.

Summary of GHG emission reductions or removals

The procedure for quantifying net GhG removals is to:

1. determine the GhG removals;
2. subtract the net baseline removals;
3. subtract the project emissions; and
4. subtract the project leakage.

The total estimated removals for the crediting period (30 years) is estimated to be 2,600,818 CO₂e. The PD outlines these calculations and presents a total and per year estimated net GHG emission removals which is reposted in section 3.1.4 of this validation report.

Uncertainties associated with the calculation of emissions

There are no deductions associated with uncertainty.

3.2.7 Methodology Deviations

The project and project monitoring plan meet all of the requirements of the methodology and does not deviate from the baseline scenario, additionality determination or inclusion of project GHG sources, sinks and reservoirs.

As noted in Section 1.13 of the PD, TIST has many project areas that do not meet the host country definition of a forest. However, since VCS allows for afforestation, reforestation and revegetation, this is not an issue for this project. Therefore, there are no applicable deviations to the methodology.

3.2.8 Monitoring Plan

The monitoring plan, as described in the PD, was found to be appropriately designed to provide reasonable assurance that the sequestration occurring from GHG sources, sinks, and reservoirs will be accurately assessed. In accordance with the conditions of the approved baseline and monitoring methodology AR-AMS0001, project emissions are considered insignificant and therefore neglected. CAAC is responsible for the registration, monitoring, measurement, and reporting of sequestration, within the timeframe required by VCS-AFOLU-ARR requirements. The following are the primary data and parameters that were made available and assessed during validation:

- Location of project area
- Boundary of project area
- Area of project area
- Ownership of project area
- Baseline trees
- Baseline tree circumference
- Baseline strata
- Project trees
- Number of trees
- DBH
- Total CO₂

3.3 Environmental Impact

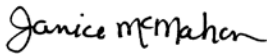
The environmental impact of the project, as described in the PDD, was found to be positive and sufficiently documented.

3.4 Comments by stakeholders

Comments from stakeholders were appropriately documented and were found to be overwhelmingly positive. The few exceptions included requests for higher payments on a per tree basis and more timely delivery of payments.

4 VALIDATION CONCLUSION

ESI confirms all validation activities including objectives, scope and criteria, level of assurance and the PD adherence to the VCS Standard (v3.1, 15 July 2011) as documented in this report are complete and concludes without any qualifications or limiting conditions that the project documentation TIST Program in Kenya, VCS-005 dated 2 Nov 2011 meets the requirements of the VCS Standard (v3.1, 15 July 2011).

Report Submitted to:	Voluntary Carbon Standard Association 1730 Rhode Island Ave. NW Suite 803 Washington, D.C. 20036 Clean Air Action Corporation 7134 South Yale Avenue, Suite 310 Tulsa, OK 74136
Report Submitted by:	Environmental Services Inc. Corporate Office 7220 Financial Way, Suite 100 Jacksonville, Florida 32257
ESI Lead Validator Name and Signature	 Shawn McMahon Lead Validator
ESI Division Regional Technical Manager Name and Signature	 Janice McMahon Vice President and Forestry, Carbon and GHG Division Regional Technical Manager
Date:	16 December 2011

SMM/JPM/rmb/VO11041.0 Validation Report
K: pf 12/16/11f

ATTACHMENT A

TIST KE 0005 - VCS Version 3 - Validation Non-Conformity Report 15 December 2011								
Item #	VCS Standard 3.1 Requirements (15 July 2011)	Applicability to the Project (Y or N/A)	Requirement Met (Y or N)	Location in PD or Supporting Documents	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)	Response from Client	NCR /OFI Satisfied (Y or N)	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)
1	1.1 VERSION Project developers should "ensure that they are using the most current version of the document."	y	n	General	Please confirm project is using Version 3.1.	Pending	Y	Please provide revised PDD which reflects updated version. A revised PDD has been provided which references version 3.1. Issue addressed.
2	3.14 BASELINE SCENARIO The baseline scenario for the project shall be determined in accordance with the requirements set out in the methodology applied to the project, and the choice of baseline scenario shall be justified.	y	n	TIST KE PD 005 section 2.3.2, Pages 26 & 27 of PD	Please provide a discussion regarding how the assumptions, values and procedures selected demonstrate that the baseline calculations are not overestimated.	Discussion with client.	Y	In a discussion with the client ESI consented that this is a qualitative requirement to be assessed by the validator and that no specific statement is needed in the PDD. Issue addressed.
9	The project proponent shall establish a GHG information system for obtaining, recording, compiling and analyzing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project (including leakage) and baseline scenario.	y	n	TIST KE PD VCS 0005 section 4, Page 46	n/a	Email dated 8/12/11	Y	In the process of the site verifications the client made ESI aware of a double counting issue. In an email dated 8/12/11 TIST provided a detailed GIS overlap analysis to ensure all sites within the overlap areas were identified. To be conservative TIST removed all sites (both original instance and overlap instance) from the current project. The double counting issue is considered addressed, however please include a discussion in the PDD describing the measures that will be taken in the future to avoid double counting. This is mainly so it can be tracked in future verifications. An overlap analysis discussion has been added to the PDD. Issue addressed.
Item #	VCS AFOLU Requirements Version 3.0 (08 March 2011)	Applicability to the Project (Y or N/A)	Requirement Met (Y or N)	Location in PD or Supporting Documents	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)	Response from Client	NCR /OFI Satisfied (Y or N)	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)
3	3.1.8 ARR or IFM projects with harvesting activities shall not be issued GHG credits above the long-term average GHG benefit maintained by the project. The long-term average GHG benefit shall be calculated as set out in Section 4.5.3.	y	n	n/a	Please provide (or state the location of) the average GHG benefit of the project over the established time period.	Verbal conversation with client and VCS.	Y	Considered addressed on the basis that there is no commercial harvesting proposed or identified on the project sites, and therefore the analysis in section 4.5.3 of the AFOLU Requirements v3 does not have to be conducted. This is further substantiated through confirmation with VCS (9/27/11) that non-commercial thinning does not constitute harvesting. Issue addressed.
4	5) Details of ownership.	y	n		While TIST has provided an explanation of the types of ownership, it does not appear to have provided ownership information for all project areas. Given the ownership contains more than 7,000 separate parcels it is suggested that we request a sample demonstration of ownership. The ownership information will be requested as part of the verification.	Verbal conversation to discuss ownership and provide web access to contracts.	Y	Section 3.12.1.6 of the VCS Standard states that An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the land, vegetation or conservation or management process that generates GHG emission reductions or removals which vests the right of use in the project proponent. TIST has clearly demonstrated ownership through contractual right in the vegetation. Issue addressed.

5	4) Calculate the average GHG benefit of the project over the established time period.	y	n		Please provide (or state the location of) the average GHG benefit of the project over the established time period.	Verbal conversation with client and VCS.	y	Considered addressed on the basis that there is no commercial harvesting proposed or identified on the project sites, and therefore the analysis in section 4.5.3 of the AFOLU Requirements v3 does not have to be conducted. This is further substantiated through confirmation with VCS (9/27/11) that non-commercial thinning does not constitute harvesting. Issue addressed.
6	5) Use the following equation to calculate the long-term average GHG benefit:	y	n		Please provide (or state the location of) the average GHG benefit of the project over the established time period.	Verbal conversation with client and VCS.	y	Considered addressed on the basis that there is no commercial harvesting proposed or identified on the project sites, and therefore the analysis in section 4.5.3 of the AFOLU Requirements v3 does not have to be conducted. This is further substantiated through confirmation with VCS (9/27/11) that non-commercial thinning does not constitute harvesting. Issue addressed.
7	6) A project may claim GHG credits during each verification event until the long-term average GHG benefit is reached. Once the total number of GHG credits issued has reached this average, the project can no longer issue further GHG credits, unless the long-term average is increased. For an example of determining the long-term average GHG benefit, see the VCS website.	y	n		Please provide (or state the location of) the average GHG benefit of the project over the established time period.	Verbal conversation with client and VCS.	y	Considered addressed on the basis that there is no commercial harvesting proposed or identified on the project sites, and therefore the analysis in section 4.5.3 of the AFOLU Requirements v3 does not have to be conducted. This is further substantiated through confirmation with VCS (9/27/11) that non-commercial thinning does not constitute harvesting. Issue addressed.
8	7) Buffer credits are withheld only when GHG credits are issued. As set out in Section 4.7.2, the number of buffer credits to withhold is based on the change in carbon stocks only (not the net GHG benefit), as such the buffer credits will be based on the long-term average change in carbon stock. Use the following equation to calculate the long-term average change in carbon stock.	y	n		Please provide (or state the location of) the average GHG benefit of the project over the established time period.	Verbal conversation with client and VCS.	y	Considered addressed on the basis that there is no commercial harvesting proposed or identified on the project sites, and therefore the analysis in section 4.5.3 of the AFOLU Requirements v3 does not have to be conducted. This is further substantiated through confirmation with VCS (9/27/11) that non-commercial thinning does not constitute harvesting. Issue addressed.
Item #	Simplified baseline and monitoring methodologies for small-scale afforestation and reforestation project activities under the clean development mechanism implemented on grasslands or croplands AR-AMS0001 (Version 05) [September 2008]	Applicability to the Project (Y or N/A)	Requirement Met (Y or N)	Location in PD or Supporting Documents	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)	Response from Client	NCR / OFI Satisfied (Y or N)	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)
10	Version 5 is "Valid from 17 Oct 08 to 16 Sep 10. Requests for registration can be submitted until 17 Mar 2012 23:59:59 GMT". Version 6 states it is "Valid from 17 Sep 10 onward"	y	n	TIST KE PD VCS 0005 1.11 page 24	A request for clarification on this issue has been submitted to VCS, the result of which will determine if the use of version 5 is acceptable.	Verbal discussion stating that version 5 and 6 have no differences of import.	y	VCS provided clarification stating that version 5 could be used. However, in the time that elapsed the project proponent decided to update to version 6. Issue addressed.
Item #	VCS AFOLU Non-Permanence Risk Tool	Applicability to the Project (Y or N/A)	Requirement Met (Y or N)	Location in PD or Supporting Documents	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)	Response from Client	NCR / OFI Satisfied (Y or N)	Non-Conformity Report (NCR) or Opportunity for Improvement (OFI)
11	Mitigation: Project proponent is a non-profit organization	y	n	Page 6 of "TIST KE PD-VCS-005f App05 Risk Analysis 110621.doc"	n/a	Pending	n	For the purpose of this tool, ESI believes this applies to all project proponents, which would result in a score of 0 for this point. The project proponent has revised the score to 0. Issue addressed.