MONITORING REPORT FOR TIST PROGRAM IN KENYA

VCS-011, VERIFICATION 01



Document prepared by Clean Air Action Corporation

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Project Title	TIST Program in Kenya, VCS-011
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Project Location	County or constituency: Bomet, Borabu, Buuri, Central Imenti, Chittoor, Gatanga South, Igembe, Imenti North, Imenti South, Kirinyaga, Kyenjojo, Laikipia East, Laikipia West, Maara, Manga, Mbeere South, Meru Central, Meru North, Meru South, Narok South, North Imenti, Nyamira North, Nyamira South, Nyandarua, Nyeri, Nyeri North, South Imenti, Tharaka, Tigania, Tigania East, Transnzoia.
Project Proponent(s)	Clean Air Action Corporation (CAAC) 4112 Timbervale Drive Evergreen CO, USA 80439 Telephone 720-394-2112 CharlieWilliams@CleanAirAction.com Tist.org
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	www.aenor.com
GHG Accounting/ Crediting Period	60 years starting 01-January-2004 and ending 31-December-2063 (same for VCS and CCB)
Monitoring Period of this Report	01-January-2004 and ending 01-July-2023
History of CCB Status	1st Verification, concurrent with Validation
Gold Level Criteria	**Community**: This project has substantial economic and non-economic benefits for poor farmers, including carbon income, improved crop yields, new crops, education, health trainings, and leadership development. **Biodiversity**: The project will plant thousands of indigenous trees while supporting critical ecosystems. In particular, TIST farmers are planting vulnerable trees, thus creating sites of high biodiversity conservation priority. **Climate Adaptation**: TIST trains farmers to use climate resilient planting techniques. The program supports farmers in organizing to meet challenges of climate change, and to develop strategies for issues such as high winds, draught, and erosion.

Table of Contents

1 Summary of Project Benefits 4
1.1 Unique Project Benefits 4
1.2 Standardized Benefit Metrics 5
2 General 10
2.1 Project Description 10
2.2 Project Implementation Status 17
2.3 Stakeholder Engagement 21
2.4 Management Capacity 30
2.5 Legal Status and Property Rights 33
3 Climate 37
3.1 Monitoring GHG Emission Reductions and Removals 39
3.2 Quantification of GHG Emission Reductions and Removals 48
3.3 Optional Criterion: Climate Change Adaptation Benefits 53
4 Community 54
4.1 Net Positive Community Impacts 54
4.2 Other Stakeholder Impacts 59
4.3 Community Impact Monitoring 60
4.4 Optional Criterion: Exceptional Community Benefits 63
5 Biodiversity 70
5.1 Net Positive Biodiversity Impacts 70
5.2 Offsite Biodiversity Impacts 91
5.3 Biodiversity Impact Monitoring 91
5.4 Optional Criterion: Exceptional Biodiversity Benefits 92
6 Additional Project Implementation Information 93
7 Additonal project Impact Information 93
Additional Information 94

1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) The farmers members are partners in TIST and receive 70% of the profits from the sale of carbon credits increasing their annual income.	79,089 partners	4.3.1	79,089 partners (first verification and no changes to report)
2) TIST deploys a robust data system that transmits near-real time field data to a public website making tree planting results up-to-date and transparent.	139 TIST workers implementing the TIST data system	4.3.1	139 TIST workers implementing the TIST data system (first verification and no changes to report)
3) Community Organization: TIST farmers organize themselves as neighbors, and at the community, regional, and national levels. This allows them to develop locally appropriate best practices, share support, and provide mutual accountability	477 Clusters and 12,892 Small Groups of farmers organized[1]	4.3.1	477 Clusters and 12,892 Small Groups of farmers organized (first verification and no changes to report)

[1] Appendix 08 Monitoring Data: PA summary worksheet, unique entries in column C and column G. TIST KE PD-VCS-011i App08 Verif 01 Monitoring Data 230701.xlsx at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the without-project scenario	Ex-Post Project Removals are 1,239,250 t CO2e	3.2.4	Ex-Post Project Removals are 1,239,250 t CO2e(first verification and no changes to report)
	Net estimated emission reductions in the project area, measured against the without-project scenario	Not applicable		Not applicable
Forest[2] cover	For REDD[3] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	Not applicable		Not applicable
	For ARR[4] projects: Number of hectares of forest cover increased in the project area measured against the without-project	23,747 Hectares of forest cover increased	4.3.1	23,747 Hectares of forest cover increased (first verification and no changes to report)

[2] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)
[3] Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)
[4] Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)

	scenario			
Improved land management	Number of hectares of existing production forest land in which IFM[5] practices have occurred as a result of the project's activities, measured against the without-project scenario	Not applicable		Not applicable
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	23,747 hectares of land	4.3.1	23,747 hectares of land (first verification and no changes to report)
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	79,089 Community Members	4.3.1	79,089 Community Members (first verification and no changes to report)
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	31,794 Women	4.3.1	31,794 Women (first verification and no changes to report)

[5] Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

Employment	Total number of people employed in of project activities,[6] expressed as number of full-time employees[7]	139 Employees	4.3.1	139 Employees (first verification and no changes to report)
	Number of women employed in project activities, expressed as number of full-time employees	73 Women	4.3.1	73 Women (first verification and no changes to report)
Livelihoods	Total number of people with improved livelihoods[8] or income generated as a result of project activities	79,089 Community Members	4.3.1	79,089 Community Members (first verification and no changes to report)
	Number of women with improved livelihoods or income generated as a result of project activities	31,794 Women	4.3.1	31,794 Women (first verification and no changes to report)
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	93 Employees	4.3.1	93 Employees (first verification and no changes to report)
	Number of women for whom health services were improved as a result of project activities, measured against the without-	49 Women	4.3.1	49 Women (first verification and no changes to report)

[6] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.
[7] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28])
[8] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

	project scenario			
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	Not applicable		Not applicable
	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	Not applicable		Not applicable
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable		Not applicable
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable		Not applicable
Well-being	Total number of community members	79,089 Community Members	4.3.1	79,089 Community Members

	whose well-being[9] was improved as a result of project activities			(first verification and no changes to report)
	Number of women whose well-being was improved as a result of project activities	31,794 Women	4.3.1	31,794 Women (first verification and no changes to report)
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation,[10] measured against the without-project scenario	Farmers are planting vulnerable species on approximately 208.6 ha of *vitex keniensis,* 224.7 ha of riparian woodlots and 7,832.6 hectares of hillside woodlots.	5.3.1	Farmers are planting vulnerable species on approximately 208.6 ha of *vitex keniensis,* 224.7 ha of riparian woodlots and 7,832.6 hectares of hillside woodlots.
	Number of globally Critically Endangered or Endangered species[11] benefiting from reduced threats as a result of project activities,[12] measured against the without-project scenario	48,659 *vitex keniensis planted and maintained*	na	48,659 *vitex keniensis planted and maintained*

[9] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.
[10] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.
[11] Per IUCN's Red List of Threatened Species
[12] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

2 GENERAL

2.1 Project Description

2.1.1 Implementation Description

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 profits from CAAC.

TIST empowers Small Groups of 6-to-12 subsistence farmers in India, Kenya, Tanzania and Uganda 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 170,000 subsistence farmers. 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. The carbon credits create a new 'virtual' cash crop for the participants, who gain all the direct benefits of growing trees and also receive quarterly cash stipends based on the GHG benefits created by their efforts. The maturing trees and Conservation Farming will provide additional sustainable benefits that far exceed the carbon payments. These include improved crop yield, improved environment, and marketable commodities such as fruits, nuts, and honey.

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; this 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. Farmers in the project seek to maximize environmental and social impact while supporting and improving existing agricultural activities. Planting trees on privately owned farms in conjunction with agricultural activities is minimally disruptive, resulting in virtually no leakage or baseline emissions. The project will continue to monitor the potential for leakage in the regular implementation of baseline surveys which assess the presence of displacement and other activities that could result in leakage. TIST representatives will regularly conduct site visits to farms to monitor farmers' activities. Further discussion of leakage management can be found in section 3.2.2. Similarly, TIST will assess non-permanence factors through regular site visits. By aiming to visit farms once every 18 months the project will collect substantial amounts of data to make assessments of any losses and corresponding risk factors.

This monitoring report is for a subset of the TIST project in Kenya and applies to 12,892 Small Groups, 79,089 Participants, 53,357 active Project Areas, and 23,747 hectares. The main species planted are eucalyptus, grevillea, and cupressus. TIST farmers use a mosaic restoration approach, planting on thousands of individual farms spread across the landscape. The individual farms are found throughout Kenya and concentrated around Mt Kenya.

Verification Number	Date	Monitoring Period	Gross Reductions	Buffer	Issuance
Verification 01	Pending	01-Jan-04 to 01-Jul-23	1,239,250	123,925	1,115,325

2.1.2 Project Category and Activity Type

This project is an Afforestation, Reforestation and Revegetation (ARR) project and has been developed in compliance with the VCS Standard version 4.4. KE-VCS-011 is a grouped project.

2.1.3 Project Proponent(s)

Organization name	Clean Air Action Corporation (CAAC)
Contact person	Charlie Williams
Title	Director
Address	250 Old Harbor Road, Vinalhaven, Maine, USA 04863
Telephone	+1 720-394-2112
Email	CharlieWilliams@CleanAirAction.com

2.1.4 Other Entities Involved in the Project

Organization name	The Institute for Environmental Innovation (I4EI)
Role in the project	Non-profit focused on co-benefit improvement
Contact person	Blair Martin
Title	Executive Director
Address	250 Old Harbor Road, Vinalhaven, Maine, USA 04863
Telephone	+1 202-309-1356
Email	blairhmartin@gmail.com

Organization name	United States Agency for International Development (USAID)
Role in the project	Provided funding for sustainable development components until 2014. No longer active.
Contact person	Enoch Kanyanga
Title	Technical Officer
Address	USAID-Kenya c/o American Embassy United Nations Avenue, Gigiri, P. O. Box 629, Village Market-00621 Nairobi, Kenya

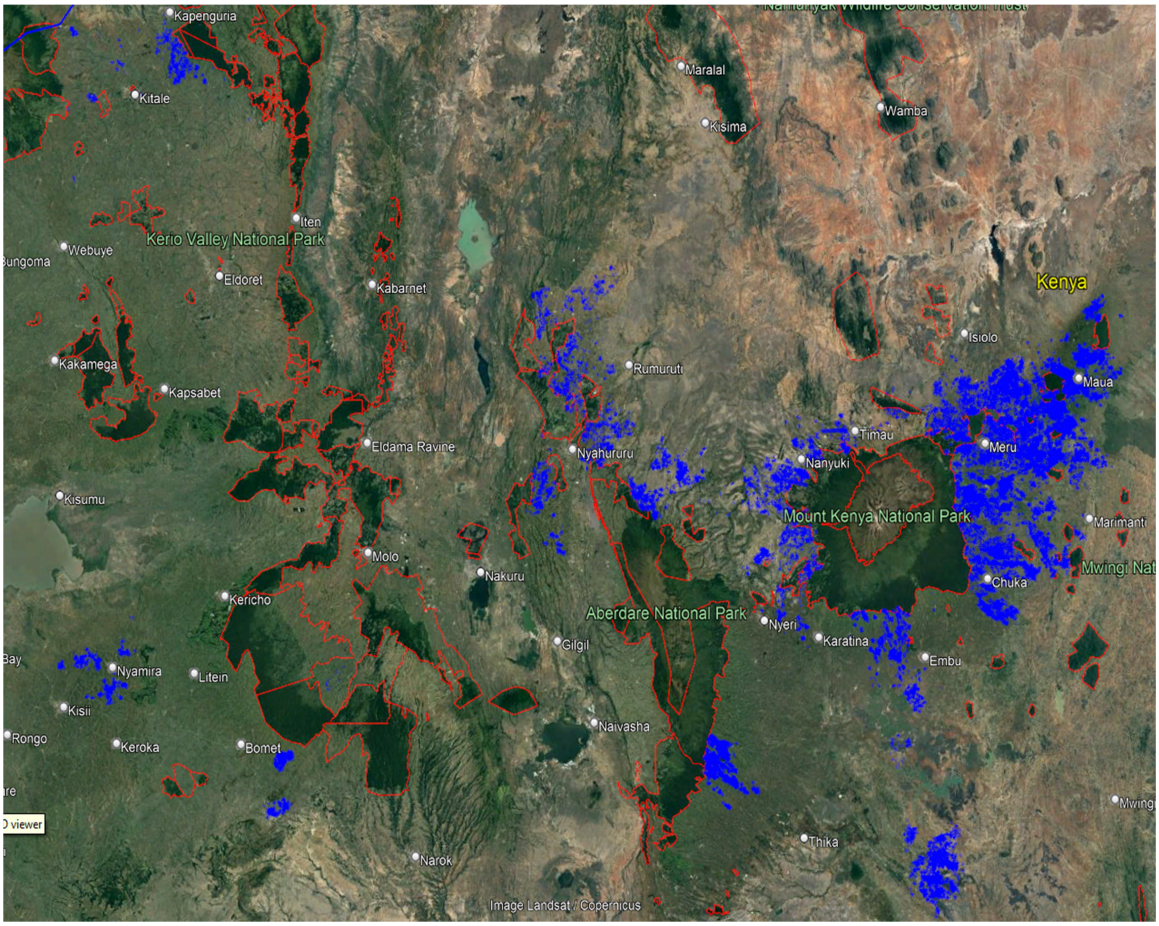
2.1.5 Project Start Date (G1.9)

01-January-2004

2.1.6 Project Crediting Period (G1.9)

60 years starting 01-January-2004 and ending 31-December-2063

2.1.7 Project Location



Map 2.1.7: All Project Areas (blue dots) in PD. Red outlines are protected forests with Mt Kenya right of center. See Appendix 03: TIST KE PD-VCS-011 App03(a-g) PA Plots 230626.kml.

There are 59,295 project areas (53,357active and 5,937 pending) covering 23,747 ha. The PAs of this PDD are located in central Kenya in the vicinity of Meru and Nanyuki. The individual Project Areas, their location and their boundaries are presented in Appendix 03, the KML files.[13] In addition, a latitude and longitude for each project area is indicated on the monitoring spreadsheets, Appendix 08.[14]

[13] Appendix 03 PA Plots: TIST KE PD-VCS-011d App03(a-g) PA Plots 230701.kml at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[14] Appendix 08 Monitoring Data V1: TIST KE PD-VCS-011i App08 Verif 01 Monitoring Data 230701.xlsx at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

2.1.8 Title and Reference of Methodology

This project is seeking registration under the Verified Carbon Standard (VCS 4.4) as an Afforestation, Reforestation and Revegetation (ARR) project and has been developed in compliance with the CDM Afforestation/Reforestation (A/R) methodology "A/R Large-scale Consolidated Methodology, Afforestation and reforestation of lands except wetlands" (AR-ACM0003v.2).

The project applies the following CDM tools as applicable:

- "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" (AR-TOOL 02, V02.1);
- "Estimation of non-CO2 greenhouse gas (GHG) emissions resulting from burning of biomass attributable to an A/R CDM project activity" (AR-TOOL 08,V04.0.4)
- "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities" (AR-TOOL 12, v3.0)
- "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (AR-TOOL 14, v4.2);
- "Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity" (AR-TOOL 15, v2.0)
- "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" (AR-TOOL 16, v1.1)
- "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities" (AR-TOOL 17, v01.0.0)
- "Demonstration of eligibility of lands for A/R CDM project activities" (AR-TOOL 19, Version 02.0)

2.1.9 Other Programs (G5.9)

- 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.
- 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, or that any such credit has been, or will be, cancelled from the relevant program.
- The Project Proponent declares the project has not been registered, nor is seeking registration under any other GHG programs.

2.1.10 Sustainable Development

Kenya's nationally stated sustainable development priorities are the 17 SDG developed at the UNGA Sustainable Development Summit and the Agenda 2030. The following are some of the sustainable development goals that TIST addresses:



GOAL: There is no poverty – End Poverty in All its Forms – Everywhere

TIST works both directly and indirectly to address the issue of poverty. Farmers receive cash benefits equal to 70% of the profits from carbon sales. They also gain significant financial benefits from their participation in TIST. These benefits include fruit and nut crops, improved crop yields through Conservation Farming, fodder for cattle, wood for craft and fuel, improved land, and training in small business development. Currently farmers receive over $8 of value per tree planted. Working

with subsistence farmers on degraded land, the TIST program addresses acute instances of poverty; TIST succeeds in creating new revenue streams without interfering with the farmer's primary economic activity.



GOAL: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

TIST addresses the issue of hunger directly. By teaching Conservation Farming, TIST farmers are almost always able to double their crop yields in the first year and can increase yields as much as 400% in subsequent years. TIST farmers also benefit from growing new crops, such as fruits and nuts, that improve their food security. The ancillary benefits of increased fodder and fertile land also improve the farmers' ability to raise animals. Finally, the planting of trees restores degraded and/or desertified land, improving the long-term agricultural outlook for TIST farmers.



GOAL: Ensure healthy lives and promote well-being for all at all ages

The TIST program addresses many of the health issues facing participants. Training includes a ten-part program on HIV/AIDS education. TIST offers further education on malaria, typhoid, tuberculosis, nutrition, sanitation, clean drinking water, and hygiene topics. This information is distributed at Cluster meetings and through multilingual newsletters.



GOAL: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Education is fundamental to TIST. Through Clusters and newsletters, TIST offers applied and vocational education that is accessible to people regardless of age, gender, or social status. This promotes lifelong learning and democratizes informational distribution. The revenue from participation in TIST is also reported to often pay for school fees and uniforms.



GOAL: Achieve gender equality and empower all women and girls

Gender equality is a foundational aspect of the TIST program. The practice of rotational leadership supports gender equality by providing everyone a chance to lead.

Training for leadership opportunities is open to both genders, and women are actively encouraged to seek these roles. TIST engages equal numbers of men and women as independent contractors and in leadership positions.

The TIST program's benefits are not determined by land ownership, which is usually patriarchal in the operational countries. Instead, the 'ecosystem service' can be accomplished by women, the contract can be held by women, and it can be transferred through inheritance.



GOAL: Ensure availability and sustainable management of water and sanitation for all

TIST plays a direct role in clean water and sanitation issues, through several activities. Riparian planting works to anchor sediment and improve water quality in the areas where we operate. Through this program, TIST has restored hundreds of hectares of vital riparian land. In areas where TIST participants can be an hour's travel away from the closest water source, the preservation and improvement of existing watersheds is vital. Educational programs about hygiene improve sanitation. TIST also educates farmers on methods for water purification, including through the use of sunlight.



GOAL: Ensure access to affordable, reliable, sustainable and modern energy for all

TIST provides resources and training on the construction of clean burning stoves. These stoves require significantly less wood to produce energy and offer improved ventilation. In some areas, TIST has also provided access to solar power and to manufactured metal stoves. Thousands of people have benefited from these technologies through TIST.



GOAL: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

TIST works with people as both employees and independent contractors. Flexible hours allow people to generate a secondary revenue stream from TIST, while also continuing to work on their farm.

Many of the issues addressed by TIST have serious economic implications. HIV/AIDS and land degradation problems have wide reaching economic impacts. By improving health and environmental concerns, TIST significantly improves the economic potential of its participants. Improved soil is a multi-generational and sustainable benefit. More generally, TIST's operations strengthen the environment and societies they operate within, directly and indirectly promoting regional and national economic growth.



GOAL: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

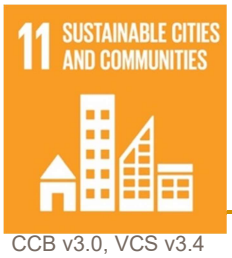
TIST has significant infrastructure and innovation benefits. The Small Groups, clusters, newsletters, and seminars are all designed to facilitate information sharing and innovation. These incubators allow farmers to share improvements and ideas with one another across geographical, cultural, and social barriers. Information technology and training allow participants to further leverage their intellect and innovation. In addition, the TIST structure is itself an award-winning logistical achievement. Solving the "last mile" problem that many organizations run into in our operational countries constitutes a major innovation.

The creation of a virtual cash crop is a way to eliminate many of the challenges presented by limited traditional infrastructure. The creation and verification of carbon credits requires only limited transportation networks and low-quality internet connections. Using cell phones for training and data collection, and mobile payment platforms, TIST is able to overcome the existing limits of infrastructure.



GOAL: Reduce income inequality within and among countries

The TIST program directly helps reduce inequality. By eliminating barriers to participation, TIST helps to mitigate patriarchy and ageism in the communities we operate. Improving degraded land, increasing crop yields, and providing secondary, or tertiary revenue streams increases the income of the some of the world's poorest farmers. Verification reports certify that TIST's operations directly impact more than 50% of the poorest quartile of the communities we operate within. Voluntary carbon credit sales transfer income from richer countries, where impacts of climate change are costly, and the costs of carbon mitigation are also high, to the TIST farmers, whose costs of mitigation are lower and the benefits higher.



GOAL: Make cities and human settlements inclusive, safe, resilient and sustainable

TIST creates networks across large geographic areas and social barriers. Through leadership identification and training, we work to create more inclusive societies. Our values explicitly encourage inclusion, safety, and sustainability. TIST training and Best Practices are designed to maximize the safety of our participants, employees and contractors. With improved crop harvests and improved nutrition, the TIST areas are more sustainable. They are also more resilient because they are less impacted by drought and floods. Women, youth, and the disabled are fully included.



GOAL: Ensure sustainable consumption and production patterns

TIST helps to create efficient production patterns by facilitating land fertility improvements such as Conservation Farming, composting practices, and the restoration of degraded land. Avoiding chemical fertilizers and pesticides, while increasing production, makes farms more sustainable.



GOAL: Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy

TIST works to combat climate change through the sequestering of carbon in a direct, quantifiable way. Sequestration is accomplished through the planting and growing of trees. In addition to sequestering carbon, forests reduce the temperature of the air by evaporating water through their leaves and reduce the soil temperature by shading the ground.

Increased availability of fuelwood and higher efficiency stoves reduce the consumption of petroleum-based fuels. Using electronic data systems reduces otherwise needed travel. The use of solar power, where applicable, improves lives without the use of kerosene. Creating natural mulch and pest control replaces petroleum derivative fertilizers, chemicals, and the fuel used for transport.

TIST also works with local communities to create adaptation strategies and ways to combat the local ramifications of climate change. Climate change is often considered on the macro level, with little thought to the day-to-day impacts on vulnerable populations. By working directly with communities, listening to their concerns, and helping to develop strategies, TIST's approach is focused on local results. Our work also increases awareness of climate change issues.



GOAL: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

TIST's Riparian Program has a direct impact on marine resources. The protection of wetlands and riparian areas is crucial to the overall health of watersheds, rivers, lakes, and eventually, seas. Healthy riparian areas trap sediment, store floodwater and energy, recharge groundwater, and promote biological diversity.



GOAL: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

The planting of millions of trees increases biodiversity, while also providing the structural conditions for subsequent increases. Tree growth not only restores degraded land but also allows for the return of various forms of life. Practices such as agroforestry, apiculture, and Conservation Farming help these dynamics. In order to understand the impacts of tree planting on terrestrial ecosystems, it is best to think of TIST groves not only as discrete instances of biodiversity, but also as anchors that support the revitalization of entire regions.

TIST's activities directly contribute to sustainably managed forests, both by increasing tree growth and serving as buffers to National Parks, High Conservation Value Areas, and other protected lands. In many cases, TIST groves serve as wildlife corridors between habitats.



GOAL: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

TIST works in various ways to strengthen the communities and institutions we work with. Small Groups, Cluster meetings, and TIST values promote cohesion. Partnering with civil society organizations strengthens them through shared success; TIST provides forums for direct interactions between subsistence farmers and people in power. Having women in leadership roles promotes more inclusive ideas of justice. Entering into understandable and mutually beneficial contracts is often a new experience for TIST participants and increases their comfort in navigating a sometimes-daunting part of civil society. TIST's Verified results prove the institutions that make up TIST are effective, accountable and inclusive.



GOAL: Strengthen the means of implementation and revitalize the global partnership for sustainable development

TIST has had a variety of partners in our sustainable development work. These include local governments, civil society organizations, community forest associations, CBO's, NGO's, churches, temples, and other religious organizations. We also work with international conservation, development and health NGOs, international finance and development bi-lateral and multi-lateral organizations (including USAID), and with individuals who want to help make the world sustainable. We share our information and successful implementation technologies with all organizations with similar goals and aspirations.

Kenya is developing their SGD program and TIST will participate as required. Verra's has developed the SDVista program for validating and verify SDG goals. TIST was one of pilot program but at this time, we are not seeking SDVista certification.

2.2 Project Implementation Status

2.2.1 Implementation Schedule (G1.9)

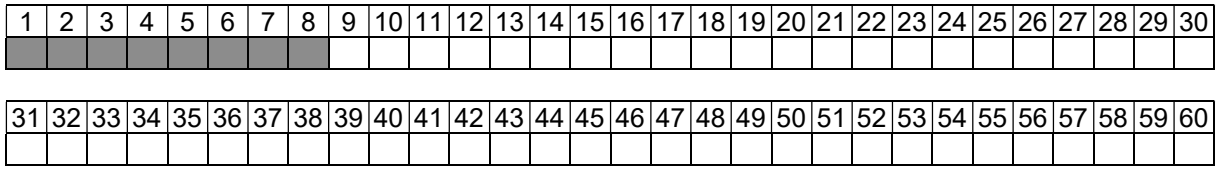
Date	Milestone(s) in the project's development and implementation
01 January 2004	starting date of A/R CDM activity
01 January 2004 to 31 December 2063	60 year crediting period
6 February 2004-9 February 2004	Initial visit to Mt Kenya area meeting stakeholder to gauge interest in TIST expanding to Kenya.
21 February, 2005 to 26 February, 2005	Stakeholder seminar in Nanyuki
11 April, 2005 to 14 April, 2005	Stakeholder seminar in Meru
February 2005	First "Mazingira Bora"

19 March 2007	Letter from the National Environment Management Authority indicating no objection to the TIST project
Ongoing	Legal Agreements: Signing the GHG contract is an ongoing effort. When a Small Group asks to join and completes the application process they may sign the contract.

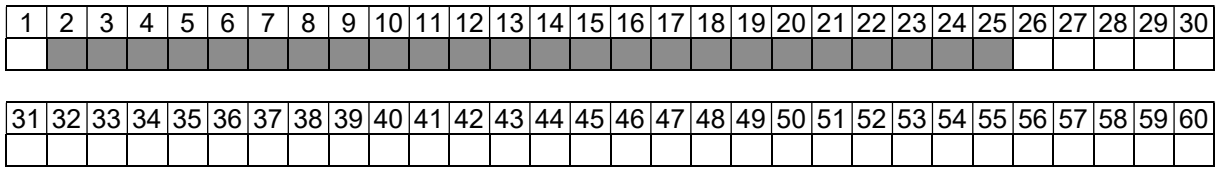
Justification: TIST maintains a database record of each project area showing when it was first quantified by a TIST staff member and how old the trees were. These records appear at www.tist.org under "Project Areas" and under each region, group center, and Small Group where audits have taken place. The data collected by TIST indicates that that the first Small Group in the PD was registered in 2004.

Gantt Charts: The following Gantt charts show the timing of annual events for the project. The numbers along the top of each chart are years. Where "project" is indicated in the title, it is for the 60-year project life. Where "project area" is indicated, it is for events that might take place within a project area and the year one may be an event rather than the beginning project date. With all the different project areas, species, farmers and planting schedules, these charts are very general and subject to change.

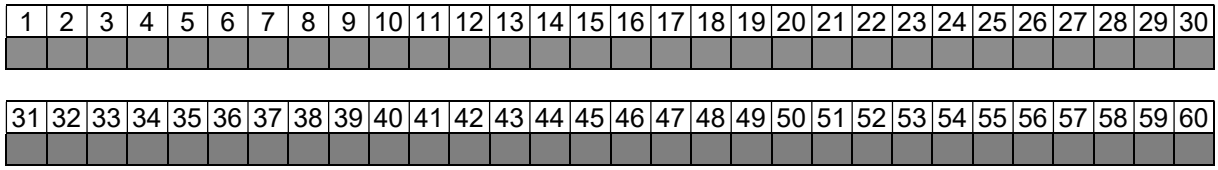
Main planting schedule (project). Main planting has taken place, but additional planting may take place in individual project areas, over the next few years, where the original planting density is low.



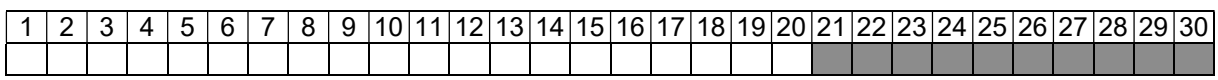
Replacement planting schedule (project). As trees die, farmers are to replant for 20 years. Replanting can start as soon as the second year. Replanting is shown for 25 years because of the staggered start of individual project areas.



Monitoring (project). Monitoring is ongoing. The internal goal is to quantify each grove annually. Whether that is achieved or not, the Quantifiers are out in the field, all the time, visiting the multitude of project areas.



Validation and verification (project). Validation is taking place contemporaneously with this initial monitoring report under an exception from Verra on the start date. Future verifications will take place every 2 to 5 years.



31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Thinning (project area). Thinning is allowed, because it improves tree growth. Because of the different species and their different growth rates, the different planting schedules, the different original spacing and different farmers, thinning can begin in as early as four years, where an early harvest for poles or firewood is made.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Fruit and nut harvest (project area). Most of the trees won't bear any fruits, nuts or other products for five or six years. After that, harvest will be annual.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Deadwood harvest (project areas). Farmers may harvest deadwood any time it exists. For those that lose trees in the first year, it will come in year one. However, it is expected that most deadwood harvest will take place in later years as larger trees are lost, or branches die.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

2.2.2 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 the Project Design Document, 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.

2.2.3 Minor Changes to Project Description (*Rules* 3.5.6)

None, not applicable

2.2.4 Project Description Deviations (*Rules* 3.5.7 – 3.5.10)

None, not applicable

2.2.5 Grouped Projects

1) **New Project Areas and Communities (G1.13).** This is the first verification and thus there are no new Project Areas and Communities.

2) **Removed Project Areas and Communities (G1.13).** This is the first verification and thus there are no removed Project Areas and Communities.

3) **Eligibility Criteria for Grouped Projects (G1.14).** Each new instance shall meet the appropriate CDM or VCS requirement. This includes eligibility, applicability, additionality, baseline scenario and determination, project boundary identification and monitoring, all as described in the PD documents. Since this is the first verification, there are no new project.

4) **Scalability Limits for the Grouped Projects (G1.15).** The TIST program in Kenya has grown to over 131,000 farmers and over 18,000 Small Groups. The strong in-country leadership of Kenya and proven ability to manage growth demonstrate that there are no managerial limits to growth. As the program grows, new people are trained to administer to expansion areas. Subsistence farmers planting trees on privately owned land is a broadly applicable approach over different geographies and cultures. This project does not set any scalability limits.

5) **Risk Mitigation Approach for Grouped Projects** (G1.15). Not Applicable.

6) **Project Zone Map (G1.13).** No changes have been made, not applicable.

7) **Changes to Management** (G4.1). Not Applicable.

2.2.6 Risks to the Project (G1.10)

Major project risks are mitigated by project design, as discussed in the PD and repeated below. The long-term sustainability of TIST is dependent upon a carbon market for afforestation/reforestation credits. The market for VCS credits exists but, by definition, is dependent upon the entities buying credits to voluntarily offset their carbon emissions. An expected US market may or may not materialize and, if it does, may or may not allow AR credits. As of the date of this project, the carbon markets appear to be experiencing a modest rebound.

TIST is different than most AR projects, in that it was created for small-scale subsistence farmers. Because of the rules of CDM, many of the farmers in this project have project areas too small to meet the Host Country definition of a forest. Should VCS, or a possible US program, put the same limitation on size, many of the farmers in TIST will no longer be eligible to participate in the carbon market and will lose the financial incentive to participate in the program. TIST has mitigated this risk by achieving what it has at the lowest costs possible. Rather than using expensive Western experts, it has deployed a sophisticated, yet easy to use, monitoring system and relies on capacity building with the Small Group members and their desire to improve their lives.

Another risk is that farmers will drop out of the program. This is mitigated by the fact that there are thousands of individuals involved already and TIST continues to grow. Having a few farmers quit will not have a significant effect on the project.

Natural risks include drought, pestilence and fire. These, however, are mitigated by the fact there are thousands of individual project areas spread over thousands of square kilometers. We provide training on minimizing risks from fires, in newsletters and in training broadcasts, on area radio programming.

2.2.7 Benefit Permanence (G1.11)

Validation and Verification are happening simultaneously. Benefit Permanence described in the Project Description documents (repeated below) applies.

TIST is a comprehensive program that includes training in climate change and biodiversity. The following describes some of the training and their benefits that are in effect and will be maintained during the duration of the program.

- Training in the benefits of specific tree species will result in more trees selected that have a value other than as harvested wood or for carbon revenue. Examples include macadamia trees for their nuts, citrus trees for their fruits and Croton megalocarpus as a source for biofuels.
- Training in the maintenance of a sustainable woodlot. Wood and charcoal are some of the greatest expenses for subsistence farmers. Learning the value and convenience of a sustainable woodlot will ensure that it is maintained beyond the life of the project.
- Training in the benefits of biodiversity will help the farmers make the choice to keep trees, rather than cut them down. The benefits include more productive soil, return of edible indigenous plants, enhanced area ecotourism, and return of native wildlife that is useful to them personally (e.g. bees).
- Tree planting and education activities will create benefits beyond the duration of the project. Even in the absence of a carbon market, trees provide through fruits, nuts, medicine, timber, etc. Trainings on sustainable development issues, leadership development, and community organization will improve the lives of farmers even in the absence of TIST. We believe the above is sufficient to create a sustainable program to maintain and enhance the CCB benefits beyond the project lifetime.

2.3 Stakeholder Engagement

2.3.1 Stakeholder Access to Project Documents (G3.1)

TIST operates as transparently as possible. Stakeholders are given access to the full project documentation in several ways:

- The project documents will be posted with VERRA as part of the 30-day comment period.
- TIST holds monthly public meetings open to all community members. These meetings happen locally, in individual communities. Participants are encouraged to invite other interested stakeholders. TIST representatives share project information and receive feedback. Individual Clusters will be notified at their monthly Cluster meetings and through dissemination of The Tree newsletter. The TIST program is represented by trained Cluster Servants at these meetings, who will be equipped to answer questions.
- If we have an email address for a stakeholder submitting comments, they will be sent an email with a link to the project web page and notice of the public meeting. Links to the project web page are included, as well as links to all of CCB and VCS documentation.
- The email notices contain a summary of the project.
- All of the documentation that TIST generates to support validation and verification is publicly available online. TIST further allows for public access to its proprietary database, including data on progress updated in real time. TIST provides newsletters through the Cluster structure. These newsletters include the TIST URL, as well as updates and information about the program. These newsletters are distributed monthly in the local languages of participants. They further include contact information for those with questions.

2.3.2 Dissemination of Summary Project Documents (G3.1)

The summary project documentation and summary information on monitoring results, has been published in the TIST KE newsletter, Mazingira Bora.[15] The newsletter is distributed at Cluster meetings in multiple languages and is the subject of discussion.

2.3.3 Informational Meetings with Stakeholders (G3.1)

Informational meetings with communities and local stakeholders are conducted three ways. First, as described in Section 2.3.7, when TIST comes to a new area, we contact stakeholders directly. Since these are generally introductory meeting to determine interest, there is no publication of the meeting. Second, are at the Cluster meetings. These are publicized and known to the Small Groups and are announced at the previous Cluster meeting. Third are the formal announcements for CCB certification as noted in Section 2.3.1.

2.3.4 Community Costs, Risks, and Benefits (G3.2)

Relevant and adequate information about potential costs, risks and benefits to communities is provided in introductory meetings, training meetings and Cluster meetings. These are open meetings where all can participate and ask questions. Cluster meeting are monthly and the meetings are within walking distance so information is provided. New members are given the TIST application information.[16] They are shown how to access the TIST website with their mobile phones where more information is available. Additionally, quantifiers, also termed Cluster Servants due to their expanded role, visit the project areas regularly and attend the Cluster meetings where further questions can be asked and clarifications made. See Exhibit 54 evidencing that the typical Cluster meeting includes “answering questions”.[17] See Exhibit 42 for a list of the Cluster meetings and the training topics[18]. During this monitoring period there were thousands of person-sessions of training on TIST. The prospective members are walked through the GHG contract at the meeting and then take it back to the Small Group. At the Small Group, they and continue to discuss it and ask more questions at the next Cluster meeting or ask the Cluster Servant. The Tree newsletter carries articles that cover a wide range of TIST benefits.

Part of the application process covers costs. TIST was designed for zero cost of entry but with the expectation that the farmers will put in the work to grow the trees. TIST provides training to raise seedlings from seeds using seedbeds. The effort to plant the trees their labor. Members receive training for free.

The risks are discussed during the application process. One is that there is more risk in the first few years when seedlings are young. During that time the risks are not much different that growing crop. Since this is what the farmers are experienced with, they are aware of the risks.

The benefits are discussed throughout the application process. They include all the training tabulated in Exhibit 42. In addition, as documented in the GHG contract and the application packet, they are provided information about the tree payments and the 70% profit share. This latter payment has been the focus of many Cluster meetings and newsletter articles. It is reinforced by the actual payments. As noted in Section 4.3.1 TIST has paid farmers millions of dollars (USD).

[15] XXX 2023 at http://www.tist.org/i2/moreinfo.php
[16] Exhibits 36, 37, 38, 39 and 04 TIST Information: TIST Intro FAQ, TIST SG Eligibility Requirements, TIST SG Membership Application, TIST Values, and the GHG Contract, all at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[17] Exhibit 54, Cluster Meeting Checklist: TIST KE PD-VCS-Ex54 Cluster Meetings Checklist.docx at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[18] Exhibit 42, Cluster Meetings: TIST KE PD-VCS-Ex42 Training Master 230414.xlsx at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

The above demonstrates how relevant and adequate information about potential costs, risks and benefits to communities has been provided to communities in an understandable form and in a timely manner prior to any decision they may have been asked to make with respect to participation in the project

2.3.5 Information to Stakeholder on Verification Process (G3.3)

TIST used Clusters, Small Group structures, and newsletters to distribute information about the VCS/CCB validation and verification process, explaining that we are attempting to achieve dual certification. Cluster Servants informed TIST farmers of verifier visits at Cluster meetings. The intent to validate and verify this project and the date of audits was in newsletter.

TIST's operational structure facilitates direct and independent communication between stakeholders and the representatives of the validation and verification bodies.

2.3.6 Site Visit Information and Opportunities to Communicate with Auditor (G3.3)

The intent to validate and verify this project and the date of field visits was announced in newsletter. TIST's operational structure facilitates direct and independent communication between stakeholders and the representatives of the validation and verification bodies. Once site visit locations are determined by the VVB, farmers will be given appropriate notice and the opportunity to speak directly with the VVB without supervision from TIST workers.

2.3.7 Stakeholder Consultation (G3.4)

The original TIST program was started in Tanzania in late 1999 to meet local needs in a sustainable way, while at the same time addressing climate change. In February 2004, TIST was invited to begin the project in Kenya. At that time, a trip was made around Mt Kenya where community leaders in Meru and Nyeri were briefed on TIST to gauge the level interest that local farmers might have. They were asked to spread the word about the program and if there was grassroots interest, prospective members were invited to begin planting trees. Between February 2004 and February 2005, additional meetings were held with community leaders and government offices such as the Forest Department.

The first TIST seminar of TIST Kenya was held in Nanyuki from February 21, 2005 to February 26, 2005.[19] The seminar began with the process of customizing TIST to the desires and needs of farmers in the Meru and Nanyuki areas. Seventy-three people attended, 40 men and 33 women. A second training seminar was held April 11, 2005 to April 14, 2005 at the Gitoro Conference Centre in Meru.[20] Seventy-five people attended, 39 men and 36 women.

In February 2005, the first "Mazingira Bora" was published and circulated within the communities to TIST members and those interested in the program. Since that time, TIST has published regular newsletters that document an ongoing dialogue and support with members of the community, both inside and outside the program. These documents are available to the public in a transparent form on the internet at tist.org.[21] TIST also has a collection of written stakeholder comments (see PDD).

At the Cluster level, member farmers meet with TIST representatives regularly, where they have an opportunity to ask more questions and make more comments. Since one of TIST's main focuses is adopting Best Practices, these are forums to review what is working about the program and how it can be improved. Changes to the program are announced in the newsletter.

[19] Mazingira Bora February 2005, page 2, at http://www.tist.org/i2/moreinfo.php
[20] Mazingira Bora April 2005, page 1, at http://www.tist.org/i2/moreinfo.php
[21] http://www.tist.org/moreinfo.php

The result of this stakeholder process has led to numerous invitations for TIST to come to new villages and numerous positive comments about TIST.

Other stakeholders are NGOs and government entities we have identified from their activities in the Project Zone. TIST has been active in Kenya since 2004, has seven VCS PDs (including this one) and four CCB PDDs (including this one). TIST had held numerous public meetings that we announced in several Kenya national newspapers. We have collected the names of interested stakeholders in the multiple versions of Exhibit 14 (a-i).

Stakeholder consultation for this MR was done as part of the CCB public comment period and in the Mazingira Bora. A notice of the verification and description of the project were sent to external stakeholders and selected internal stakeholders on XX September, 2023. The description of the project and requests for comments were published in the XXX 2023 Mazingira Bora. No comments were received from either notifications.

2.3.8 Continued Consultation and Adaptive Management (G3.4)

TIST has a collection of written stakeholder comments. Stakeholder feedback is constantly being incorporated into the program. However, TIST's approach is not simply to solicit feedback and then adjudicate what suggestions are meritorious. Farmers are able to provide suggestions and advice from their own life directly to members of their Small Groups and their Clusters. Ideas that work for a Small Group or Cluster are then shared via TIST Quantifiers and through the newsletter- this "networking effect" is one of the main benefits associated with the TIST program. For instance, one community began to use the structure and byproducts of participation in TIST to begin making soap. Their success was then recorded and shared through the newsletter. Similarly, successes with apiculture and agroforestry practices have been disseminated across the program area. In this way TIST employs a "bottom up" approach.

TIST is a community-based project, which means that the thousands of farmer-members represent a cross-section of population. TIST membership is further comprised of government officials, church leaders, and members of other NGO's who are able to contribute input from diverse sources representing local leaders and cultures.

The network of TIST Quantifiers and representatives, combined with the thousands of Cluster meetings occurring annually, provide numerous contact points for local, national, and international organizations to make contact and provide input. Thus, TIST is able to leverage its networks into a structure providing continuous feedback and consultation.

At the Small Group level, member farmers meet with TIST representatives regularly, where they have an opportunity to ask more questions and make more comments. Since one of TIST's main focuses is adopting best practices, these are forums to review what is working about the program and how it can be improved, facilitating adaptive management. TIST's operational structure ensures that marginalized groups, in particularly women and youth, are attending meetings and contributing to the dialogue. In this way, the program is able to proactively address the needs of marginalized groups.

Changes to the program are announced in the newsletter. The result of this stakeholder process has led to numerous invitations for TIST to come to new villages and numerous positive comments about TIST, as well as numerous improvements to the program. This structure has resulted in an adaptive and dynamic program, with constant changes occurring as feedback is solicited.

2.3.9 Stakeholder Consultation Channels (G3.5)

All consultations and participatory processes have been undertaken directly with communities and other stakeholders. This is ongoing and demonstrated through the structure of the program.

Cluster meeting are held about once per month at each cluster where Small Group representatives (TIST Members) attend with Cluster leaders and Cluster Servants for training, to receive payment and to discuss any issue brought up by the members. Exhibit 42 (Cluster meetings), documents over 21,000 meetings in Kenya since 2013 which include 1.5 million person-sessions on What is TIST, TIST Eligibility, TIST Values, Developing Best Practices and GHG Contracts.[22] Dates and locations are provided. The meetings have been held at 644 clusters in Kenya. The Cluster Meeting Checklist gives an idea of the contents of a typical meeting.[23]

Seminars are held periodically where representatives from multiple clusters are invited. The Seminars include reports from the areas, program updates, reaction to events, program issue, training and more.

TIST Kenya has published 177 issues of "Mazingira Bora" newsletter through January 2023 containing 947 articles. We print about 11,600 issues per month and distribute them at Cluster meeting. The Small Group representative takes them back to their group to share. Exhibit 49 is an index listing all articles.[24]

The number of Cluster, seminars, newsletter and public meetings are justification that adequate levels of information sharing have occurred.

2.3.10 Stakeholder Participation in Decision-Making and Implementation (G3.6)

First is should be noted that TIST was designed so that subsistence farmers, especially women, would be eligible for revenues from the sale for GHG credits. The program design, by necessity required conformance with CDM and later VCS/Verra (VCS and Verra did not exist in 2004). So the general design of the program needed to adhere to the then GHG standards. As noted in Section 2.3.7, we began our consultation with farmers in Tanzania to determine how to develop the program on the ground that worked for and benefitted the farmers. When we began TIST Kenya, we relied on the local farmers to guide the development of TIST Kenya to make sure we conformed with Kenya norms. Kenyans have been involved and led since the beginning.

CAAC has no ex-pat managers in Kenya. All of the host country leaders are Kenyans from the project areas. As such, they are in-grained in the culture and operate TIST in regard to cultural sensitivity. They lead the seminars. The Cluster leaders are from the Cluster and lead the meetings and handle the administrative function of the Cluster. Kenyans from the program write the newsletter and have members write short articles. The Cluster Servants/Quantifiers and Auditors are Kenyans, often from one of the local Clusters.

Gender sensitivity is built into the program. It was designed for gender equality from the beginning. Against culture norms for male leadership and domination, we required "one man and one woman" to attend seminar and be Small Group representatives at Cluster Meeting. We try to maintain 50% women on the Leadership Council and are currently at 50%. Cluster Leaders are about 50% women and women are 56% of the Cluster Servant. A women is in charge of the expansion and a women is in charge of the accounting. CAAC employees are 75% women. The I4EI executive director and a major CAAC stockholder is a women. Their participation it TIST has meant that gender sensitivity is front and center with everything we do. 41% of the signatories of the GHG contracts are women and 41% of the prepayments and profit share go to the women.

TIST has a sexual harassment policy that states among other things:[25]

[22] Exhibit 42 Cluster Meetings: TIST KE PD-VCS-Ex42 Training Master 230414.xlsx
[23] Exhibit 54 Cluster Meetings Checklist: TIST KE PD-VCS-Ex 54 Cluster Meetings Checklist.docx
[24] Exhibit 53: KE Newsletter Index, TIST KE PD-VCS-Ex49 KE Newsletter Index.xlsx
[25] Exhibit 34, Sexual Harassment Policy: TIST KE PD-VCS-Ex34 Sexual Harassment 170120.doc at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

- "Sexual harassment is defined as any unwelcome or unwanted sexual advance, request for sexual favors, or other verbal or physical conduct of a sexual nature from someone in TIST that creates discomfort and/or interferes with the job."
- Harassment due to race, religion, sex, sexual harassment, national origin, disability or age status will not be tolerated in TIST. Such conduct is subject to discipline, up to and including termination.
- Any worker whom believes he or she is a victim of sexual harassment must immediately report any incident to the Leadership Council.
- TIST will not tolerate retaliation against any worker who complains of sexual harassment or provides information in connection with any such complaint.

The measures needed and taken for effective participations are:

- Involve the communities in the design stage of the project; before it is implemented. TIST Kenya determined the needs of the farmers through Small Group visioning exercises, to learn their needs and desires. As the program is implemented, Small Groups and Clusters provide avenues for continued dialogue as discussed in Section 2.3.8. When TIST came to Kenya, they brought in the community members as partners and leaders to determine cultural appropriate methods for expansion. This process led to the development of several currently integral components of TIST program. The TIST Values of honesty, accuracy, transparency, mutual accountability, service to one another, and small budget/big results were formally articulated. These values were vetted by other countries' participants and came to undergird the entire program in all countries.
- Cluster organization borrowed previous TIST practices, including rotating leadership and the policy of "one man, one woman". This operational unit has become one of TIST's defining features, and a huge part of the program's success.
- Hold regular seminars to keep the community members informed and to see what is working and what is not. When there are suggestions or changes that are locally appropriate, Small Groups and Clusters are able to serve as incubators for these changes or improvements. When information needs to be passed to management for operational suggestions, it is communicated through the Cluster leader and Cluster Servants to the "Group of Cluster" meetings and to the Leadership Council. These administrative structures use the same communication channels to solicit clarifications and provide transparent feedback. Both middle and senior level management in Kenya is well appraised to receive input from farmers because they themselves are drawn from the network of TIST participants. They are peers.
- Use a structure such as the Small Groups, Clusters and newsletters for training, to disseminate information and to develop other program elements.
- Encourage rotating leadership at all levels. This rotational leadership alternates by gender, ensuring equal access to leadership positions and decision making. Gender parity is maintained in the national Leadership Councils.
- Use a Leadership Council made up TIST farmers that have excelled in leadership to operate the program.
- Train and use TIST farmers to do the monitoring and keep them trained through seminars and internal audits. See Section 2.3.14 and Section 2.4.1 for further details

2.3.11 Anti-Discrimination Assurance (G3.7)

The measures taken are to inform the participants and workers of TIST policies, to inform them that they should contact the Leadership Council if they have been a victim of sexual harassment, or discrimination, and to inform them that there is a grievance process that they can follow

The sexual harassment[26], non-discrimination[27]and gender policies[28] are posted on the TIST Mobile website where it is accessible by members with a mobile phone. A member that has been found to discriminate or sexually harass can be removed from TIST. A TIST worker that discriminates or sexually harasses can be dismissed. From project start to present, TIST Kenya has had no such complaints.

2.3.12 Grievances (G3.8)

Feedback and grievance redress procedures are publicly accessible on the website. New TIST workers are oriented on these policies. Links to these policies are published in the monthly newsletter. To date we have not had a formal grievance. If there is one, it will be published in The Tree and presented to the Clusters.

2.3.13 Worker Training (G3.9)

Local capacity is not lost through staff turnover. First, we have many people on staff in Kenya that do common jobs. For example there are 139 Cluster Servant and leaders including some more senior quantifiers that know how to quantity, train and help at Cluster meetings. They provide institutional knowledge and help train new quantifiers. Some of the leadership positons are rotating. For example, Cluster Leaders come from the cluster. The Leader serves 6 months, rotates off and is replaced by the co-leader. The Cluster coordinator becomes co-leader and a new member is brought on as coordinator. We also have the TIST data system. The smartphones have an easy to use user interface that walks the user through the steps for quantification, expenses and other data components. We have written manuals available on the website. And we have capacity in Uganda that can provide extra support should it be needed.

TIST begins in an area with a series of orientation seminars. TIST members are introduced to the program and participate in the customization of the program to the locale. Virtually all the local staff is hired from the TIST membership. Nearly all Quantifiers and trainers are from the local membership. Staff and Quantifiers are hired based on ability, not gender, tribe, cultural background, or level of education. However, all effort is made to ensure a balance in gender and tribal affiliation. Training is passed on to new workers through the seminars and working with an experienced TIST member. As needed, the US team has held seminars to provide new information. Cluster Servants/Quantifiers receive ongoing training as needed and attend a training seminar at least once per year. They are given access to the Quantifier Manual. During the seminars, they are trained on the TIST monitoring plan, which includes use of the smartphones and GPS, use of the custom data collection software, how to maintain their data, synchronizing their data with the TIST server, the importance of good data, taking tracks of the Project Area perimeters, taking secondary tracks of the Project Area perimeters, counting trees, the importance of proper tree counts, identifying tree species and tree ages, taking proper circumference measurements, keeping accurate expenses, GHG contracts and any new program initiated.

Small Groups training is ongoing. The Small Groups are all assigned to "Clusters," an administrative unit within walking distance of a central point. The Cluster meetings are supposed to be held monthly and will take place at least once per year at each Cluster. While attendance is voluntary, Small Groups are encouraged to send representatives to every meeting. Training includes Conservation Farming, biodiversity, cook stoves, the GHG contract, climate change, selecting tree species, the benefits of different species, preparing nurseries, tree management, HIV/AIDS, malaria and other subjects of interest to the members. The three Cluster Leaders are rotated every six months. The Cluster Servants train them and guide them. Over the last year, TIST has implemented policies to record and monitor Cluster Leadership to ensure proper gender balance is kept.

[26] Exhibit 34 Sexual Harassment at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[27] Exhibit 35 Non-Discrimination at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[28] Exhibit 51 Gender Policy at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

2.3.14 Community Employment Opportunities (G3.10)

Local capacity is not lost through staff turnover. First, we have many people on staff that do common jobs. For example there are 139 Cluster Servant and leaders including some more senior quantifiers that know how to quantity, train and help at Cluster meetings. They provide institutional knowledge and help train new quantifiers. Some of the leadership positons are rotating. For example, Cluster Leaders come from the cluster. The Leader serves 6 months, rotates off and is replaced by the co-leader. The Cluster coordinator becomes co-leader and a new member is brought on as coordinator. We also have the TIST data system. The smartphones have an easy to use user interface that walks the user through the steps for quantification, expenses and other data components. We have written manuals available on the website. And we have capacity in Kenya that can provide extra support should it be needed.

TIST does not have an expatriate staff. Although the main management staff and computer development are in the US, the Kenya program is run by Kenyans from the project areas. The Cluster Servant/Quantifiers are largely TIST farmers trained to use the monitoring system. The land and trees planted belong to the TIST farmers. The TIST farmers work together to establish the best practices for their area (whereas the Kenyan and Indian farmers establish their own best practices more suitable to their areas). The local managers are the Leadership Council, which is made up of Kenyans. Cluster meetings and Small Group meetings are run by Kenyans. All TIST members have an opportunity to be group leaders, regardless of education or gender. TIST members are utilized as volunteers, independent contractors and employees based on achievement, not gender, education or social status. TIST holds regular training seminars for Quantifiers and conducts regular audits to make sure their skills are honed.

We strive for gender equality. About half of our Cluster Servants/Quantifiers, Auditors, Cluster Leaders and Leadership Council are female. Females hold positions of responsibility like voucher payments and expansion. When Seminars are held, Clusters must send at least one man and one woman. When a Cluster shows up with all males, they are sent home with instructions to send a woman.

Opportunities are open to all, especially marginalized people. We do not have a formal education requirement for any position. Those that have proven they can do the job are the ones doing the job.

2.3.15 Relevant Laws and Regulations Related to Worker's Rights (G3.11)

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.

- The Employment Act, 2007
- Regulation of Wages and Conditions of Employment Act
- National Hospital Insurance Fund Act, 1998

Per the requirements of this section, we hereby provide assurance that the project meets the requirements of the above listed laws. In addition, the employees have contracts that include many of the statutory employment requirements which informs the workers of their rights.

2.3.16 Occupational Safety Assessment (G3.12)

TIST members are conducting activities that they normally do, i.e. farming using manual labor. TIST workers such as Cluster Servants walk or use public transportation. Their job does not require them to engage in activities that are inherently unsafe. The risks facing TIST workers are minimal and no different than those affecting anyone living in the area. Such risks and mitigation factors are:

- Matatus and Boda-bodas. Do not take rides if the driver appears to be intoxicated or drives in a reckless manner. If the driver is driving too fast or unsafe tell the driver to drive slower and safer. If

it persists, ask to be let out or off the vehicle. In case of a robbery, do not resist and surrender the TIST equipment if it is demanded. Report the incident to the UG Team within 24 hours.

- Snakes. Be aware when moving through areas where you cannot see where you are placing your foot. If unsure, uses a long stick to prod the bushes or grass to identify the presences of snakes. If a poisonous snake is seen, leave the area and notify the farmer. There are NO first aid treatments for poisonous snake bites. If you are bitten by a poisonous snake you must go to the nearest hospital for anti-venom. The bite may be fatal if not treated. You could lose a limb or suffer permanent injury if bitten. You, your partner or the farmer should try to identify the type of snake so that the correct anti-venom can be selected. Even if the snake is killed it can still bite!
- Elephants. Elephants are extremely dangerous. The best way to avoid an elephant attack is to not get in that situation. If an elephant is present in a project area, back away trying not to disturb it. If it attacked, your choices are: i) stand your ground, it may be a bluff charge. ii) if you are close enough to shelter (house, vehicle, fence, large tree), try to back away slowly (keep facing the elephant) and move to the shelter. Elephants run much faster than humans so if you cannot reach shelter, running may just trigger an aggressive response.
- Encountering dangerous people. Should you encounter hostile or dangerous TIST or community members, leave the area and try to get to a place where there are other people present. Do not engage in arguments or physical confrontation. If you are with a partner, stay together and support each other. In case of a robbery, do not resist and surrender the TIST equipment if it is demanded.
- Sexual Assaults. Females should work with a partner in new areas to avoid sexual assaults. If you end up in a situation where you fear an assault, leave the area and try to get to a place where there are other people present. If attacked, yell for help. Report any assault to the police and to the UG Team.
- Dogs. If a hostile dog is present or you are concerned about a dog that is present, ask the farmer to secure it until you finish quantifying. If the farmer refuses, leave the area and notify the TIST Team. If bitten by a dog, go to the doctor. Since dogs can carry rabies, try to determine who owns the dog for in case it needs to be tested. Rabies are fatal without treatment and treatment is necessary within days.
- Bees. The effects of bee stings can range from annoying and painful to fatal, depending on whether you are allergic to the venom. Avoid being stung by avoiding swarming bees and try to remain calm if they are present. Do not agitate the bees. Avoid wearing perfume or scents. If stung, remove the stinger as soon as possible because the longer it stays in the body, the more severe the reaction. If you know you are allergic to bee stings; get stung in the mouth, nose or throat; have shortness of breath; or have severe swelling or swelling away from the site of the sting; get medical help immediately. If you know you have severe allergic actions to bee stings, you should carry an epi-pen (ask a doctor about this).
- Crossing rivers. Do not attempt to cross rivers with high, fast flowing water. You could drown.
- Working on Steep Slopes. Take extra care when working on steep slope. Do not put yourself in a situation where a fall could hurt or kill you.

TIST has a Standard Operating Procedure to address safety. To ensure that safety policy and safety issues are understood, each Quantifier are briefed on the safety policy periodically.[29]

[29] Exhibit 15

2.4 Management Capacity

2.4.1 Required Technical Skills (G4.2)

The following positions and structures are comprised of staff and workers who have the necessary technical skills to implement the program. This is demonstrated by numerous successful validations and verifications, as well as program growth:

- Clean Air Action Corporation (CAAC) is a for profit US corporation that manages the GHG component of TIST. CAAC is TIST's largest contributor, provides technical assistance and uses its host country subsidiaries to manage operations.
- Institute for Environmental Innovation (I4EI), a US based non-profit organization, manages the TIST sustainable development program components. I4EI provides funding from government agencies, foundations, and private donors.
- Thousands of TIST Farmers make up the Small Groups, plant the trees on their lands, manage their own trees and make up the core or TIST.

Operating within the TIST Structure are:

- Leadership Council. It is made up of six to twelve TIST farmers and two full time managers (Kenyan). They supervise the TIST Staff.
- TIST Staff. These are members whom oversee expansion, technical support, accounting, and day to day operations
- Tech Support and QAQC. This is held by a TIST member that rose through the program based on his abilities. He is in charge of daily desk reviews and keeping the field monitoring system operational.
- Voucher Payments. This is handled by a team of TIST farmers that have proven their ability to oversee voucher payments.
- Cluster Leaders. There are three Cluster leader positions per Cluster: Cluster Leaders, Co-leaders, and Accountability people. They serve for a period of four months. After four months of service, the Cluster leader rotates out, the Co-leader becomes the Leader, the Accountability person becomes the Co-leader and the Accountability person is filled by Small Group members from the Cluster.
- Expansion Team. This team is responsible for expanding TIST to new areas.
- Cluster Servant. They serve as Quantifier, trainer and liaison for one or more Clusters.

The required technical skills are community engagement, biodiversity assessment and carbon measurement and monitoring skills. These were brought to TIST Kenya under the leadership of the two founders of CAAC. Together they have over 90 years combined experience in energy, natural resources, monitoring, quality control, transportation, biofuels, pollution control technologies, emission trading, trading program development, third party due diligence, computer technology and management. There is an international staff that supports the program including operating and maintaining the TIST Data System. All personnel and systems have been operational during the monitoring period.

TIST has been operating successfully for over 20 years and has expanded to four countries, 170,000 farmers and planted over 25 million documented trees. The monitoring system they developed won a Computerworld Honors Laureate in 2007. TIST has 16 VCS PDs, all of which have gone through three verifications. TIST has validated and verified seven CCB PDs under the 2nd edition, two under the third edition, all have attained CCB triple gold. TIST was the first project to be verified under CCB. Its successes with CCB demonstrate it has the skills required to implement the project successfully, including community engagement, biodiversity assessment and carbon measurement and monitoring skills.

The management team has chosen to train local TIST members and build local capacity rather than use expat specialist. TIST management has a Leadership Council comprised of trained TIST farmers that handle the day to day in-country management. There is a staff of Quantifiers that do the monitoring, auditors that review the work of the quantifiers, trainers and desk auditors that do preliminary quality control. All have been active during the monitoring period.

2.4.2 Management Team Experience (G4.2)

The two founders of CAAC have almost 90 years combined experience in energy, natural resources, monitoring, quality control, transportation, biofuels, pollution control technologies, emission trading, trading program development, third party due diligence, computer technology and management. They began CAAC in 1993 and helped develop emission trading programs in the US and Canada and were responsible for many firsts in innovative emission control (See CAAC website).

TIST was established in direct response to the needs developed and expressed by Small Groups of Tanzanian subsistence farmers in 1999 and 2000. Attending a Small Group training seminar organized by the Anglican Diocese of Mpwapwa in July 1999, one of CAAC's founders participated in a visioning exercise with local subsistence farmers. They expressed deep concern about recurrent famine, poor crops, lack of shade and firewood, declining rainfall, declining soil fertility, poor access to water for personal and agricultural use, poor diet, regular health problems including TB and Malaria, lack of economic opportunity, poor cattle forage on eroded lands, and the decline of wildlife due to over hunting and lack of forests. The Small Group seminar, however, did not stop with identifying the local problems; participants established the goals of starting hundreds of Small Groups to plant trees, reduce poverty, improve health, and prevent famine. They decided the groups should work together with each other, and with resources in the US and the UK, to share “njia bora” (best practices) and to start achieving the goals.

With CAAC's involvement with nascent GHG trading in Canada, there was an obvious way to bring these improvements to the farmers, using carbon credits as a financial tool.

The following summarizes CAAC carbon project development experience:

- TIST Program, Tanzania, a small-hold farmer A/R project. It began in 1999, with the first tree planting in 2000. The project is centered around Mpwapwa and Morogoro and includes over 2,000 farmers.
- TIST Program, India, a small-hold farmer A/R project. It began in 2002, in the rural area outside of Chennai, Tamil Nadu. There are about 6,800 farmers and 1.8 million trees. A subset of the Project Areas was been validated and registered as a CDM project (subsequently withdrawn due to a lack of markets for tCERs). There is one validated and verified VCS project, which has been validated and verified under CCB.
- TIST Program, Uganda, a small-hold farmer A/R project. It began in 2003 and is centered around three towns in southwest Uganda (Bushenyi, Kabale and Kanungu). There are about 19,000 farmers and about 7.3 million trees. The DNA approved the project contingent on submitting a PD based on an approved methodology. They also approved the EIA. There are seven validated and verified VCS projects, all of which have been validated and verified under CCB (6 Gold for exceptional community benefits and one triple gold).
- TIST Program, Kenya, a series of small-hold farmer A/R projects. The project started in 2004 and is centered around Mt Kenya. There are over 131,000 farmers and 12 million trees. The project has been accepted by the forest department and DNA for CDM. An EIA was accepted by the National Environmental Management Authority (NEMA). TIST Kenya has seven validated and verified VCS projects, all of which were also validated and verified under CCB (all have attained triple gold for exceptional community benefits, climate and biodiversity).
- Sulfur Hexafluoride emission reductions from electric power equipment in substations of Duquesne Light Company. Reductions were made at numerous locations in Pennsylvania from 1996 through

1999. The reductions were approved as credits under the Pilot Emissions Reduction Trading Program (PERT) in Ontario Canada. CAAC managed the project.

- Methane emission reductions through the recovery of landfill gas from the Lancaster Landfill in Lancaster, New York. Reductions were made 1995 through 1998. The reductions were approved as credits under the Pilot Emissions Reduction Trading Program (PERT) in Ontario Canada. CAAC managed the project.
- TIST has also been a pioneer in the development of measuring sustainable development impacts. The program's farmer-facing structure and focus has allowed farmers to generate diverse benefits that have been recorded in independently administered surveys and TIST's award winning data system. The resulting trove of information allowed TIST to serve as an SD Vista pilot project.

2.4.3 Project Management Partnerships/Team Development (G4.2)

As listed in Section 2.1.4 the PP has partnered with The Institute for Environmental Innovation (I4EI). I4EI is a US non-profit focused on co-benefit improvement. They have worked with the following to improve TIST:

- DLA Piper (an international law firm), they helped the PP improve the GHG contract with the Small Groups.[30]
- Digital Education Futures Initiative has deployed a mobile phone based education platform centered around TIST farmers.[31]
- Antares Research is working to improve the assessment of program's impact on UN SDG goals (in development).

All three entities have provided valuable additions to TIST. However, they are considered beneficial add-ons and were not needed to fill any "gaps" in the project. As noted in 2.4.1 and 2.4.2, the PP and TIST have all the relevant experience is need and is operating 14 other successful TIST projects.

2.4.4 Financial Health of Implementing Organization(s) (G4.3)

CAAC has been in business since 1993 and has operated TIST for over 20 years. CAAC is profitable after all TIST expenses. CAAC has no debt.

Financial statements and a financial plan (both confidential) have been made available to the Validator.[32] The financial statements show 1) project is entirely self-funding through carbon revenues, 2) CAAC and the TIST project are and have been profitable and 3) the profit has allowed payments of millions of dollars (USD) in profit chare to the Small Groups. The financial statements document the ability of the PP to provide adequate financial support to new project areas included in the project at this verification event.

2.4.5 Avoidance of Corruption and Other Unethical Behavior (G4.3)

The Project Proponent, or any of the other entities involved in project design and implementation, are not involved in, or are not complicit in any form of corruption such as bribery, embezzlement, fraud, favoritism, cronyism, nepotism, extortion, or collusion. CAAC is a small company. It's CEO and Vice President are active in the day to day operation and are very familiar with the financial aspects of CAAC and TIST and are aware of no instances of the aforementioned types of corruption within either organization. The USAID grants also contained prohibitions of these types of corruption.

[30] Exhibit 04
[31] https://learn.tist.org/
[32] Both sets of documents are confidential.

"TIST Values" are the guiding principles of the program.[33] They state: 1) We are honest; 2) We are accurate; 3) We are transparent; 4) We are servants to each other; and 5) We are mutually accountable to each other. These values are discussed in Seminars[34] and are regularly in the newsletter.[35] They are a training topic at the Cluster meetings.[36] They are introduced to new members during the application process.[37] They are a component of the Grievance Policy.[38] They are incorporated in the GHG contracts. TIST has fostered a culture of honesty, accuracy and transparency, that provides the assurance necessary for this section.

2.4.6 Commercially Sensitive Information (*Rules* 3.5.13 – 3.5.14)

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

- CAAC's proprietary financial model, Exhibit 09.
- CAAC Financial Statement, Audited by a Certified Public Accountant (2022's are Preliminary).
- Individual Carbon Credit Sale Agreements with Small Groups. However, the templates are available.[39]

No information related to the determination of the baseline scenario, demonstration of additionality, and estimation and monitoring of GHG emission reductions and removals have been marked to be commercially sensitive or confidential and withheld and in the public versions of the project documents.

2.5 Legal Status and Property Rights

2.5.1 Recognition of Property Rights (G5.1)

All property rights are recognized, respected, and supported. This is demonstrated by the GHG contract with the Small Groups. It states "The Small Group shall own the trees and the fruits, nuts, medicines and all other products from the trees; the stoves; and the crops from the sustainable agriculture." As for ownership of the land, the contract discusses how the members must demonstrate that they own or be entitled to use the land but imparts no rights of ownership or transference to CAAC or TIST. The purpose of the contract is for the members to plant trees on their land and only transfer the rights to the carbon. The project will not encroach uninvited on private property, community property, or Government property. The lands are controlled by the farmers.

2.5.2 Free, Prior and Informed Consent (G5.2)

The project will not encroach uninvited on private property, community property, or government property. This is documented by the GHG agreement among CAAC and the Small Groups.[40] Consultations regarding the GHG agreement is conducted through training prior to the signing of the contract by each Small Groups. The trainings are described in below in this section. Per the GHG agreement, TIST does not own or control any property nor does the agreement contemplate any acquisition of land from the farmers. It only contracts for the rights to the carbon that is removed by the trees planted by the members.

[33] Exhibit 39 TIST Values
[34] Seminar Notes
[35] The Tree: January 2018, April 2018, March 2017, May 2017, March 2015, etc.
[36] Exhibit 46 Cluster Meetings
[37] Exhibit 36 TIST Intro FAQ, Exhibit, Exhibit 37 TIST SG Eligibility Requirements, Exhibit 38 TIST SG Membership Application.
[38] Exhibit 33 Grievance Policy
[39] Exhibits 03 and 04: GHG Contracts
[40] Exhibit 04

The members demonstrate they have the rights to the land where they plant and attest to the same in the contract. See Section 2.5.1. By signing the GHG contract the members represent that they have the legal right to the land that will become a project area. Nothing in the contract gives CAAC or TIST the right to that land. It also states affirmatively that the Small Groups maintain the rights to the trees, tree products, crop and stoves. The contract only transfers the right to the carbon to CAAC. However, the contract does "allow auditors and quantifiers access to locations of the Small Group activities, including where TIST trees are planted and, when asked, assist them in locating the trees, farms, or other project locations." Therefore, by contract, TIST does not encroach uninvited on private property, community property, or government property.

The process by which free, prior, and informed consent will be or has been obtained of those whose property rights will be or are affected by the project is described as follows.

First, as noted above and in Section 2.5.1, the only property rights that are affected are the rights to the carbon removals resulting in participation in TIST.

Second, joining TIST is voluntary. In existing areas, farmers learn about TIST from friends and neighbors and if they are interested are told to attend a Cluster meeting here they are given the application packet.[41] In new areas, TIST representatives travel to these areas and make contact with farmers. The farmers are told about TIST and if they are interested, asked to invite other farmer to a meeting where they are informed about TIST and given an application packet.

Consultation takes place over several months. Prospective members are given an application packet and many opportunities to discuss what it means to join TIST and what the GHG agreement does and doesn't do. The opportunities to learn about TIST include attending Cluster meetings, discussing the applications packet with their Small Groups and consultation with TIST representatives such as Cluster Servants and Cluster Leaders. As noted in Exhibit 42, there have been 1.5 million person session of training on TIST since 2013. As noted in Exhibit 54, the ideal Cluster meeting includes 2 training sessions, a discussion on who to see regarding application for membership and time for answering questions/ hearing suggestions & concern.

The application packet includes a TIST Info FAQ, eligibility requirements, group application, TIST Values and a GHG contract.

The group application states: "We have an application process made up of several steps to ensure that you have the information you need to decide if you want to volunteer to join, and to create strong group that can work well together to plant trees to fight climate change and improve our communities. The process involves getting information from the TIST websites, developing Small Groups and Cluster meetings and talking with a designated TIST member. After you have taken actions to develop areas where you plan to plant trees a Quantifier will visit your farm to see what you have accomplished. In the process, you will be meeting weekly with neighbors with whom you would like to form a TIST Small Group, and keeping a record of these meetings." They are informed about the website (accessible by mobile phone) and how the TIST members will guide them through the application process and about the trainings required for registration. The application discusses the interview process including attending training meetings, asking questions to learn about the farmer and how group members know each other; asking why the member wants to join TIST and verifying that they understand the terms of the GhG contract that was given in the application packet.

The eligibility requirement list 14 criteria that will govern membership, including signing a GHG contract, planting trees, meeting the requirement of the GHG governing bodies (e.g. Verra), joining or forming a Cluster and Small Group and following the program values (TIST Values). It also gives a description of the payment structure. At this point the farmer has not joined TIST or made any commitments to plant trees.

[41] Exhibits 04, 36-39 at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

The FAQ is a four page document that further describes TIST. It begins with the TIST Values of honesty, accuracy and transparency and discusses the culture of TIST. Some key points are;

- Who is TIST? We are! It describes the member community and how we take actions to improve the environment and address climate change.
- How Does TIST work? It discusses Small Groups, making GHG credits, how we grow leaders with rotating leadership and share best practices.
- What exactly are 'greenhouse gas credits'? This provides more detail about what is entailed in making credits.
- What is the Greenhouse Gas Contract? "Small Groups enter into a contract with CAAC and promise to plant a minimum of 5,000 trees over five years." In return, they receive an annual incentive payment to maintain and replant trees. The payment is based on the number of live trees in the ground. When the TIST Program is able to cover its costs from the sales of carbon credits, the Small Groups will receive a 70% share of the net profits.
- What are the benefits of being in TIST? These include improved crop yield from Conservation Farming; fruits, nuts, firewood, honey, medicine and other tree products; building local capacity in technology use, training and agroforestry knowledge; new friends; leadership and management skills; opportunities for service to others; stipend payment for live trees and profit sharing.
- How much does TIST pay Small Groups? The payment is 0.02USD per live tree per year. While this seems small at first it is much more than the value of sequestered carbon in the early years of a project area. Ultimately, however, they receive 70% of the profits from carbon sales.
- Where does the money for the tree-planting incentives come from? The initial investment comes from CAAC.
- Does TIST provide material handouts to the groups? "TIST does not provide any materials such as planting pots, tools, seeds or seedlings. Instead, we provide information and training so that all of us can perform the activities ourselves."
- Can anyone join TIST? "TIST is expanding rapidly. Because we do the work ourselves and we keep our budget low, our results are high and we accomplish a lot. If people in an area are willing to live by the TIST Values, work hard and help each other, we invite them to apply to be a TIST Small Group." "Before being registered in TIST, the farmers will need to go through an application and training process to make sure that they are serious and qualified. After Registration, they become part of the TIST Program and can start helping each other improve their environment, their farming, and their lives. Then when people ask "Who is TIST?" they can say "WE ARE!"

TIST Values elaborated on the key points of Who Are We?

- We are honest.
- We are accurate.
- We are transparent.
- We are servants to each other.
- We are mutually accountable to each other.

GHG Contract. This is provided with the above material and is part of the training. It is only after the farmer is given the application packet and the training that a farmer is permitted to sign the contract.

This process ensures free, prior, and informed consent has been obtained of those whose property rights are affected by the project. It is a long consultation and, because we have new farmers joining all the time, it is ongoing. Some members in the PD joined in over 15 years ago, and some have joined in the last few years. The documents and training presented above demonstrate we provide the training and information

necessary to make an informed decision. The GHG contract is the agreement, only signed after a farmer has made the voluntary choice to join.

Appropriate restitution or compensation is allocated to any parties whose lands have been or will be affected by the project. As noted, no lands will be affected by the project. The TIST contract requires a Small Group to plant trees on their land to sequester carbon. The project makes no claim on the land. The trees, their products and the environmental benefits are kept by the farmer.

The consultation takes place as part of the training described in this section. The compensation is disclosed before the signing of the contract. The GHG contract is the binding agreement.

The project provides compensation for the trees and the carbon. Initially the farmers are paid $0.02 per tree per year per live tree. When this was established it exceeded the value of carbon in international carbon market that a tree would sequester over a multi-year period. Once the project became profitable from the sale of carbon credits, the members began to receive 70% of the "Project Net Revenue." (The Project Net Revenue is defined as the cumulative revenues from the sale of Carbon Credits from TIST Kenya less the cumulative costs of TIST Kenya, including the pro-rata international development costs and tree payments to the Small Groups). As noted in Section 4.3.1 of this report, Kenyan farmers have received millions (USD) in profit sharing.

In addition, the structure of TIST provides free training in sustainable development ideas and activities that have a multiplying benefit to the farmers.

TIST has allocated appropriate compensation to the parties whose lands have been or will be affected by the project.

2.5.3 Property Right Protection (G5.3)

The project activities do not lead to involuntary removal or relocation of property rights holders from their lands or territories, and does not force rights holders to relocate activities important to their culture or livelihood. TIST is voluntary and does not take any lands or encroach on any lands. TIST does not ask that a farmer displace themselves, family or home or force them to relocate activities important to their culture or livelihood. By the GHG contract, the members maintain ownership of the land and trees. TIST was designed to benefit the farmers and to leave it up to them to decide whether to participate and if they do, where to plant their trees. Any displacement they choose to do of their pre-TIST activates is done with free, prior, and informed consent, as noted in Section 2.5.2.

As noted in Exhibit 40, the farmers are asked a series of questions regarding displacement as part of the baseline survey.[42] The section begins as follows:

> The following questions are to determine if a farmer had to displace any regular activities as a result of planting TIST tree groves. Sometimes, when activities are displaced, this causes the farmer to clear trees on their own or other people's land. Since cutting down trees causes deforestation, TIST does not want members to cut trees in one place so they can plant them in another. This takes away the positive environmental effects of tree planting, and can even have negative effects when older, larger trees are cut down unnecessarily.
> NOTE: If while interviewing a farmer about displacement you find that they have been cutting trees as a result of displacement of activities from TIST tree groves, educate them on the dangers and ask them to stop.

[42] TIST UG PD-VCS-Ex 40 Quantifier Manual 190613.docx at https://www.tist.org/PD-KE-VCS-011%20Documents.php. See page 14, Displacement.

The questions include whether there has been displacement of a household, existing forest, cultivation or grazing. The responses are captured on the smartphone database and synchronized with the TIST Server. As part of the process for determining eligibility for the PD, the answers are analyzes and summarized in column AG, Grove Summary, Appendix 04. If there is an "N" in the column, the answers have indicated no displacement and the project area is eligible for the PD. If the answer is blank, the baseline is incomplete and although the project area is in the PD, it will not be included in the monitoring report until it is completed and no ineligible displacements are indicated. If the answer is "Y" the project areas will not be included in the monitoring report until it can be demonstrated that an error was made during the questioning or input. Only the project areas that are designated with an "N" in column AG are active in the PD.

While displacement can include farmland under Verra rules, it is a decision made by the farmers and they are compensated with the payments required in the GHG contract.

2.5.4 Identification of Illegal Activity (G5.4)

The Project Zone is the land owned or controlled by the farmers and no illegal activity (e.g. illegal logging) has been identified. The farmers own the trees and can choose to cut them down. However, if the trees are TIST trees, they will be in violation of the GHG contract wherein they have promised to maintain them. If a farmer decides to void the contract and fell their trees, they will be exited from the program and their trees deducted from the Small Group's total. Similarly, if a Small Group decides to cease maintaining their trees they will be removed from the database. Because the TIST program is dedicated to helping farmers, TIST is uninterested in litigating breaches of contract; however, there is a strong social barrier to breaching this contract. TIST farmers understand that by cutting down their trees, they will harm both their Small Group and their community. This is a powerful social force, particularly in strongly communitarian societies. Over TIST's 20-year history, the program has experienced a *de minimus* number of contract issues. The program is further insulated from this dynamic by constant programmatic growth. With a constantly expanding number of farmers and trees, an individual grove or Small Group's removal will never offset net increases.

Since this is the source of TIST's GHG revenues and the removal has to be offset by other trees, TIST continues to train the members in the GHG contract and the benefits of keeping the trees.

2.5.5 Ongoing Disputes (G5.5)

No ongoing or unresolved conflicts or disputes over rights to lands, territories and resources have been identified. No disputes that were resolved during the last twenty years where such records exist, or at least during the last ten years have been identified. There are cases where a member has died and there arises a family dispute over the land. If the member's family cannot resolve the dispute or if the successors do not want to be in TIST, they are released from the contract.

But for the aforementioned family disputes, no other conflicts or disputes have been identified, and a demonstration that no activity is undertaken by the project that could prejudice the outcome of an unresolved dispute relevant to the project cannot be made and is not applicable. In the cases of family disputes, TIST does not take a position with the members or their successors. TIST will re-sign the contract if that is the desire or they will release the members for the contact, therefore not prejudicing the issue.

2.5.6 National and Local Laws (G5.6)

As a tree-planting program that takes place voluntarily on existing farmland, there are few laws that are relevant to TIST. They are, however:

- The employment laws listed herein (Section 2.3.15).

- Companies Act, (Law of Kenya Cap. 486). CAAC is registered as a branch and must remain in good standing to operate in Kenya.
- Environmental Management and Co-ordination Act, 1999.[43] In conformance with the Act, TIST submitted an EIA to the National Environmental Management Authority (NEMA) and because it received no further communication from NEMA, completed all of its obligations under the Act.
- Kenya Forest Act of 2005. Establishes that all forest in Kenya other than private and local authority forests are vested in the state, and gives the duty of oversight to Kenya Forest Service.

As a recipient of a USAID award, I4EI was subject to:

1. Applicability of 22 CFR Part 226 (MAY 2005)
2. Ineligible Countries (MAY 1986)
3. Nondiscrimination (MAY 1986)
4. Nonliability (NOV 1985)
5. Amendment (NOV 1985)
6. Notices (NOV 1985)
7. Subagreements (JUN 1999)
8. OMB Approval Under the Paperwork Reduction Act (DEC 2003)
9. USAID Eligibility Rules for Goods and Services (APR 1998)
10. Debarment, Suspension, and Other Responsibility Matters (JAN 2004)
11. Drug-Free Workplace (JAN 2004)
12. Equal Protection of the Laws for Faith-Based and Community Organizations (FEB 2004)
13. Implementation of E.O. 13224 -- Executive Order on Terrorist Financing (MAR 2002)
14. Marking Under USAID-Funded Assistance Instruments (DEC 2005)
15. Regulations Governing Employees (AUG 1992)
16. Conversion of United States Dollars to Local Currency (NOV 1985)
17. Use of Pouch Facilities (AUG 1992)
18. International Air Travel and Transportation (JUN 1999)
19. Ocean Shipment of Goods (JUN 1999)
20. Local Procurement (APR 1998)
21. Voluntary Population Planning Activities – Mandatory Requirements (MAY 2006)

I4EI was subject to audit by the US government.

[43] Exhibit 01 and Exhibit 02. Environmental Co-ordination and Management Act states that all Kenyans have the right to a clean and healthy environment and sets up the administrative and legal structure to provide it. It sets up the National Environmental Management Authority (NEMA) to oversee this effort. It requires a national environmental plan and district plans. It also requires environmental impact assessments conducted by an authorized consultant for any project that is "out of character with its surroundings." Included in this category is "reforestation and afforestation." Relying on Section 59.8 and 59.9 of the Act, if there is no response from NEMA within 6 months of submitting the EIA, the proponent may begin its undertaking.

Directive regarding Eucalyptus and Riparian Lands. In March 2011, NEMA issued an Order on wetlands whereby "those encroaching into wetlands and adjacent riparian land to vacate." Pertinent to TIST is the instruction to remove "Eucalyptus trees from riparian land." NEMA directed the Water Resource Management Authority to "peg, mark and secure" all riparian lands subject to this order. At this time, no TIST project areas have been designated riparian lands and no TIST farmers have been told to remove any eucalyptus trees.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1 Data and Parameters Available at Validation

Data / Parameter	Location of project area
Data unit	Latitude and longitude
Description	Single point location of a discrete project area.
Source of data	GPS
Value applied	See "Grove Summary" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	Direct measurement of latitude and longitude of a point within a project area using a GPS. Used to provide a simple location of a discrete project area.
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Boundary of project area
Data unit	Latitude and longitude
Description	Multiple points of latitude and longitude that describe the boundary of a discrete project area.
Source of data	GPS
Value applied	See KML files, Appendix 03, for all results.
Justification of choice of data or description of measurement methods and procedures applied	Direct measurement of latitude and longitude of a point within a project area using a GPS. Used to provide a simple location of a discrete project area.
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Area of project area
Data unit	Hectares
Description	Size of the area where the project activity has been implemented
Source of data	GPS

Value applied	See "Grove Summary" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	A calculated quantity based on the latitude and longitude values collected with the GPS to determine each project area boundary.
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Ownership of project area
Data unit	Name
Description	Ownership of land of project area
Source of data	Exhibits 03 and 04, GHG Contracts
Value applied	Not applicable
Justification of choice of data or description of measurement methods and procedures applied	Each Small Group member is a signatory to a GHG Contracts.
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Baseline trees
Data unit	Count of baseline trees
Description	The number of trees existing in a project area, before the planting of project trees, is counted.
Source of data	Trees are physically counted in the field.
Value applied	See " Baseline Trees" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	Baseline trees are inventoried and monitored at project start.
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Baseline tree circumference
Data unit	Centimeters
Description	The circumference of trees existing in a project area, before the planting of project trees, is counted.
Source of data	Trees are physically measured in the field.
Value applied	See "Baseline Strata" worksheet, Appendix 04, for each result.

Justification of choice of data or description of measurement methods and procedures applied	The circumference of each tree in each strata are measured and used to determine baseline sequestration. See Section 3.4.
Purpose of the data	*Determination of Baseline Scenario*
Comments	*None*

Data / Parameter	Baseline strata
Data unit	Hectares
Description	The area of cropland or grassland at baseline.
Source of data	Estimate based on visual field observations.
Value applied	See "Baseline Strata" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	The percent of cropland and grassland are estimated for each individual project area. The percent is multiplied by the area of the project area. The product is used as part of the procedure to determine the change in baseline carbon stocks. See Section 3.2
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Project trees
Data unit	Count of tree
Description	The number of trees per age and species strata in each project area.
Source of data	Trees are physically counted in the field.
Value applied	See "Grove Summary" and "Strata" worksheets, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	The tree count by strata is used to extrapolate the ex-ante GHG removals. See Section 3.2.
Purpose of the data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Root to Shoot Ratio
Data unit	Fraction, Decimal
Description	Above Ground Carbon to Below Ground Carbon
Source of data	UNEP Good Practice Guidance for Land Use, Land Use Change and Forestry

Value applied	.27
Justification of choice of data or description of measurement methods and procedures applied	Data is specific to tropical forests and is used in ex-ante and ex-post calculations of sequestration
Purpose of data	Determination of Ex Post Calculations
Comments	None

Data / Parameter	Carbon Fraction
Data unit	Fraction, Decimal
Description	Relation of biomass to CO2
Source of data	AR-ACM0003v.2 Default value
Value applied	.47
Justification of choice of data or description of measurement methods and procedures applied	Default value of methodology
Purpose of data	Determination of Baseline Scenario and Ex Post Calculations
Comments	None

Data / Parameter	TIST Small Group Number
Data unit	Concatenation (ex. “2004UG413)
Description	This is a value comprised of the year a Small Group entered TIST, the country of the Small Group, and the sequential number in which they joined in a given year
Source of data	TIST Database
Value applied	See "Grove Summary" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	This is a commonly understood identifier used within the database and by field workers to identify groups.
Purpose of data	Determination of Baseline Scenario
Comments	None

Data / Parameter	TIST Grove Name
Data unit	Name
Description	This is a name selected by the Small Group to identify groves within that Small Group

Source of data	TIST Participants
Value applied	See "Grove Summary" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	Farmers choose names that are meaningful to them. These names are recorded and used in our database to identify groves.
Purpose of data	Determination of Baseline Scenario
Comments	None

Data / Parameter	Cluster
Data unit	Cluster Name
Description	Clusters are used within TIST to identify subsections of the larger TIST program.
Source of data	TIST Participants
Value applied	See "Grove Summary" worksheet, Appendix 04, for each result.
Justification of choice of data or description of measurement methods and procedures applied	Clusters are useful for grouping project areas together. This is of value both to monitor community trainings and the track potential project areas for inclusion.
Purpose of data	Determination of Baseline Scenario
Comments	None

3.1.2 Data and Parameters Monitored

Data / Parameter	Number of trees
Data unit	Trees
Description	Number of trees in a project area by strata
Source of data	Physical counts
Description of measurement methods and procedures to be applied	Physical count of the trees in each stratum by Quantifiers with each visit
Frequency of monitoring/recording	Ongoing measurement taken by Quantifiers as they visit project areas. Each project area could be visited as much as once per year.
Value monitored	Tree count by strata
Monitoring equipment	Android phone with proprietary monitoring application
QA/QC procedures to be applied	Part of overall QA/QC procedures discussed in Section 3.1.3.
Purpose of the data	Calculation of Project Emissions

Calculation method	Not applicable
Comments	None

Data / Parameter	DBH
Data unit	Centimeters
Description	Diameter of tree at breast height (1.30 m)
Source of data	Physical measurements
Description of measurement methods and procedures to be applied	TIST measures DBH of up to 20 representative trees of each age/species stratum in different project area.
Frequency of monitoring/recording	Ongoing measurement taken by Quantifiers as they visit project areas.
Value monitored	Representative circumference of trees in a stratum.
Monitoring equipment	Measuring tape and smartphone.
QA/QC procedures to be applied	Part of overall QA/QC procedures discussed in Section 3.1.3.
Purpose of the data	Calculation of Project Emissions
Calculation method	Not Applicable
Comments	None

Data / Parameter	Total CO_2
Data unit	Metric Tonnes
Description	Total CO_2e sequestered by the trees
Source of data	Calculation
Description of measurement methods and procedures to be applied	Allometric equations are assigned to each stratum. DBH values are applied to the allometric. Average biomass of a tree in each stratum is calculated and multiplied by number of trees in each stratum. Biomass is converted to CO_2e and the CO_2e of the stratum are totaled.
Frequency of monitoring/recording	Calculation takes place with each monitoring report
Value monitored	Above and below ground biomass
Monitoring equipment	Computer, Android phone, and database
QA/QC procedures to be applied	Part of overall QA/QC procedures discussed in Section 3.1.3.
Purpose of the data	Calculation of Project Emissions
Calculation method	Not Applicable
Comments	None

3.1.3 Monitoring Plan

The Small Groups manage themselves based on a covenant among the members of each Small Group. They manage and oversee their own trees. They contract with Clean Air Action Corporation (CAAC) to sell their carbon, receive payments, and receive training. The GHG component of TIST is managed by CAAC, who developed the database, web site and procedures for monitoring the GHG. CAAC is responsible for this project description and for selling any GHGs that become available.

The operational processes for monitoring the actual GHG removal by the sinks are for TIST Quantifiers to visit each grove, at minimum once every five years, to count trees and collect circumference, GPS and other data. Quantifiers transmit the monitoring data via the Internet to the TIST website, where it is managed by CAAC. CAAC oversees the data and conducts QA/QC reviews. Feedback is provided to the TIST Quantifiers and office staff. CAAC is responsible for tabulating carbon stocks.

The Kenya Staff has oversight of the Quantifiers. They also conduct internal audits of Quantifier performance.

The TIST Data System stores all of the current and archived data. CAAC managers use customized reports to analyze the data and look for trends, missing data or obvious errors. TIST managers visit selected project areas and observe quantifications and audits.

Allometric equations come from literature research. Leakage monitoring will come from surveys of the TIST members in charge of an individual project area.

TIST Data System

Each project area is owned and managed by a different group of people that TIST calls a Small Group. The areas are discrete parcels of land spread out over many districts and villages. The Small Groups select the species of trees, the number of trees to plant and the planting schedule. They also maintain the trees. While TIST works with the groups to develop best practices that can be shared and adopted by everyone in the organization, the fact remains that each project area is different. The difference is such that the monitoring system required is different than typical forest monitoring protocols.

TIST has met the challenge of obtaining accurate information from a multitude of small discrete project areas in remote areas where roads are poor and infrastructure is minimal, by combining high-tech equipment and low-tech transportation within its administrative structure. The TIST Data System is an integrated monitoring and evaluation system currently deployed in Kenya and three other countries. On the front end, is a smartphone-based platform supported by GPS technology that is utilized by field personnel (Quantifiers, auditors, trainers and host country staff) to collect most project information. This includes data relating to registration, accounting, tree planting, baseline data, Conservation Farming, stoves, GPS plots and photographs. The data is transferred to TIST's main database server via the Internet and a synchronization process where it is incorporated with historical project data. The server provides information about each tree grove on a publicly available website, www.tist.org. In addition, the other data is available to TIST staff through a password-protected portal.

The smartphones have been programmed with a series of custom databases that can temporarily store GPS data, photographs, and project data. The interface is designed to be a simple to use, checklist format, that ensures collection of all of the necessary data. It is simple enough for those unskilled in computers and high-tech equipment to be able to operate after a short period of training. The interface can also be programmed for data collection not specific to the project. The smartphones are "off the shelf," keeping their costs relatively low.

The synchronization process takes place using an Internet connection. Since the smartphones access the Internet using the local cellular network, data can be synchronized from remote project areas and provide near real-time data to the TIST database and web page.

The TIST Data Server consists of a public side, accessible by anyone over the Internet and a private side only accessible through a password-protected portal. On the public side, a dynamic database is used to constantly update the displayed data. Changes can be seen daily as new synchronizations come in. By mapping the project data with photos and GPS data, the results of each Small Group can be seen on a single page. The GPS data has been programmed with Google Maps to locate project activities anywhere in the world on satellite imagery.

On the private side, confidential accounting data, archive data and data not currently displayed is available. This is the source data for the custom reports and tables necessary for project managers.

The TIST database is off-site and has an off-site backup. The information collected and used for this monitoring program will be archived for at least two years following the last crediting period.

Data to be monitored

The data to be monitored for monitoring actual net GHG removals by sinks are the number of trees in each project area and representative circumference. Because of the potential difference among project areas, the tree count of each project area is monitored. TIST has a staff of trained Quantifiers that visit each and every project area periodically. When quantifying a project area, they:

- Identify or confirm identification of the project area by its unique name combination of Small Group name and grove name (grove is the vernacular used by the project for a project area).
- Determine the latitude and longitude of the approximate center point of the project area with a GPS. It is automatically logged into the smartphone database for temporary storage.
- Map the boundaries of the project area by walking the perimeter using a GPS. The data is stored in the smartphone database for temporary storage.
- Count each tree in the project area by age and species strata. This data is entered by the operator directly into the handheld computer database for temporary storage.
- Measure the circumference of up to 20 trees in the age and species strata of a project area. Data will not be collected at all locations. It is entered by the operator into the handheld computer database for temporary storage.
- The data on the smartphone database is uploaded to the TIST server through the Internet for additional processing and permanent storage.

Managing data quality

TIST will use the following QA/QC procedures:

- Quantifier Training: Quantifiers receive explicit training in regard to TIST's Standard Operating Procedures, so that quantifications are performed in a standard and regular fashion. The Quantifier field manual/handbook is available online at www.tist.org under "Documents to Download" and is updated to reflect changes in internal procedures.
- Quantifiers meet periodically to discuss questions or problems that they may have and receive training and software updates when necessary. Quantifiers are not dedicated to a grove for the life of that grove and may be rotated to other groves.
- Staff Audits: TIST staff members are trained to quantify groves and have smartphones that are programmed to conduct audits. A requirement of their job is to periodically audit Quantifiers, including an independent sampling of tree counts and circumference measurement.
- Multiple Quantifications: TIST's internal goal is to quantify each project area multiple times. Inaccurate data and errors are self-correcting with the subsequent visits. If trees have died or have been removed, a new count will reflect the current population. The growth of the trees, as

indicated by increased DBH, is monitored with these subsequent visits. If a species is mislabeled, it will arise as a conflict when different Quantifiers attempt to perform tree counts for that grove that do not match the previous one. Comparisons are made over time, to determine whether a particular quantification or tree count appears unrealistic.

- Multiple Tracks: In order to ensure that the location and perimeter of each discrete project area is accurate, each GPS track of the parcel is measured at least twice, or until two tracks that reliably define the project area are obtained. Quantifiers will be required to re-trace the tract with each quantification, to verify that they are at the correct project area and that they are counting the correct trees.
- Double Counting: To ensure that the same project area is not counted more than once, an overlap script is used that compares the outline of all project areas. If an overlap is detected, the project areas are visually compared. If an overlap is determined, the overlapping project area is removed from the project.
- Data Quality: TIST Quantifiers count every tree in each discrete project area. Counting each tree is 100% sampling and provides greater than 1% precision, at the 95% confidence level. Up to 20 circumference readings for each stratum in a project area will be taken and archived to develop a localized database of growth data by strata. This data will provide the circumference data for each stratum. This sampling will exceed the 10% precision at the 95% confidence level required by the methodology. The confidence and precision levels will be assessed in future monitoring.
- TIST Data System: The data system is an integral part of TIST's quality assurance and quality control plan. The smartphones are programmed in a manner that requires the data to be collected in a step-by-step manner, increasing the likelihood that all the data will be collected. Data field characteristics are defined to force the use of numbers, text or special formats. Drop down menus are used to restrict answers to certain subsets (e.g. a TIST Small Group name comes from a drop-down menu). Some data fields are restricted to a range of data (e.g. negative numbers are not allowed). The data is uploaded within a few days to the main database, providing timely reporting and secure storage of the data.
- Desk Audit: TIST has developed analytical tools for reviewing data as it comes in from the field to look at track data, tree counts, and completeness of data.
- Transparency: By providing the quantification data online and available to anyone with an Internet connection, TIST is open to audit by anyone at any time. By providing the location, boundaries, tree count by species and circumference, any interested party can field check TIST data. This transparency and the actual visits that have already taken place provide a further motive to make sure the field data is correct.
- Data Storage: The data is stored in an electronic format on the TIST server. Currently, the server hardware is operated by Amazon Web Services, a company that specializes in web and data hosting. However, CAAC could, in the future, change hosts or choose to host the server at its offices.

Accuracy

Precision at 95% confidence level: The methodology required showing that the stratification approach could achieve a targeted precision level of ±10% of the mean at a 95% confidence level. This demonstration was made in the "Statistics" worksheet of Appendix 08.

The "Statistics" worksheet is derived from a database query of the all the circumference data taken from trees in this PD. For this verification there are over 2 million records (these are just the ones for the PD, there are millions more representing other PDs). The two step procedure is first, query the database ("TreeCircData Query", Exhibit 50[44]) for all associated circumferences, apply the appropriate allometric

[44] Exhibit 50 Circ Statistics: TIST KE PD-VCS-Ex50 KE005-006 Circ Statistics V4 230414.xlsx

equation and create a table with the strata-based above ground biomass of each circumference record. Step two is to evaluate each strata using the "GenerateTreecircStats" procedure, apply the MySQL database statistic functions and obtain the statistics for each strata (Allometric Strata and Age). The output of the query is pasted into the "Raw Data" worksheet of Exhibit 50. "Raw Data" feeds the preformatted "Ready for xls" worksheet that is pasted into the "Statistics" worksheet of Appendix 17. Columns G through M of "Statistics" are the results based on all of the circumference data. Columns O through T reflect a modification for conservativeness wherein the upper 4th standard deviation (SD) is removed. This serves to remove any erroneous measurements on the high-side such as a missed decimal place. The new mean after removing the upper 4th SD is calculated in Column P and is what is used in the "Ex-post Strata" worksheet, "Biomass/Tree" column to calculate carbon removals.

The results are that the confidence level at 95% of the mean is 1.9%. The data meets the precision requirement of the methodology.

No zero values for trees less than breast height: The project counts all trees, but no circumference measurements are taken if the trees are less than breast height. We learned during the early stages of the program, that instead of entering a zero in the circumference field, Quantifiers sometimes left it null. To make sure this did not bias the results, a conservative approach was adopted, and the circumference of all one-year-old trees was set at zero.

3.1.4 Dissemination of Monitoring Plan and Results (CL4.2)

This information is included in the process described in Section 3.1.3.

The data monitoring process is communicated to farmer prior to the entry into the program. As part of this entry, the agree to allow TIST representatives to come and collect data on their farm. This information is collected and made publicly available on the TIST website. Directions to this website are included on newsletters distributed at Cluster meetings. Prior to validation and verification, TIST announced a summary of results of the monitoring plan in a monthly newsletter in multiple languages.[45]

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions

The project area baseline carbon pools are above and below ground biomass. Dead wood, litter and soil organic carbon are considered optional by the methodology and are not used in the PD.

The baseline emission are estimated using the following tools:

- "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities" (AR-TOOL 12, v3.0)
- "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (AR-TOOL 14, v4.2);
- "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" (AR-TOOL 16, v1.1)

AR- TOOL 12: The methodology allows dead wood and litter to be optional pools. The project has opted not to select these pools for accounting of carbon stock changes.

AR- TOOL 14: The baseline carbon stock in trees can be accounted as zero if all of the following conditions are met:

[45] Mazingira Bora, XXX 2023

(a) *The pre-project trees are neither harvested, nor cleared, nor removed throughout the crediting period of the project activity.* The project considers these baseline trees and does not *harvest, clear, or remove them.*
(b) *The pre-project trees do not suffer mortality because of competition from trees planted in the project, or damage because of implementation of the project activity, at any time during the crediting period of the project activity.* This statement is true for the baseline trees. Project planting takes place away from baseline trees.
(c) *The pre-project trees are not inventoried along with the project trees in monitoring of carbon stocks but their continued existence, consistent with the baseline scenario, is monitored throughout the crediting period of the project activity.* TIST only counts and measures project trees. Baseline trees are not included in ex-post carbon calculations. An inventory of pre project trees is collected during the baseline visit and their continued existence can be confirmed over the life of the project.

AR-TOOL 16: The methodology allows soil organic carbon to be an optional pool. The project has opted not to select this pools for accounting of carbon stock changes.

TIST samples 100% of baseline trees. These trees are measured, and those measurements are used to project the growth of this carbon stock. Quantifiers regularly visit TIST farms to monitor potential tree-felling. Because project trees are stratified separately and sampled at 100%, baseline tree growth does not impact project sequestration. There are 416,569 baseline trees.

The equation for measuring baseline net GHG removals by Sink (AR-ACM0003 Section 5.4) is:

$\triangle C_{BSL,t} = \triangle C_{TREE_BSL,t} + \triangle C_{SHRUB_BSL,t} + \triangle C_{DW_BSL,t} + \triangle C_{LI_BSL,t}$
Where:

$\triangle C_{BSL,t}$ = Baseline net GHG removals by sinks in year t; t CO_2-e
$\triangle C_{TREE_BSL,t}$ = Change in carbon stock in baseline tree biomass within the project boundary in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO_2-e
$\triangle C_{SHRUB_BSL,t}$ = Change in carbon stock in baseline shrub biomass within the project boundary, in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO_2-e
$\triangle C_{DW_BSL,t}$ = Change in carbon stock in baseline dead-wood biomass within the project boundary, in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO_2-e
$\triangle C_{LI_BSL,t}$ = Change in carbon stock in baseline litter biomass within the project boundary, in year t, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO_2-e

As the program is solely focused on the growth and monitoring of trees, TIST chooses to account for aboveground and belowground biomass, but chooses not to account for the potential increased sequestration of dead wood, litter, or soil organic carbon. Thus, the baseline for these values shall be assumed to be zero, and the baseline calculation shall be:

$\triangle C_{BSL,t} = \triangle C_{TREE_BSL,t} + 0 + 0 + 0$

$\triangle C_{BSL,t} = \triangle C_{TREE_BSL,t}$

To calculate the $\triangle C_{TREE_BSL,t,}$ the project applied the "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" tool (AR-TOOL 14).

Baseline trees are stratified separately in Appendix 04, worksheet "Baseline Trees." Baseline trees were measured once at the time of baseline. The average DBH was determined (cell I3471) and the average

stem density was determined (cell D3472). The DBH and stem density was used in worksheet ""3.1 Baseline Trees" and annual projections were made to grow the trees over the project lifetime. The projected DBH values (column B) were used in an allometric equation (Y = exp{-1.996+2.32*ln(D)}) to obtain annual aboveground and belowground biomass (column D).[46]

The average stem density (column C) was applied to the biomass (column D) and the tonnes of CO2 per hectare were determined (column E). The baseline trees are projected to sequester 0.88 tonnes per hectare at the end of the 60 year project life.

3.2.2 Project Emissions

Project emissions are considered zero. As addressed in the PD, this is due to the manner in which the Project is operated, such as: no vehicles, manual labor conducted by the small-hold farmers on their own land, restrictions on chemical fertilizers, no clearing of baseline trees and minimal disturbance of the ground for planting.

Project removals are calculated using the process described in the PD and repeated below. This work can be found in Appendix 08, in the Ex-Post Strata sheet.

Step 1. Because of the difference in species and age of the trees and location, ownership and management of the project areas, each project area shall be monitored. They are documented in "Grove Summary" and "Strata" worksheets, Appendix 08. The boundary of the project area has been obtained with a GPS (Appendix 03), the area calculated and displayed in the "Grove Summary" worksheet.

Step 2. The strata for the ex-post estimation of the actual net greenhouse gas removals will be by species and year similar to the ex-ante estimate as described in in PD Section 3.2.2. Stratification is done within each individual project areas. The area of a stratum in a project area ("area of a stratum (ha)") is determined by multiplying the area of project area (see Step 1) by the percentage of trees of that stratum in the respective project area.

Step 3. Where a tree species exceeds 10% of the total tree inventory, it will be assigned to a Major Strata. All other tree species will be assigned to an "Other" strata.

Step 4. Allometric equations will be used to convert DBH values to biomass. An allometric equation for each Major Strata will be identified. If a species-specific equation for a Major Strata is unavailable, it will use the "Other" equation as a default. Based on research, the following are the Major Strata and the allometric equations that will be used.

Eucalyptus[47]: $Y= 0.085 \times (DBH)^{2.471}$
Grevillea[48]: Y= 0.248 x DBH^2+6.243 x DBH-15.45
Cupressus[49]: $Y = 0.091 \times DBH^{2.472}$

[46] Exhibit 41 Brown Allometric: TIST UG PD-VCS-Ex 41 Brown Allometric.pdf. Brown, S. 1997. "Estimating biomass and biomass change of tropical forests: a primer." FAO Forestry Paper 134, Rome, Italy. Section 3, "Methods for Estimating Biomass Density from Existing Data." Eq 3.2.1. at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[47] Exhibit 29: S. Kuyah, J. Dietz, et al., "Allometry and partitioning of above- and below-ground biomass in farmed eucalyptus species dominant in Western Kenyan agricultural landscapes" Biomass and Bioenegy 55, p. 280, 2013 at https://www.tist.org/PD-KE-VCS-011%20Documents.php
[48] O. Owate, M. Mware, M. Kinyanjui, "Allometric Equations for Estimating Silk Oak (Grevillea robusta) Biomass in Agricultural Landscapes of Maragua Subcounty, Kenya," International Journal of Forestry Research, vol 2018, Article ID 6495271, p. 6, 2018 at https://karuspace.karu.ac.ke/handle/20.500.12092/2165?show=full

Other (default)[98]: $Y = 0.091 \times DBH^{2.472}$

Where:

Y= aboveground dry matter, kg (tree)-1
DBH = diameter at breast height, cm

Step 5. The DBH of up to 20 trees per stratum, per project area, will be measured. Height will not be measured or used in the allometric equations. Each DBH value for each tree measured will be applied to the appropriate allometric equation and the biomass of each per tree in the stratum will be obtained and averaged to determine the "average above ground biomass per tree (kg)" of a stratum.

Step 6. For each stratum in each project area, the average above ground biomass per tree will be multiplied times the number of trees to yield the "above ground biomass in stratum (kg)." The results will be divided by 1,000 to obtain "above ground biomass in stratum (t)."

Step 7. The methodology requires the use of tons of biomass per hectare in a subsequent step. It is determined by dividing the "above ground biomass in stratum (t)" from Step 6 by the "area of the stratum" from Step 2.

$$\text{above ground biomass (t/ha)} = \frac{\text{above ground biomass in stratum (t)}}{\text{area of the stratum (ha)}}$$

Step 8. The above ground biomass of each stratum will be multiplied by 0.47 to convert biomass to carbon. The result is "above ground carbon" (t/ha).

Step 9. The carbon stocks of the below ground biomass of each stratum (t/ha) are calculated by multiplying the above ground biomass of each stratum (t/ha) by the appropriate roots to shoot ratio and by 0.47, the carbon fraction of the biomass. A root to shoot factor of 0.27 will be used.[50] The result is "below ground carbon" (t/ha).

Step 10. The total carbon stocks (CO_2e) are determined by adding the above and below ground carbon (C) of each stratum in each project areas, multiplying each sum by the respective area of that stratum, converting the result to CO2e and summing the products. The following are the general equations from the AR-TOOL 14:

$\triangle C_{TREE} = (44/12) \times CF_{TREE} \times \triangle B_{TREE}$ Equation (3)

$\triangle B_{TREE} = A \times \triangle b_{TREE}$ Equation (4)

$\triangle b_{TREE} = \sum_{i-1}^{M} W_i \times \triangle b_{TREE,I}$ Equation (5)

Where:

$\triangle C_{TREE}$ = Change in carbon stock in trees between two successive measurements; t CO_2e

CF_{TREE}= Carbon fraction of tree biomass; t C (t d.m.)-1. A default value of 0.47 is used unless transparent and verifiable information can be provided to justify a different value.

$\triangle B_{TREE}$= Change in tree biomass within the biomass estimation strata; t d.m.

A= Sum of areas of the biomass estimation strata; ha

[49] S. Kuyah, J. Dietz. et al. "Allometric equations for estimating biomass in agricultural landscapes: I. Aboveground biomass". SciVerse ScienceDirect, Agriculture, Ecosystems and Environment, p. 220, 2012 at http://dx.doi.org/10.1016/j.agee.2012.05.011

[50] GPG-LULUCF, Table 3.A.1.8

$\triangle b_{TREE}$= Mean change in tree biomass per hectare within the biomass estimation strata; t d.m. ha^{-1}

W_i=. Ratio of the area of stratum i to the sum of areas of biomass estimation strata (i.e／) ; dimensionless

$\triangle b_{TREE,I}$= Mean change in carbon stock per hectare in tree biomass in stratum i; t d.m. ha-1

This process is demonstrated in the Ex-Post Strata and Statistics sheets in Appendix 08. A summary of biomass estimation strata and corresponding biomass (with supporting evidence) is found in the Statistics worksheet. This information is used in the Ex-Post Strata sheet to determine the biomass of each strata. TIST then applied a root-to-shoot ratio of .27 and a carbon fraction of .47 to solve for the CO2 in each Strata. Complete work is found in columns AC-AL of the Ex-Post Strata worksheet.

The methodology allows for an uncertainty discount of 0%, if the uncertainty is less than 10%. TIST Quantifiers count every tree in each discrete project area. Counting each tree is 100% sampling and provides greater than 1% precision, at the 95% confidence level. Up to 20 circumference readings for each stratum in a project area will be taken and archived to develop a localized database of growth data by strata. This data will provide the circumference data for each stratum. This sampling will exceed the 10% precision at the 90% confidence level required by the methodology.

3.2.3 Leakage

Leakage is considered to be zero. As addressed in the PD, this is due to the manner in which the Project is operated. 100% of farmers confirmed that no deforestation occurred due to project activities. Where agricultural activities were moved from one location to another, there is no evidence that this would increase emissions. Farmers generally practice agroforestry, planting trees amongst existing crops.

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. In addition, where Small Groups have adopted conservation farming, the applicable crops have yielded over twice that of traditional farming.

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 number 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. TIST will not cause leakage from this activity; it helps mitigate it.

3.2.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or removals (tCO_2e)	Gross Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)

2004	0	66,987	0	66,987
2005	0	66,987	0	66,987
2006	0	66,987	0	66,987
2007	0	66,987	0	66,987
2008	0	66,987	0	66,987
2009	0	66,987	0	66,987
2010	0	66,987	0	66,987
2011	0	66,987	0	66,987
2012	0	66,987	0	66,987
2013	0	66,987	0	66,987
2014	0	66,987	0	66,987
2015	0	66,987	0	66,987
2016	0	66,987	0	66,987
2017	0	66,987	0	66,987
2018	0	66,987	0	66,987
2019	0	66,987	0	66,987
2020	0	66,987	0	66,987
2021	0	66,987	0	66,987
2022	0	66,987	0	66,987
Total	0	1,239,250	0	1,239,250

AFOLU non-permanence risk report rating is 1.0. The AFOLU Non-Permanence Risk Tool requires a minimum risk rating of 10, so the risk buffer for this project is 10%. The calculation of total VCUs is therefore:

Net Reductions x (100%-10%) = VCUs or:

Net	Buffer	Remaining
1,239,250	123,925	1,115,325

3.3 Optional Criterion: Climate Change Adaptation Benefits

3.3.1 Activities and/or processes implemented for Adaptation (GL1.3)

Over the course of the project, several activities have been implemented to assist farmers in adapting to climate change. These include:

Drawdown of CO2: Ultimately, climate change must be addressed through the removal of CO2 from the atmosphere. Thus far, TIST farmers in Uganda, Kenya and India have removed more than 7M tonnes of CO2, including 1,239,250 tonnes from this project. 46 million tonnes of CO2 are anticipated to be removed by the project.

Conservation Farming: TIST trains farmers on climate resilient agricultural techniques. Education of FAO Conservation Farming techniques allows farmers to gather minimal rainfall in specially dug and spaced holes. Even in times of drought or limited rainfall, this technique allows crops to grow. 261,643 (125,677 women) person training sessions on CF[51] and other improved agricultural practices occurred during the monitoring period, and numerous articles were published in newsletter.[52]

Trees: Trees retain moisture and create microclimates on TIST participants farms. Trees provide shade to cool farms and introduce new organic matter to restore soil health. This makes farms more productive in adverse conditions. Trees prevent erosion and can serve as windbreaks when planted near structures. TIST farmers planted 5,395,194 trees in this project.

Community Organization: TIST farmers organize themselves in local and regional groups that share knowledge in monthly meetings. These meetings provide an opportunity for farmers to share experiences and find locally appropriate solutions to local issues. This organization makes TIST farmers better able to navigate the challenges posed by climate change. TIST farmers in the PD are organized into 477 Clusters and 12,892 Small Groups.

- Number of indigenous trees: 1,164,270[53]
- Hectares of indigenous trees: 6,220[54]
- Number of live trees planted by TIST Small Groups: 5,395,194[55]
- Hectares of riparian tree planting: 224.7[56]
- Hectares of trees planted on steep hillsides: 7,832.6[57]

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CM2.1)

Community Group	TIST participants
Impact(s)	Farmers participating in the project
Type of Benefit/Cost/Risk	Direct benefit
Change in Well-being	Farmers will gain access to trainings and resources to develop locally appropriate best practices. This is based on the ongoing Cluster meetings and training session demonstrated in Exhibit 42. Training includes climate change, health/ HIV/AIDS, biodiversity, adopting natural resource management practices and TIST (membership application, values, etc). The impact is they will be given additional tools that can be beneficial to their livelihood, such as Conservation farming and improved food

[51] Exhibit 42 Training Master
[52] Examples: May 2022, February 2021, July 2018
[53] Appendix 08, Ex-post Strata
[54] Appendix 08, Ex-post Strata
[55] Appendix 08, Ex-Post Strata
[56] Appendix 04, "Grove Summary" worksheet, Sum of column Q where column T is filtered by Flood Plain, River Bank and River Bottom.
[57] Appendix 04, "Grove Summary" worksheet, Sum of column Q where column T is filtered by Gentle Hill Side and Steep Hill Side.

	security by planting fruit, nut, fodder and other beneficial trees. They participate in the evaluation of the impacts: 1) they are the ones that decide what to plant and 2) they are the recipients of the improved food security and the revenues should they sell the tree products. The rationale for looking at the number of members is important because it allows the positive benefit of TIST to spread further and provide more benefits to more people and increases the area and number of trees providing positive benefits to the environment and climate. The rationale for looking at the number of Small Groups is important because they provide mutual support and accountability at a local level and receive payments together. As of the date of the PD (end of the first monitoring period), there were 79,089 members (31,794 women) and 12,892 Small Groups in the PD. There were 131,078 members (53,269 women) and 18,575 Small Groups in TIST Kenya. (Based on a computer report of the administrative record that tabulates the members in the Small Groups that have project areas in the PD. All project areas, regardless of status are included).[58]

Community Group	TIST participants
Impact(s)	Economic Benefits for Members
Type of Benefit/Cost/Risk	Direct benefit
Change in Well-being	Joining TIST leads to economic benefits for the members and their Small Groups. First there are the actions they take based on the training they receive. The benefits are from saleable tree products such as fruits and nut, reduced fuel costs from their own sustainable wood supply and higher yields for conservation farming, The second there are direct cash payments made to the farmers based on the number of trees they plant and a 70% profit share of the carbon revenues. The rationale for listing these impacts is that these provide an incentive for joining TIST and take actions for themselves, the environment and the climate. The benefits from the training were determined through surveys of the farmers.[59] The surveys were compiled, extrapolated to 2023 and determined to be a cumulative of $13,473 per farmer.[60] The cash payments are based on the result of signing the GHG contract with CAAC. After a several month long application process where members are indoctrinated in TIST and the

[58] Appendix 08 Monitoring Data, "PA Summary" worksheet, "Status V1" column at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[59] Exhibit 21 GL2 Community Survey Template: TIST UG PD-VCS-Ex 21 GL2 Community Survey Template.doc at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[60] Exhibit 22 GL2 Community Survey Result: "Cum Benefits" worksheet, Cell k14, TIST UG PD-VCS-Ex 22 GL2 Community Survey Result 161130.xlsx at https://www.tist.org/PD-KE-VCS-011%20Documents.php.

	culture of TIST, and where they have the opportunity to learn about the GHG contract and ask questions, they can voluntarily sign the GHG contract. The impact is they will commit to plant trees to sequester carbon and will be paid based on the number of trees they plant and receive a 70% profit share. The contract states the farmers keep all the tree products and does not infringe on their property rights of property ownership. It only transfers the carbon rights to CAAC. Members participated in the evaluation of impacts by choosing how many trees they plant; reviewing and agreeing to the monitoring results and agreeing to the amounts they are being paid. The metrics shown are for TIST Kenya. This is because Small Groups and members can be in multiple PDs (there are 9 PDs in Kenya including this one) and there is an overlap of benefits. As of the date of the PD (end of the monitoring period), 87,178 members (35,939 women) have signed the GHG contract. The farmers have received $1,177,694 in tree payments[61] and $2,043,028 in profit share.[62]

Community Group	TIST and Stakeholder Community
Impact(s)	Number of live trees planted by TIST Small Groups
Type of Benefit/Cost/Risk	Direct benefit
Change in Well-being	Trees provide a suite of economic and social benefits to farmers. They provide shade, on-farm firewood, stepping stones for wildlife and a basis for carbon credits and carbon revenues. Some of the trees, such as fruit and nut trees, provide improved food security and possibly a cash crop. Many of these benefit the other stakeholders. The environmental improvements extend beyond the project area boundaries. Trees planted on hillside and riparian areas serve to improve water quality. Trees providing areas of cover serve as stepping stones for transient wildlife moving across the project zone. Improved food security increase the community food supply. Carbon removal benefits the global community. The rationale for including this metric is that this is a tree planting project and it is important the benefits be recognized both by the members and the stakeholders. The members participate by deciding how many and what kind of trees to plant and provide an example for how a TIST-type program can be beneficial to their lives. The stakeholders can participate by planting their own trees or joining TIST. The global stakeholders can participate by buying TIST credits and reward the farmers for their efforts.

[61] Based on administrative records on the TIST database, extracted using a custom query. Table payment_group_voucher. The TIST database is password limited.
[62] Based on administrative records on the TIST database, extracted using a custom query. Tables 2019group_profit_share, 2020group_profit_share, 2021group_profit_share. The TIST database is password limited.

	As of the date of the PD (end of the monitoring period), the number of live trees planted by Small Groups in the project are 5,395,194 trees in active Project areas[63] and there were 1,183,323 fruit and nut trees.[64]

Community Group	TIST Workers
Impact(s)	Number of people employed by TIST or under contract to deliver services
Type of Benefit/Cost/Risk	Direct benefit
Change in Well-being	TIST employs workers as Cluster Servants/Quantifiers and to provide management services such as serving on the Leadership Council, bookkeeping and expansion. These jobs provide TIST farmers employment and a chance to advance. All of the workers receive salary and ICT training. They receive ICT training and practice on smartphones and can use the TIST on-line database through the website portal. Many have pads or computers. Some have access to TIST accounting and access to the TIST server. The rationale for this metric is because there is little opportunity, beyond subsistence farming, for employment in the area, and it is important to recognize TIST's contribution beyond the programmatic benefits. The employee's participation is to provide good work and show they apply the TIST values. Excellent workers can advance to Leadership. In fact, that is where the Leadership council came from. As of the date of the PD (end of the monitoring period), TIST employed 139 people (73 women). All receive ITC training and 93 receive assistance with healthcare.[65]

4.1.2 Negative Community Impact Mitigation (CM2.2)

There are minimal threats to stakeholders presented by the project, largely due to its voluntary nature on private lands. This is demonstrated by the continued program uptake and lack of negative comments received. In the causal chains, two major threats to stakeholders were identified.

One threat is that women or men experience harassment or discrimination. The program requires equality of access and opportunity regardless of age and gender, oftentimes in contradiction to cultural norms. As such, TIST identifies the potential threat of discrimination or harassment in response to this program attribute. In order to mitigate this threat, TIST conducts regular seminars where they review sexual harassment and discrimination. The program further has defined sexual harassment and discrimination policies which are publicly available and reviewed at meetings. Members who are found to have violated

[63] Appendix 08 Monitoring Data, "PA Summary" worksheet, cell AB59298 at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[64] Appendix 08 Monitoring Data, "Ex-post Strata" worksheet, cell AQ478253 at https://www.tist.org/PD-KE-VCS-011%20Documents.php.
[65] Based on administrative records.

these policies are removed from TIST as either participants or employees. To date, this combination of policy and education has been very effective, and no official complaints have been filed.

Another way TIST has addressed the threat of harassment and discrimination is to mandate gender-equal placement in leadership positions. By ensuring women are leaders in TIST, the program has sought to create a culture of mutual respect and acceptance. At the Cluster and national level, leadership is 53% women.

TIST also identifies a threat to the safety of TIST employees. Quantifiers are often tasked with visiting remote areas and navigating difficult terrain in order to locate and quantify tree growth. This presents a threat that would not exist in the absence of the program. In order to mitigate this threat, the program outlines a list of precautions and requirements for Quantifiers in the Quantifiers' Safety Requirements. This document is publicly accessible and reviewed annually by each Quantifier.

HCV Impact. As discussed in PD section 4.2.4, the planting of trees has a direct benefit on the health of HCVs, which will in turn provide environmental services to community members. The planting and monitoring of riparian and hillside areas in the project nearby to HCVs has a particular impact on the health of HCVs whose hillsides abut project areas or whose waterways traverse project areas. The reduction of pressure for forest products further improves the HCV's viability.

4.1.3 Net Positive Community Well-Being (CM2.3, GL1.4)

Impacts on community. The project will create a positive socio-economic impact. Some of the benefits that will be realized by the Small Group members and their families:

- **New job opportunities:** TIST requires a Host Country staff to operate. There are currently 8 on the leadership council, 122 Quantifiers and 9 support staff. TIST personnel travel by public transportation and buy food and supplies from local merchants, bolstering the local economy. TIST uses Host Country professionals such as accountants and lawyers. TIST staff is trained to use the handheld computers and GPS and how to collect data. They synchronize their devices in cyber cafés, requiring the use of personal computers.
- **Direct Effects to Small Groups:** TIST benefits thousands of Small Group members by providing a new source of income. Small Group members are paid for each tree they plant and maintain. They receive 70% of the profits from carbon revenues.
- **Small Group Structure:** Empowerment of Small Groups and creation of "best practices" improves farm production, health, and farmer life. Small Groups use "rotating leadership" which supports gender equality and develops the capacities of each member. The visible success of the TIST groups and the availability of wood, shade, lumber, fruit, and improved crop yields provides the entire community with positive examples.
- **Fruits and nuts from tree plantings:** The members select the trees to plant on their land and retain ownership of the trees and their products. To the extent that they plant fruit or nut trees, they will gain the food security and economic benefits the trees provide.
- **Wood products and limited timber from trees:** Besides owning the trees, the farmers have the rights to all dead wood. They may prune branches and collect fallen branches. The growth models used for extrapolating biomass includes up to 70% mortality over the first 30-years. The farmers can use this biomass for their own consumption without affecting the estimated carbon stocks. In addition, the farmers may thin their trees as part of the ongoing management of the project area and sell the harvested stems as timber.
- **Natural medicines, insecticides and other benefits from trees:** Some of the trees, such as the neem and moringa, provide other non-wood related benefits.
- **Capacity building on agricultural improvements, business skills, nursery development, and reforestation:** TIST has a well-developed capacity building program that promotes rotating

leadership within the Small Groups, that focuses on gender equality and is made available to all members, regardless of education or social standing. TIST provides training in subjects such as Conservation Farming, nursery development reforestation, climate change, biodiversity, building and using more fuel-efficient stoves and runs the program like a business.

- **Small Groups organize to deal with other social and economic problems such as famine and AIDS:** TIST also supplies training in these subjects. Famine is also addressed with the FAO Conservation Farming program, which can lead to over a doubling of crop yield for practitioners, and through proper tree selection (fruits and nut)
- **Improved beauty of the landscape:** This is a welcome attribute in an overused and degraded landscape.
- **Windbreaks:** Trees provide windbreaks for buildings

Climate change adaptation benefits. Some of these benefits specifically help farmers adapt to the probable and current impacts of climate change. These include:

- **Conservation Farming**: TIST trains farmers on climate resilient agricultural techniques. Education of FAO Conservation Farming techniques allows farmers to gather minimal rainfall in specially dug and spaced holes. Even in times of drought or limited rainfall, this technique allows crops to grow.
- **Trees**: Trees retain moisture and create microclimates on TIST participants farms. Trees provide shade to cool farms and introduce new organic matter to restore soil health. This makes farms more productive in adverse conditions. Trees prevent erosion and can serve as windbreaks when planted near structures. Trees further help to prevent against catastrophic landslides and flooding. As flooding, extreme wind, and landslides become more common, trees help to mitigate their impacts for TIST farmers.
- **Community Organization**: TIST farmers organize themselves in local and regional groups that share knowledge in monthly meetings. These meetings provide an opportunity for farmers to share experiences and find locally appropriate solutions to local issues. This organization makes TIST farmers better able to navigate the challenges posed by climate change.

TIST's goal is to surpass “sustainability,” so that people meet their needs today in ways that improve the next generation’s ability to meet its needs in the future

4.1.4 Protection of High Conservation Values (CM2.4)

The project takes place on private lands that have been under human habitation and agriculture for generations. The planting of trees for the program will not cause displacement or move activities to the HCV areas. On the contrary, the two greatest threats to the HCV areas are deforestation and loss of biodiversity. The planting of new trees and availability of some of the biomass for use by the participants reduces deforestation pressure. The planting of woodlots on farms, especially where indigenous trees are planted, improves biodiversity and helps connect dispersed HCV areas with canopy.

4.2 Other Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (CM3.2)

The potential negative effects on the few food and fuel venders are minimal and are actually positive for all the Other Stakeholders. We do not believe there is any mitigation necessary.

4.2.2 Net Impacts on Other Stakeholders (CM3.3)

Because the project takes place on private lands and the tree planting is by the landowners, and because the planting of trees is akin to the farming that has taken place on the lands for generations, there are few negative potential impacts to offsite stakeholders.

The positive effects on the well-being of the Other Stakeholders are:

- Improved food security. As TIST farmers grow more food through Conservation Farming and from fruit and nut trees, there will be more local food.
- As TIST members undergo training, there will be spill over to friends and neighbors outside the TIST community. This includes Conservation Farming, successful tree planting, construction tree nurseries, building and using more fuel-efficient stoves, indoor cooking pollution, use of trees for stabilizing soil and water courses, using mosquito nets, ways to mitigate climate change and all the other training themes.
- More locally sourced fuelwood. As the TIST trees grow, some of the farmers will have sustainable woodlots. Others will have more fuel wood from pruning, thinning and natural mortality. Some will have an excess that they can sell. The overall reduction in demand by TIST farmers will mean more supply for the Other Stakeholders.

The negative effects on the well-being of the Other Stakeholders are

- If TIST training and program adoption is extremely successful, it could lower food cost, which would have a negative effect on food vendors. However, since this would benefit to the rest of the other stakeholders, no mitigation is needed.
- If TIST farmers are extremely successful, it could lower fuelwood cost, which would have a negative effect on fuelwood vendors. However, since this would benefit to the rest of the other stakeholders, no mitigation is needed.

After comparing the actual positive effects and possible negative effects, it seems reasonable to conclude that the demonstration has been made.

4.3 Community Impact Monitoring

4.3.1 Community Monitoring Plan (CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

The following are the results of the Community Impact Monitoring. Program-wide data was extracted from the TIST database as of 01 July 2023

Membership

1. Number of Small Group members in PD (female and male): 79,089 members (31,794 women, 46,915 men, remainder undifferentiated).[66]
2. Number of Small Groups in PD: 12,892[67]
3. Number of community members in TIST Kenya (male and female): 131,077 people; 53,274 women; 77,189 men; remainder undifferentiated. (Source: Members in Country query, includes all members regardless of status.)[68]
4. Number of Small Groups in TIST Kenya: 18,575[69]
5. Number of active community members in TIST Kenya: 93,496 members.[70]

[66] Custom query of the TIST database. Based on the number of Small Groups associated with each project areas and the number of members in the Small Groups.
[67] Appendix 08 Monitoring Data: "PA Summary" worksheet, unique entries in column D
[68] Custom query of the TIST database. All of TIST Kenya including other PDs and not in PDs. Includes new members not yet active.
[69] TIST Project Summary, 27 June 2023. All of TIST Kenya including other PDs and not in PDs.

GHG Payment Program

6. Number of community members with greenhouse gas agreements in TIST Kenya (female and male): 87,700 member (36,173 women, 51,527 men).[71]
7. Number of Small Groups receiving Payments: 9,397[72]
8. Number of members receiving payments (female and male): 61,359 member (25,072 women, 36,287 men).[73]
9. Total payments to community in TIST Kenya: USD $3,220,722 lifetime total and for monitoring period. $1,177,694 in pre-payments and $2,043,028 in profits share.[74]

Cluster-Based Training

10. Number of person-training sessions on climate change in TIST Kenya: 161,844 people; 69,448 women; 92,396 men.[75]
11. Number of person-training sessions on Conservation Farming (CF) in TIST Kenya: 261,643 people; 125,677 women; 135,967 men.[76]
12. Number of person-training sessions on HIV/AIDS in TIST Kenya: 134,917 people; 70,012 women; 64,905 men.[77]
13. Number of person-training sessions on tree planting and biodiversity in TIST Kenya: 278,250 people, 164,605 women; 113,645 men.[78]
14. Number of person-training sessions on natural resource management (NMR) in TIST Kenya: 456,503 people, 189,740 women;266,762 men.[79]
15. Number of person-training sessions on TIST in TIST Kenya: 1,545,828 people, 1,237,840 women; 307,988 men.[80]
16. Number of vocational person-training sessions in TIST Kenya: 3,101,232 people, 1,986,450 women; 1,114,781 men.[81]

Personnel[82]

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[70] USAID Query, 27 June 2023. All active members in TIST Kenya including other PDs and not in PDs. Active members have planted trees, raised seedlings or engaged in Conservation Farming.
[71] USAID Query, 27 June 2023. Not all TIST members are signatories of the GHG Contract, For example, a husband and wife may chose not to both sign.
[72] USAID Query, 27 June 2023.
[73] USAID Query, 27 June 2023. Not all members receive payments. For example, a husband and wife would usually only receive one payment.
[74] Custom query of the TIST database. Tables 2019group_profit_share, 2020group_profit_share, 2021group_profit_share. Access to the TIST database is password limited.
[75] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N22.
[76] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N23.
[77] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N24.
[78] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N25.
[79] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N26.
[80] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N27.
[81] Exhibit 42 Training Master: "KE011 V1" worksheet, cell N30.
[82] Administrative records

17. Number of people employed by TIST or under contract to deliver services: 139 workers (63 woman). Percentage of women workers: 53%.
18. Percentage of women in leadership positions: 50%
19. Number of people receiving ICT Training: 139
20. Number of people receiving healthcare support: 93

Tree Planting and NMR

21. Number of live trees planted by TIST Small Groups in active project areas: 5,395,194 trees.[83]
22. Number of active hectares: 23,747 hectares.[84]
23. Number of active project areas: 53,357 PAs.[85]
24. Number of fruit or nut trees in project: 1,183,323 trees.[86]
25. Number of eucalyptus trees in project: 217,353 trees.[87]
26. Hectares of riparian tree planting: 224.7 hectares.[88]
27. Hectares of trees planted on hillsides: 7,832.6 hectares.[89]

Gold Level Community Benefits:

28. Monetized benefits to average members: $13,473.[90]
29. Monetized benefits to vulnerable members: $4,804.[91]
30. Monetized benefits to female members: $12,783.[92]
31. Negative impacts identified by members. No negative impacts have been reported by the members.

In addition, many more program components, such as GPS tracts of all the project areas, were obtained in the climate change monitoring plan.

Community monitoring is ongoing as part of the overall monitoring of TIST. Data is collected by TIST Quantifiers as they visit each Small Group to count trees by species, count and measure Conservation Farming plots and count fuel efficient stoves. Trainers collect training information at meetings, which includes the subjects covered and the numbers of people attending. The metric for training is person-sessions meaning the numbers reported may exceed the number of members. Contracts are collected and recorded by the administrative staff. The number of people employed or under contract with TIST and the amount of GHG payments to Small Groups is obtained from administrative records.

[83] Appendix 08, “PA Summary” worksheet, cell AB59298.
[84] Appendix 08, “PA Summary” worksheet, cell AG59298.
[85] Appendix 08, “PA Summary” worksheet, count of Loc ID where column AR is filtered by “Active”.
[86] Appendix 08, “Ex-post Strata” worksheet, cell AQ478253.
[87] Appendix 08, “Ex-post Strata” worksheet, cell AJ478259.
[88] Appendix 04, “Grove Summary” worksheet, Sum of column Q where column T is filtered by Flood Plain, River Bank and River Bottom.
[89] Appendix 04, “Grove Summary” worksheet, Sum of column Q where column T is filtered by Gentle Hill Side and Steep Hill Side.
[90] Exhibit 25 Community Survey Results. “Cum Benefits” worksheet, cell N10.
[91] Exhibit 25 Community Survey Results. “Cum Benefits” worksheet, cell N15.
[92] Exhibit 25 Community Survey Results. “Cum Benefits” worksheet, cell N20

Field data is recorded on custom programmed smartphones and uploaded to the TIST database. Data will be kept at least three years from the end of the reporting period.

For gold level climate adaptation see Section 3.3.1.

For gold level biodiversity benefits, see Section 5.3.1.

4.3.2 Monitoring Plan Dissemination (CM4.3)

All of the CCB and VCS documents, including the results of the monitoring plan, are available on the respective CCB and VCS project web sites. CAAC also makes all of the documentation available to the public on a dedicated web page.[93] Stakeholders were informed of this when they received the email[94] advising them of the effort to verify this PD.

For those TIST members without internet, the project has developed its Mobile TIST website that is low bandwidth and designed to work with a mobile phone.[95] For those without a smartphone, they can see the results of their Small Group's quantification on their vouchers or discuss the results when the Quantifier is monitoring their PAs or come to the monthly cluster meetings and ask. For those with no other access, they can also go to a local cyber café and see the full reports on-line. The monitoring results have also been published in the TIST Kenya newsletter.[96]

4.4 Optional Criterion: Exceptional Community Benefits

4.4.1 Short-term and Long-term Community Benefits (GL2.2)

For the purpose of demonstrating Gold Level for exceptional community benefits, TIST members were surveyed to identify some of the positive and negative impacts they experienced from participating in TIST. The survey has been conducted twice in Kenya. The first was of 124 random TIST members between June and August 2011. The interview tool consisted of 39 questions. The instructions for the survey[97], the survey form[98] and survey results are available[99] on the PD web page. The four main topic areas of the survey were:

1. demographic/basic information (including literacy, income);
2. TIST membership and participation information (including barriers to participation);
3. benefits from TIST activities (economic, environmental, and social, quantitative and perceptual) and negative impacts; and
4. Conservation Farming and food security.

The indicators were measured in order to differentiate between poorer and more vulnerable households using the Sustainable Livelihoods Approach and to identify and assess whether positive and negative impacts of the program are affecting households equally.

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[93] http://www.tist.org/PD-KE-VCS-005%20Documents.php.
[94] Exhibit 14 Public Comments
[95] TIST Mobile: https://www.tist.org/mobile/secure/login.php?ses=gea0rj8ej2odmk314l6difd7q3
[96] Mazingira Bora XXX 2023 at http://www.tist.org/i2/moreinfo.php
[97] Exhibit 21 Survey 01 Overview: TIST KE PD-VCS-Ex21 GL2 Survey Overview.doc at http://www.tist.org/PD-KE-VCS-005%20Documents.php.
[98] Exhibit 22 Survey 01 Questionnaire: TIST KE PD-VCS-Ex22 GL2 Community Benefits Survey.doc at http://www.tist.org/PD-KE-VCS-005%20Documents.php.
[99] Exhibit 23 Survey 01 Results: TIST KE PD-VCS-Ex23 GL2 Community Survey Result.pdf at http://www.tist.org/PD-KE-VCS-005%20Documents.php.

In March 2015, a similar survey was conducted for TIST by Yale School of Forestry & Environmental Studies and New England College. The number of members surveyed was 61. The survey questionnaire[100] and results[101] are on the PD web page.

Project Explicitly Pro-Poor: The original survey indicates that 35.5% of the respondents make less than KES 12,000 (US$112) per year and a cumulative total of 85% make less than 60,000 Ksh (US$560) per year. The Yale/NEC survey indicates 16% of the respondents make less than KES 12,857 per year (US$120) and more than 72% make less than KES 64,286 (US$600) per year. Since income level for abject poverty varies between US$365 per year ($1/day) and US$730 per year ($2/day), it is clear that most of the members of TIST are poor. Further analysis in the original report identified 15% of TIST members as particularly vulnerable, meaning they met the following criteria:

- their animal ownership is in the lowest quartile (6 animals or less);
- their land ownership is in the lowest quartile (2 acres or less);
- there is only one adult living in the household, or single marital status.

The Yale/NEC survey only identified a single respondent (2%) that met the income criteria and the three vulnerability criteria. This person was in the KES 1,000-5000 income bracket. For the purpose of this analysis, this person is classified as Vulnerable 1. The Survey also identified five respondents (8%) in the "less than KES 1000" income bracket that fell below that animal ownership and land ownership vulnerability criteria but were married. These respondents are classified as Vulnerable 2.

Benefits to the Poor. The surveys included questions to determine the benefits that the program provided to the members. In addition to the many trainings provided (see Community Impact Monitoring Report and the survey report), there are many cash and in-kind benefits. Since most of the members are poor, these indicators demonstrate how TIST benefits the poor.

Table 4.4.1a: Survey Results, Average KES Per Member

Benefit	Original Survey	Yale/NEC Survey
Carbon stipend	479	1,069
Incentive for work	465	454
Fruits/nuts	14,080	20,470
Firewood and Stove	758	24,174
Harvest fodder	6,035	10,805
Animal products	6,048	67,482
Improved Crops	1,960	7,483
Produce compost/manure	3,756	6,366
Honey/Bees	780	1,134
Produce seedlings	2,596	7,241
Total	**36,958**	**146,678**

The original survey was the cumulative benefits through mid-2011. The Yale/NEC benefits were for the year 2014. We believe these results remain valid. TIST has not changed its approach to continually train and incent members to adopt these core programs. We also know that the implementing farmers are continuing to receive some of these benefits: for example, we are paying the stipend, we are paying some of the farmers for TIST work, and quantification shows an inventory of fruit and nut trees. Extrapolating the lifetime benefits to date gives a total approximate cumulative value of TIST membership of $13,473.

[100] Exhibit 24 Survey 02 Questionnaire: TIST KE PD-VCS-Ex24 YaleNEC Benefits Survey.doc at http://www.tist.org/PD-KE-VCS-006%20Documents.php.
[101] Exhibit 25 Survey 02 Results: TIST KE PD-VCS-Ex25 YaleNEC Benefits Results-V4.xlsx at http://www.tist.org/PD-KE-VCS-006%20Documents.php.

In addition to the above, Kenya farmers received a total of $3,220,722 of combined pre-payments and profit share during the life of the project.

The surveys also collected data on the beneficial sustainable development training. The metric in the following table is the average training sessions per person.

Table 4.4.1b: Average TIST Training Sessions Per Person

Health topic	First Survey (n=46) Cum 2003-2011	Second Survey (n=120) 2014 only
HIV/AIDS	5.2	1.6
Malaria	5.0	1.4
Fuel efficient stoves	3.7	1.2
Hygiene	5.9	1.2
Clean drinking water	7.3	1.3
Nutrition	3.3	1.1
Other	2.1	0.6
Total	32.5	8.4

We have tabulated the person-session training since the beginning of TIST in Kenya. The following table includes the monitoring period.

Table 4.4.1c: TIST Cluster Person-Training Sessions, Project Lifetime

Training Topic	Total	Female	Male
Climate Change	161,844	69,448	92,396
Conservation Farming	261,643	125,677	135,967
HIV/ AIDS	134,917	70,012	64,905
Biodiversity	278,250	164,605	113,645
NRM	456,503	189,740	266,762
TIST	1,545,828	1,237,840	307,988
Other Sustainable Dev	262,246	129,128	133,118
Total Training	3,101,232	1,986,450	1,114,781

Negative Impacts. Because TIST is voluntary, few negative impacts were identified. While there were several scalar response questions in the survey, only a few could result in a "negative" response. The others only provided an indication of the level of perceived benefits.

- When asked if they lose money participating in TIST:

Table 4.4.1e: Negative Impact, lose money

Response	All Surveys (n=124)	Vulnerable (n=19)	Women (n=61)
Very True	19%	21%	15%
Somewhat true	28%	26%	13%
Not at all true	58%	47%	59%

- When asked if they use too much land planting TIST trees and not enough for food and livestock:

Table 4.4.1f: Negative Impact, use too much land

	All Surveys	Vulnerable	Women

Response	(n=124)	(n=19)	(n=61)
Very True	5%	11%	3%
Somewhat true	15%	5%	16%
Not at all true	80%	84%	79%

- When asked if their families have less food to eat because of TIST:

Table 4.4.1g: Negative Impact, less food

Response	All Surveys (n=124)	Vulnerable (n=19)	Women (n=61)
Very True	10%	11%	10%
Somewhat true	10%	21%	16%
Not at all true	80%	68%	66%

- When asked if their friends and families were not happy that they were a members of TIST:

Table 4.4.1h: Negative Impact, families unhappy with TIST membership

Response	All Surveys (n=124)	Vulnerable (n=19)	Women (n=61)
Very True	12%	11%	14%
Somewhat true	18%	11%	24%
Not at all true	70%	78%	62%

- When asked if they were too busy with TIST to do the important things they need to do:

Table 4.4.1i: Negative Impact, too busy

Response	All Surveys (n=124)	Vulnerable (n=19)	Women (n=61)
Very True	10%	21%	11.5%
Somewhat true	16%	21%	11.5%
Not at all true	74%	53%	69%

Since TIST is voluntary and the amount of participation by the farmers is up to them, many of the “Very True” responses that appear to be negative, are actually in the hands of the farmers themselves. Unquestionably, TIST has set up structures like Small Group and Cluster meetings that take time to attend and encourages adoption of many sustainable development practices that require effort. These are voluntary and we believe the time and effort are well worth it. What is adopted and how much time is put in is up to the farmer. We have had farmers leave the program, which is certainly their prerogative. However, we still have over 130,000 farmers in Kenya, so it appears they believe they are receiving a net benefit.

In the Yale/NEC survey, the major negative issues centered on carbon payment. 25% of the respondents said they wanted more money for the carbon payments. At the time of the survey, the farmers only received a small tree stipend as an advance payment on the carbon. As noted above, the farmers are now sharing 70% of the profits from carbon sales. The profits share distributions will continue as long as the carbon market is robust. The market has been thin and the price low for many years, but we have seen a steady improvement since mid-2019, which means more future profits for the farmers.

25% of the respondents also wanted more timely payments. This points to a need to keep improving the Cluster payment system. Though we have changed the payment system several times, including being an early adopter of the Mpesa mobile phone payment system, paying tens of thousands of farmers on a timely basis remains a challenge. We are always looking for ways to improve the payment system.

In summary, though there are many ways we can continue to improve TIST; there do not seem to be any "negative" effects that actually harm the farmers.

Positive Net Benefit of TIST. A comparison of the monetized benefits and sustainable development training to the negative benefits discussed above confirms that TIST has a positive net benefit to the participant. They receive cash money, training that they can monetize into financial benefits, they improve their food security, re-green their farms, enrichen their soil and learn about health issues. On the negative side, they have to put in some time and effort to gain these. We believe the net benefit is positive. Since most of the members are poor, it can be further concluded that TIST has a net positive impact on poor subsistence farmers.

4.4.2 Marginalized and/or Vulnerable Community Groups (GL2.4)

Community Group	Vulnerable TIST Members
Net positive impacts	Total approximate cumulative value to Vulnerable TIST members for the project lifetime is $4,804, plus they can receive ongoing sustainable development training.
Benefit access	TIST is designed to improve the livelihoods of all subsistence framers that participate. There is no restriction to participation
Negative impacts	No negative impacts have been identified. See Section 4.4.

Marginalized and/or Vulnerable People. The original survey identified 15% of the respondents as vulnerable. Using the same criterion, the Yale/NEC survey only identified one respondent as most vulnerable (Vulnerable 1). However, we defined another subset of 8% by dropping the marital status criteria, and only including the "less than KES 1000" income bracket (Vulnerable 2). They report the following benefits:

Table 4.4.2a: Benefits to Vulnerable People (Avg. KES/Person)

Benefit	Original Survey	Yale NEC Vulnerable 1	Yale NEC Vulnerable 2
Carbon stipend	154	4,000	1,292
Incentive for work	5,014	0	233
Fruits/nuts	3,092	2,050	2,525
Firewood and Stove	With above	2,500	2,583
Harvest fodder	1,325	4,000	1,067
Animal products	Not collected	56,160	18,057
Improved Crops	1,350	2,500	3,177
Produce compost/manure	306	1,350	725
Honey/Bees	476	0	167
Produce seedlings	6,850	0	425
Total	**18,567**	**72,560**	**30,250**

Results show that these vulnerable households experienced a range of benefits. Notably, incremental livestock and their products and harvesting tree products such as fruit, nuts, fodder and firewood was important for this sub-group, with the surveys showing it has higher values than the cash payments. The lack of honey and seedling benefits for the single Vulnerable 1 respondent is interpreted as more a choice rather than a barrier.

As previously stated in the Benefits to the Poor section, TIST has not changed its approach to continually train and incent members to adopt these core programs. The original survey was the cumulative benefits through 2011. The Yale/NEC benefits were for the year 2014. Extrapolating the lifetime benefits to date gives a total approximate cumulative value of $4,804 to Vulnerable TIST members. They, too, are eligible for the profit share payments in proportion of their sequestered carbon.

There also did not appear to be significant barriers to meeting attendance for these households. The average meeting attendance was 8.7 Cluster meetings per year and 1.4 Small Group meetings per month in the Original Survey. The meeting attendance of the Yale/NEC survey was 11.2 Cluster meetings for the last year and 2.3 Small Group meetings per month. The meeting attendance of the single Vulnerable 1 respondent was 12 Cluster meetings for the 2014 year and three Small Group meetings per month. The meeting attendance of the Vulnerable 2 respondents was 9.8 Cluster meetings for 2014 year and 1.8 Small Group meetings per month.

There was no significant difference in number of health trainings for the vulnerable households in the Original Survey versus survey pool, with an average of 5.3 health-training sessions since their time at TIST. In the Yale/NEC survey, the pool average was 22 training sessions per respondent, 21 sessions for the Vulnerable 1 respondent and 11 sessions for the Vulnerable 2 respondents. The lower number for the Vulnerable 2 was in part due to the survey responses being text answers ("yes", received training) rather than the number of sessions attended.

The Marginalized and Vulnerable members of TIST are eligible for all the training shown in Table 4.4.1. Base on the surveys, it appears that they would have attended and received multiple trainings in most or all of the topics during the monitoring period.

4.4.3 Net Impacts on Women (GL2.5)

Impacts on Women. In the Original Survey, 61 out of 124 members were female. The economic benefits were tabulated separately (though not shown in the final report) and were essentially the same as that of all the respondents; KES 36,748 for women and KES 36,958 for all members. There were 20 women respondents out of 61 total in the Yale/NEC Survey. The survey results are shown by topics:

Table 4.4.3a: Benefits to Women (Avg. KES/Person)

Benefit	Original Survey	Yale/NEC Survey
Carbon stipend	476	995
Incentive for work	462	240
Fruits/nuts	14,000	12,148
Firewood and Stove	754	5,300
Harvest fodder	6,000	11,008
Animal products	6,014	100,137
Improved Crops	1,949	5,036
Produce compost/manure	3,735	-90
Honey/Bees	776	648
Produce seedlings	2,582	3,473
Total	**36,748**	**138,895**

As previously stated in the Benefits to the Poor section, TIST has not changed its approach to continually train and incent members to adopt these core programs. The original survey was the cumulative benefits through 2011. The Yale/NEC benefits were for the year 2014. Extrapolating the lifetime benefits to date gives a total approximate cumulative value of $12,783 to Women TIST members. They, too, are eligible for the profit share payments in proportion of their sequestered carbon.

The Original Survey showed that was no significant difference between male and female members who have held leadership positions and that there was no significant difference in Cluster meeting attendance by gender. It showed that females attended more Small Group meetings per week than males.

The Yale NEC Survey similarly showed that women and men attended meetings and received training at similar frequencies.

Table 4.4.3b: Training Attendance by Gender

Yale/NEC Survey Training Results	Women	Men
SG meetings/month attended	Avg 2.1 meetings	Avg 2.4 meetings
Cluster meetings/year attended	Avg 11.4 meetings	Avg 11.1 meetings
Health training sessions attended	Avg 23.6 sessions	Avg 21.9 sessions

Table 4.4.3b indicates that women received 45% of all the Cluster training during the monitoring period. Based on the two surveys and Cluster training, women continue to attend meetings and receive training at nearly the same level as men.

As noted in other section, there are eight TIST farmers on the Leadership Council and four are women. There are 122 Cluster Servants and 68 are women.

No negative impacts were cited by women. Therefore, it has been demonstrated that TIST provides a net positive impact on women.

4.4.4 Benefit Sharing Mechanisms (GL2.6)

All of the monetized benefits reported in Sections 4.4.1 to 4.4.3 are benefits received by the members. TIST Kenya and CAAC are only entitled to the rights to the carbon. The farmers keep all the other benefits including an advanced cash payment for carbon based on tree count and a 70% share of profits. The farmers are receiving these benefits.

4.4.5 Governance and Implementation Structures (GL2.8)

The project proponent is Clean Air Action Corporation (CAAC). The role of CAAC and other parties involved with TIST are summarized:

- Clean Air Action Corporation (CAAC) is a for profit US corporation that manages the GHG component of TIST. CAAC is TIST's largest contributor, provides technical assistance and uses its host country subsidiaries to manage operations.
- Institute for Environmental Innovation (I4EI), a US based non-profit organization, manages the TIST sustainable development program components. I4EI provides funding from government agencies, foundations, and private donors.
- Thousands of TIST Farmers make up the Small Groups, plant the trees on their lands, manage their own trees and make up the core of TIST.
- Management and governance structures of TIST are described in Section 2.4.1

TIST participants organize themselves into local and community groups where leadership is identified and cultivated to meet the positions listed above:

Small Groups: A Small Group is a group of 6-12 people who want to improve their lives and environment by planting trees and adopting sustainable agriculture best practices. The formation of Small Groups helps TIST to service the needs of participants while allowing information sharing at the local level. Farmers must join TIST as a Small Group.

Small Groups are particularly powerful because they maximize accountability on a local, daily level. By organizing in Small Groups, each person is responsible to their neighbors. This is a more real and meaningful responsibility.

The nature of Small Groups also facilitates innovation. Small Groups allow for the success of a single "early adopter" to be seen by other group members. This experience of action and direct outcome is a powerful force that cannot be reproduced with publications or Seminars. Similarly, farmers can experiment with a new practice using shared resources or labor, thus sharing the costs of failure.

Certain best practices allow Small Groups to be successful. These include rotating leadership, practicing Kujengana, weekly meetings, preventing one person from dominating discussion, accepting viewpoints without criticism, and identifying Best Practices specific to the environment of the Small Group. Using these best practices, Small Groups are able to plant trees, support one another, quantify their progress, refine their practices, and share their success with one another.

Clusters: Clusters are units of Small Groups that are within walking distance of a central meeting point. Clusters are designed to provide services such as training, administration, payment, and newsletter distribution to Small Groups, easing some of the logistical challenges of a being spread out. Organizing in Clusters also helps keep costs low and helps create organizational partnerships. Each Cluster has about 20-70 Small Groups, and thus consists of several hundred farmers. When a Cluster grows too large, it splits in two. Each Cluster aims to plant specific quantities of trees planted and hectares.

Clusters are meant to meet every month for training, sharing of best practices, distribution of newsletters, and any other matters they have. Activity at Cluster meetings is recorded and submitted, along with Cluster accounting forms. A good Cluster is constantly working to improve the quality of the data it provides and the data it receives from its Small Groups. Cluster Best Practices also include making on-time payments, recruiting new members, and embodying TIST values. Every four months, Clusters will hold an election to choose new leadership.

A Cluster is led by a Cluster Leader, a Cluster Co-Leader, and an Accountability Person. A Cluster Leader should be a servant to the whole Cluster and exemplify TIST Values, while promoting a strong, unified Cluster. They are responsible for leading Cluster activities such as meetings and quantification trips, recruitment, and payment. The Co-Leader takes over when the Leader cannot attend, keeps minutes of meetings, and helps to train the Accountability person. The Accountability Person helps with budgeting, payments, and record keeping. Clusters rely on rotation, alternating genders, and democratic elections to determine leadership.

4.4.6 Smallholders/Community Members Capacity Development (GL2.9)

As discussed, TIST leadership is comprised of participants and smallholders themselves. The roles that are described in Section 4.4.5 are held by community members. These members have day-to-day control of program activities. The project provides training for new members, nation-wide seminars for Cluster Servants, Cluster leaders, and others, as well as support for in country leadership. Capacity development is demonstrated by the project's ability to self-manage at a community, regional, and national level.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (B2.1)

Change in Biodiversity	Indigenous trees planted by the project
Monitored Change	Change with project: 1,164,270 indigenous trees Change this period: same as project Actual direct change, positive for biodiversity
Justification of Change	These trees were planted as part of the program. The inventory was determined by a physical count. The count by species is provided in Table 5.3.1

Change in Biodiversity	Trees planted by the project

Monitored Change	Change with project: 5,395,194 trees Change this period: same as project Actual direct change, positive for biodiversity
Justification of Change	Trees were planted as part of the program. The number of trees in each PA was counted by species. This is beneficial to biodiversity because they improve soil, provide food and cover for wildlife and reduce pressure to take illegal firewood.

Biodiversity Element	Endangered/Vulnerable/Threatened Tree Species
Monitored Change	Change with project: 48,659 Vitex keniensis trees Change this period: same as project Actual direct change, positive for biodiversity
Justification of Change	Farmers have planted choose to plant Endangered/Vulnerable/Threatened trees. As described in the monitoring plan, TIST regularly quantifies and monitors the increase Endangered/Vulnerable/Threatened trees planted by TIST farmers. See section 3.3.3 for more information.

Biodiversity Element	HCVs protected
Estimated Change	Change with project: 2 Change this period: same as project Actual direct change, positive for biodiversity
Justification of Change	TIST activities will protect HCVs through the reduction of pressure for forest products, as well as the creation of buffer zones and wildlife corridors. TIST will monitor activities proximity to national parks through quantification and use of GPS technology to map program activities around identified HCVs

Biodiversity Element	Riparian Tree Planting
Estimated Change	Change with project: 225 ha Change this period: same as project Actual direct change, positive for biodiversity
Justification of Change	Farmers choose to plant their trees in riparian areas. Oftentimes this is to reduce the possibility for erosion and protect waterways, which has both community and biodiversity benefits. TIST will monitor the location and topography of tree planting during baseline surveys

Biodiversity Element	Trees Planted on Steep Hillsides
Estimated Change	Change with project: 7.833 ha Change this period: same as project

	Actual direct change, positive for biodiversity
Justification of Change	Farmers choose to plant their trees on steep hillsides. Oftentimes this is to reduce the possibility for erosion, which has both community and biodiversity benefits. TIST will monitor the location and topography of tree planting during baseline surveys

5.1.2 Mitigation Actions (B2.3)

The project areas are grasslands or croplands on private lands owned by subsistence farmers. They have a history of farming and as such, the baseline biodiversity is extremely low. Natural wildlife populations were eliminated or driven off long ago and are currently restricted to transient animals. As such, the approach to improving biodiversity in the project areas must start with the basics and, in this case, means planting indigenous trees. Isolated woodlots with indigenous trees will improve the connectivity of wildlife between natural forests.

Given the without-project scenario, the negative impacts on biodiversity are di minimis. It might be said that the project could do more by planting more indigenous trees, but TIST needs to balance that with the needs of the farmer. A project that supplies long term resources for the farmer has a greater likelihood of being sustainable than a project that delivers greater biodiversity, at the cost of community benefits. As such, the only negative impacts we have identified are species selection, which is addressed below.

TIST does not have a negative effect on the HCVs. TIST activities do not take place inside those areas. TIST trees are being planted where deforestation has taken place. The addition of indigenous trees, tree cover and fruit trees enhance biodiversity by providing an expanded range for some of the animals that rely on the HCV area. In addition, the many discrete Project Areas help improve the wildlife corridors between HCV areas needed for healthy animal populations.

5.1.3 Net Positive Biodiversity Impacts (B2.2, GL1.4)

The without-project scenario is rather bleak for biodiversity. Generations of human occupation and farming have made the Project Area biodiversity-poor. With TIST it has improved. We have planted and maintained 1,164,270 indigenous trees, covering 6,220 ha and contained in 36,879 Project Areas. These are islands of biodiversity in a degraded landscape matrix that provide connectivity among the natural forests and other islands of biodiversity. There are over 53,357 total active Project Areas operated by farmers that are receiving ongoing training in biodiversity and natural resource management. Those of these that do not have indigenous trees still provide forest cover. In addition, there are 1,183,323 fruit and nut trees covering 6,647 ha. These provide a source of food and nectar for bees, birds, small animals living on, or around, the farms and larger animals when present.

An Environmental Impact Audit was carried out by Natural Resources Management & Development Agency (NAREDA Consultants) in Meru and Nanyuki areas of Kenya,[102] to assess the environmental conditions and biodiversity of the area and to assess positive and negative environmental impacts of TIST project activities. The EIA and other assessments indicate that the Project Areas themselves were not areas rich in biodiversity. However, some areas border Mt Kenya and conserved forest, areas rich in biodiversity. By providing fuel wood from sustainable wood lots and improving livelihoods, the project should have a positive effect on biodiversity.

Promotion of Conservation Farming will further reduce pressure on forestland by increasing food productivity by, and consequently decreasing pressure for, land clearing for agriculture. Biodiversity is also

[102] Exhibit 06 EIA Report: TIST KE PD-VCS-Ex06 KE EIA Report NAREDA 100506.doc at http://www.tist.org/PD-KE-VCS-006%20Documents.php.

enhanced directly through the planting of indigenous trees, both in specific riparian 'biodiversity' groves, and through dispersed inter-planting, homestead planting and woodlots. Increases in tree biodiversity should also enhance diversity of associated species, including pollinators, and other beneficial species, while protection of riparian areas will improve water quality and provide other important ecosystem services.

Regarding the indicators for adaptation benefits for biodiversity, these are included with all four change adaptation benefits listed with the Gold Level Monitoring for Adaption, above. We refer to Section 3.3.1 for more details on the four change adaptation benefits for communities. The CO2 drawdown mitigates climate change, the cause of climate change impacts. Conservation farming improves crop yield which reduces the pressure to expand farming into areas of biodiversity. The benefits of planting trees include cover for wildlife, barriers for HCVs and corridors and stepping stones to connect the HCV to improve corridors and connectivity. We use the community organization as a training platform for biodiversity and other topics regarding natural resource management. The methods, frequencies and reporting for these indicators have been previously discussed.

Comparing the without-project scenario and with-project conditions, it has been demonstrated that the project has a net positive impact on biodiversity.

5.1.4 High Conservation Values Protected (B2.4)

The HCVs discussed in PD Section 4.1.3 have not been negatively affected by the project. The project areas are in the vicinity of HCVs and provide vital resources that reduce pressure on these important areas, and through the planting of indigenous trees, expands the range of biodiversity in these forests.

The project areas are on individual farms, with an extensive history of farming and land use, other than natural forest or long-term forestry. As such, any negative effect caused by human activity at the project sites has already happened. Project activity has had a positive effect on HCVs.

5.1.5 Invasive Species (B2.5)

All listed species have been screened against the global database of invasive species.[103] None of the species above are included as invasive species in Kenya.

5.1.6 Impacts of Non-native Species (B2.6)

TIST farmers choose what trees and crops to plant on their own lands. They plant trees that they feel will provide benefits to them, including nutritional, medicinal, and environmental benefits. The TIST program does not tell farmers what to plant, but rather provides resources and training on high-value and beneficial trees. Many of these are indigenous while others have been adopted to meet the needs of farmers.

The only tree species with a known adverse effect is eucalyptus. Eucalyptus trees can overconsume water, negatively impacting waterways. In order to reduce the number of eucalyptus trees, TIST has trained farmers about the negative impacts of eucalyptus trees. Further discussion of eucalyptus can be found in PD section 5.2.7.

A table of all non-native species used, as well as justification for their selection, follows. Ultimately, TIST farmers choose these species based on their knowledge of what trees will provide the maximum benefits.

Table 5.1.6: Non-native Species

Species	Acacia abyssinica, 130 trees, 1.05 ha

[103] International Union of Concerned Scientists, Global Invasive Species Database, Accessed 11 January 2011 at http://www.issg.org/database.

Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia albida, 180 trees, 0.68 ha
Justification of Use	wood products, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia mearnsii, 36,610 trees, 134.03 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia nilotica, 2,010 trees, 13.97 ha
Justification of Use	wood products, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia seyal, 1,550 trees, 14.32 ha
Justification of Use	wood products, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia spp., 293,874 trees, 1,773.19 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia tanganyikensis, 1 trees, 0.00 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia tortilis, 31 trees, 0.19 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acacia xanthophloea, 308 trees, 0.62 ha

Justification of Use	fodder, erosion control
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Acokanthera schimperi, 2,435 trees, 15.42 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Adansonia digitata, 22 trees, 0.17 ha
Justification of Use	fruit, oil, forage
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Afzelia quanzensis, 111 trees, 0.74 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Albizia gummifera, 1,390 trees, 7.44 ha
Justification of Use	forms super-canopy
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Anacardium occidentale, 1,256 trees, 12.84 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Aniba rosaeodora, 114 trees, 0.41 ha
Justification of Use	endangered hardwood
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Annona muricata, 3,418 trees, 33.01 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Annona senegalensis, 253 trees, 2.02 ha

Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Annona spp., 12,115 trees, 126.48 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Azanza garckeana, 33 trees, 0.11 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Bersama abyssinica, 1,580 trees, 7.14 ha
Justification of Use	medicinal, ornamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Bixa orellana, 95 trees, 0.27 ha
Justification of Use	annatto seeds
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Blighia unijugata, 14,088 trees, 31.41 ha
Justification of Use	shade tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Boscia coriacea, 4 trees, 0.02 ha
Justification of Use	firewood, fruit
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Brachychiton acerifolium, 709 trees, 3.46 ha
Justification of Use	ornamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Brachystegia spiciformis, 915 trees, 3.31 ha

Justification of Use	fuel, medicinal, fodder
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Brachystegia spp., 906 trees, 9.69 ha
Justification of Use	fuel, medicinal, fodder
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Bridelia taitensis, 88,262 trees, 384.98 ha
Justification of Use	fuel, medicinal, fruit
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Burkea africana, 20,336 trees, 63.23 ha
Justification of Use	fuel, caterpillar food
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Callistemon spp., 44,158 trees, 236.80 ha
Justification of Use	ornamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Casimiroa edulis, 3,880 trees, 34.48 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Casuarina junghuhniana, 30 trees, 0.06 ha
Justification of Use	firewood
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Cedrela Odorata, 4 trees, 0.03 ha
Justification of Use	termite resistant
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Celtis africana, 201 trees, 1.05 ha

Justification of Use	ornamental, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Celtis durandii, 605 trees, 5.71 ha
Justification of Use	wood, fodder
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Citrus aurantifolia, 350 trees, 2.81 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Citrus reticulata, 2,833 trees, 10.42 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Citrus sinensis, 122,068 trees, 730.45 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Cocos nucifera, 70 trees, 0.34 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Coffea arabica, 504 trees, 0.48 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Combretum molle, 40,674 trees, 158.73 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Commiphora africana, 117 trees, 0.41 ha

Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Commiphora stuhlmanni, 15 trees, 0.34 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Cordia Africana, 51,556 trees, 312.37 ha
Justification of Use	wood, medicinal, fruit
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Cordia sinensis, 54 trees, 0.61 ha
Justification of Use	wood, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Croton macrostachyus, 56,411 trees, 295.55 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Croton megalocarpus, 74,990 trees, 514.71 ha
Justification of Use	biofuels
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Croton Sylvaticus, 6,535 trees, 40.51 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Cussonia holstii, 909 trees, 7.34 ha
Justification of Use	wood, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Cyphomandra betacea, 0 trees, 0.00 ha

Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Dalbergia lactea, 186 trees, 0.81 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Dichrostachys cinerea, 446 trees, 1.64 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Diospyros abyssinica, 476 trees, 1.28 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Diospyros mespiliformis, 10 trees, 0.09 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Dombeya rotundifolia, 31,464 trees, 230.51 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Dovyalis abyssinica, 1,273 trees, 7.02 ha
Justification of Use	fruit
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ehretia cymosa, 10,471 trees, 30.78 ha
Justification of Use	wood, medicine, fodder
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Endiandra glauca, 92 trees, 0.28 ha

Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ensete ventricosum, 4 trees, 0.02 ha
Justification of Use	food
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Entada abyssinica, 79 trees, 0.08 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Erythrina abyssinica, 61,272 trees, 237.54 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Eucalyptus citriodora, 36 trees, 0.07 ha
Justification of Use	fast growing
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Eucalyptus grandis, 217,353 trees, 419.10 ha
Justification of Use	fast growing
Adverse Effect	This tree has a reputation of using more water than others. In part, this is due to its rapid growth. It is widely planted and promoted in Kenya Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Euclea divinorum, 23,939 trees, 86.40 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Eugenia caffra, 21 trees, 0.05 ha
Justification of Use	medicinal tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Euphorbia friesiorum, 268 trees, 1.11 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ficus sur, 1,675 trees, 2.55 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ficus sycomorus, 3,660 trees, 22.19 ha
Justification of Use	fruit, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ficus thonningii, 4,572 trees, 18.79 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Fraxinus berlandieriana, 17,439 trees, 41.98 ha
Justification of Use	fast growing long living
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Fraxinus pennsylvanica, 708 trees, 6.13 ha
Justification of Use	fast growing long living
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Grevillea robusta, 1,624,228 trees, 6,554.85 ha
Justification of Use	resistant to wood rot
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Hagenia abyssinica, 95 trees, 0.33 ha
Justification of Use	medicinal, wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Harungana spp., 4,376 trees, 15.42 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Jacaranda mimosifolia, 10,821 trees, 65.01 ha
Justification of Use	ornamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Jatropha curcas, 102 trees, 0.26 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Khaya nyasica, 14,947 trees, 49.09 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Kigelia africana, 431 trees, 4.10 ha
Justification of Use	medicinal, animal food
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Leucaena leucocephala, 3,081 trees, 21.55 ha
Justification of Use	soil fertility, fodder
Adverse Effect	While considered by some to be invasive, KFS does not, in the context of planting on farms, where the benefits to soil fertility are well known. Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Lonchocarpus capassa, 0 trees, 0.00 ha
Justification of Use	wood, food, medicine
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Lovoa swynnertonii, 1,503 trees, 2.85 ha
Justification of Use	wood, endangered

Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Macadamia spp., 169,893 trees, 848.62 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Maesa lanceolata, 35 trees, 0.23 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Maesopsis eminii, 3,134 trees, 28.16 ha
Justification of Use	timber, fodder
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Markhamia lutea, 137,697 trees, 513.18 ha
Justification of Use	wood, agroforestry
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Melia volkensii, 3,967 trees, 44.63 ha
Justification of Use	wood, fodder, bees
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Morus nigra, 127 trees, 0.40 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Musa spp., 386 trees, 0.84 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Myrianthus holstii, 877 trees, 5.11 ha
Justification of Use	wood products, fruit

Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Newtonia buchananii, 2,488 trees, 8.55 ha
Justification of Use	wood, agroforestry
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ocetea kenyensis, 321 trees, 1.77 ha
Justification of Use	wood, medicine
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ocotea usambarensis, 540 trees, 1.78 ha
Justification of Use	wood
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Olea capensis, 3 trees, 0.01 ha
Justification of Use	fruit
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Olea europaea, 18,421 trees, 63.95 ha
Justification of Use	fruit, medicine
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Olinia rochetiana, 114 trees, 0.76 ha
Justification of Use	fuel, medicine, onamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Ozoroa insignis, 355 trees, 3.16 ha
Justification of Use	wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pavetta gardeniifolia, 17 trees, 0.02 ha
Justification of Use	wood products

Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pentas longiflora, 73 trees, 0.51 ha
Justification of Use	pollenators
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Persea americana, 404,435 trees, 2,035.66 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Phoenix dactylifera, 101 trees, 1.75 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Phoenix reclinata, 3,568 trees, 21.65 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pinus Patula, 1,920 trees, 3.39 ha
Justification of Use	popular tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pinus spp., 49,277 trees, 104.88 ha
Justification of Use	popular tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Piptadeniastrum africanum, 47 trees, 0.16 ha
Justification of Use	medicinal, agroforestry
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pithecelobium dulce, 0 trees, 0.00 ha
Justification of Use	drought tolerant

Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Podocarpus falcatus, 10,172 trees, 33.69 ha
Justification of Use	wood products, ornamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Polyscias fulva, 10,051 trees, 44.22 ha
Justification of Use	medicinal, agroforestry
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pouteria sapota, 2,448 trees, 9.66 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Prunus africana, 24,571 trees, 96.48 ha
Justification of Use	medicinal, wood products
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Prunus persica, 662 trees, 2.69 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Prunus spp., 2,012 trees, 12.25 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Psidium guajava, 63,712 trees, 322.41 ha
Justification of Use	fruit tree
Adverse Effect	While considered by some to be invasive, KFS does not, in the context of planting on farms, where its fruit is a mainstay of the Kenyan diet. Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Pterocarpus angolensis, 37 trees, 0.27 ha
Justification of Use	wood products, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Rapanea melanophloeos, 12 trees, 0.09 ha
Justification of Use	bird eat the berries
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Rhus vulgaris, 162 trees, 1.78 ha
Justification of Use	medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Rumex usambarensis, 1,842 trees, 14.02 ha
Justification of Use	edible leaves, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Sapium ellipticum, 3,117 trees, 14.05 ha
Justification of Use	fuel, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Schinus molle, 274 trees, 2.59 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Sclerocarya birrea subsp. caffra, 3 trees, 0.02 ha
Justification of Use	fruit tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Senna septemtrionalis, 223 trees, 0.80 ha
Justification of Use	medicinal tree
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Senna spectabilis, 2 trees, 0.02 ha
Justification of Use	ornamental
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Sesbania sesban, 16 trees, 0.28 ha
Justification of Use	forage
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Solanum aculeastrum, 39 trees, 0.48 ha
Justification of Use	hedge row, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Spathodea campanulata, 2,553 trees, 12.53 ha
Justification of Use	ornamental, pollenators
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Spirostachys africana, 8 trees, 0.02 ha
Justification of Use	exotic wood
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Strychnos cocculoides, 34 trees, 0.09 ha
Justification of Use	fruit, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Strychnos henningsii, 6,052 trees, 23.45 ha
Justification of Use	medicinal, agroforestry
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Strychnos madagascariensis, 223 trees, 1.25 ha
Justification of Use	fruit, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Swietenia mahagoni, 1,380 trees, 10.59 ha
Justification of Use	exotic wood
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Syzygium guineense, 9,734 trees, 29.52 ha
Justification of Use	fruit, edible leaves
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Teclea nobilis, 6,359 trees, 36.31 ha
Justification of Use	fruit, apiculture
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Terminalia brownii, 12,266 trees, 279.31 ha
Justification of Use	fodder, timber, dyes
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Trichilia emetica, 830 trees, 5.06 ha
Justification of Use	pollenators, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Vangueria infausta, 757 trees, 3.58 ha
Justification of Use	fruit, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Vangueria spp., 15,444 trees, 76.40 ha
Justification of Use	fruit, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Warburgia ugandensis, 1,332 trees, 5.35 ha
Justification of Use	chili-like leaves, medicinal
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

Species	Zanthoxylum chalybeum, 1,077 trees, 17.11 ha
Justification of Use	tea, medicinal, timber
Adverse Effect	Minor use. Not introduced by project. Used under control on existing farm land. No negative impact.

5.1.7 GMO Exclusion (B2.7)

No GMOs will be used by the project to generate GHG emissions reductions or removals.

5.1.8 Inputs Justification (B2.8)

Not applicable. TIST does not distribute any fertilizers, chemical pesticides, or biological control agents. The program trains farmers to replace chemical fertilizers and pesticides with natural, organic alternatives. TIST does not distribute seeds, seedlings, or agricultural inputs of any kind.

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impacts (B3.1) and Mitigation Actions (B3.2)

No negative offsite biodiversity impacts were expected or observed. As pointed out in Section 3.2.3, evidence that there has not been any displacement of members has been provided in the form of a survey of the landowners and project participants during baseline monitoring. They owned the land before the project and own the land during the project.

In addition, the program is designed to allow sustainable harvest within the project boundary by the members, which will reduce the need for fuel wood from external sources. The trees are owned by the Small Group members and as the trees die, either naturally or through selective harvest, they can be used as fuel wood by the members. The project activity will have a beneficial effect on area deforestation; instead of causing it, it will ameliorate it.

No mitigation measures are applicable, since no negative offsite biodiversity impacts are expected.

5.2.2 Net Offsite Biodiversity Benefits (B3.3)

No negative offsite biodiversity impacts are anticipated. Therefore, the net effect of the project on biodiversity is positive.

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan (B4.1, B4.2, GL1.4, GL3.4)

The following are the results of the Biodiversity Impact Monitoring. Program-wide data was extracted from the TIST database as of 01 July, 2023.

1. Number of indigenous trees: 1,164,270
2. Hectares of indigenous trees: 6,220
3. Number of live trees: 5,395,194
4. Endangered/Vulnerable/Threatened Species planted: 1
5. HCV's impacted: 2

6. Riparian Hectares: 225[104]
7. Hillside hectares: 7,833[105]

Biodiversity monitoring is ongoing as part of the overall monitoring of TIST. Data is collected by TIST Quantifiers as they visit each Small Group to count trees by species. Field data is recorded on custom programmed smartphones and uploaded to the TIST database. Data will be kept at least three years from the end of the reporting period. TIST works with academic institutions to use satellites to measure NDVI and other critical landscape level impacts of the program.

To meet the CCB Gold for Biodiversity, the standard calls for a:

"Demonstrat[ion] that the project zone includes a site of high biodiversity conservation priority by meeting either the vulnerability or irreplaceability criteria defined below, identifying the 'trigger' species that cause(s) the site to meet any of the following qualifying conditions and providing evidence that the qualifying conditions are met:

a) Vulnerability Regular occurrence of a globally threatened species (according to the IUCN Red List) at the site:
   a. Critically Endangered (CR) and Endangered (EN) species - presence of at least a single individual; or
   b. Vulnerable species (VU) - presence of at least 30 individuals or 10 pairs…"

Due to the presence of hundreds of *Prunus Africana, Cedrela Odorata, and Jacaranda Mimosifolia* trees listed as vulnerable on the IUCN Red List, the project meets this criterion. The planting of these trees is a direct measure taken to enhance these tree populations, while the planting of other trees reduces the overall pressure of deforestation. See Section 5.4.1 for details.

5.3.2 Biodiversity Monitoring Plan Dissemination (B4.3)

This information is included in the process described in Section 3.1.3.

The data monitoring process is communicated to farmer prior to the entry into the program. As part of this entry, the agree to allow TIST representatives to come and collect data on their farm. This information is collected and made publicly available on the TIST website. Directions to this website are included on newsletters distributed at Cluster meetings. Prior to validation and verification, TIST announced a summary of results of the monitoring plan in a monthly newsletter in multiple languages.[106]

5.4 Optional Criterion: Exceptional Biodiversity Benefits

5.4.1 Trigger Species Population Trends (GL3.3)

Trigger Species	Vitex keniensis (Meru Oak)
With-project Scenario	The Meru Oak is endemic to the Mount Kenya region and is listed as endangered on the IUCN Red List. The population trend is assessed as decreasing. TIST farmers have planted and maintain 48,659 *vitex keniensis* in this PD, a clear, direct benefit to the species. As discussed, TIST operations also

[104] Appendix 04, "Grove Summary" worksheet, Sum of column Q where column T is filtered by Flood Plain, River Bank and River Bottom.
[105] Appendix 04, "Grove Summary" worksheet, Sum of column Q where column T is filtered by Gentle Hill Side and Steep Hill Side.
[106] Mazingira Bora, XXX 2023

	mitigate some of the pressures of deforestation.

Vulnerable: The Meru Oak is a deciduous tree found only in Kenya. It is threatened by loss of habitat and is listed as endangered on the IUCN Red List.

Population Trend: As identified by the IUCN the population is decreasing. It has been over exploited for charcoal and timber and is facing a loss of habitat.

Enhancing the Population: TIST farmers are planting Vitex keniensis on their farms. In the PD, 48,659 trees were planted.

Effectiveness of Measures: The direct planting and counting of Vitex keniensis is an effective measure because it ensures the new project-related trees are present. The Meru Oak has been included in the biodiversity monitoring plan.

6 ADDITIONAL PROJECT IMPLEMENTATION INFORMATION

Not Applicable

7 ADDITONAL PROJECT IMPACT INFORMATION

Not applicable

Additional Information

All Appendices and Exhibits are available at http://www.tist.org/PD-KE-VCS-011%20Documents.php.

Appendices

Appendix 01: Landsat1990 Examples

Appendix 02: Landsat2000 Examples

Appendix 03: KML Plots of the Project Areas

- TIST KE PD-VCS-011d App03a PA Plots 230701.kml: Meru, Chugu, Wendo, Imenti, Muruta
- TIST KE PD-VCS-011d App03b PA Plots 230701.kml: Kinyaritha, Igembe, Kiengu
- TIST KE PD-VCS-011d App03c PA Plots 230701.kml: Ntugi, Tharaka, Timau
- TIST KE PD-VCS-011d App03d PA Plots 230701.kml: Kitherine, Kirimaara
- TIST KE PD-VCS-011e App03e PA Plots 230701.kml: Nanyuki
- TIST KE PD-VCS-011d App03f PA Plots 230701.kml: Embu, Kirinyaga, Machakos, Muranga
- TIST KE PD-VCS-011d App03g PA Plots 230701.kml: Mara, Nyamira, Trans-Nzoia

Appendix 04: Validation Data

Appendix 05: Non Permanence Risk Report

Appendix 06: KML File of Uganda (Project Zone)

Appendix 07: Monitoring Report V1

Appendix 08: Monitoring Data V1

Exhibits

Exhibit 03 GhG Contract 050418

Exhibit 04 GhG Contract 080428

Exhibit 06 KE EIA Report NAREDA 100506

Exhibit 07 Mgt Resumes

Exhibit 08 Mgt Experience

Exhibit 09 Financial Plan

Exhibit 14d Public Comments CCB-004 V01

Exhibit 14f Public Comments CCB-001, 002, 004 V02

Exhibit 14g Public Comments CCB-003 V02

Exhibit 14i Public Comments CCB-001, 005, 009 V03

Exhibit 14k Public Comments VCS-009 V04

Exhibit 14L Public Comments VCS-011 V01

Exhibit 15 Quantifier Safety 191124

Exhibit 18 Governance Indic

Exhibit 19 Mazingira Bora 050201

Exhibit 20 Mazingira Bora 050401

Exhibit 21 GL2 Survey Overview

Exhibit 22 GL2 Community Benefits Survey

Exhibit 23 GL2 Community Survey Result

Exhibit 25 YaleNEC Benefits Results-V4

Exhibit 33 Grievance Policy 170120

Exhibit 34 Sexual Harassment 170120

Exhibit 35 Non-Discrimination 170120

Exhibit 36 TIST Intro FAQ 161001

Exhibit 37 TIST SG Eligibility Requirements

Exhibit 38 TIST SG Membership Application

Exhibit 39 TIST Values 160726

Exhibit 40 Quantifier Manual 190613

Exhibit 42 Training Master 230414

Exhibit 47 Android Forms SOP 191106

Exhibit 48 Cluster Servant Seminar 230326

Exhibit 49 KE Newsletter Index

Exhibit 50 Circ Statistics V1

Exhibit 51 Gender Policy

Exhibit 52 Validation Deadline Exemption

Exhibit 54 Cluster Meetings Checklist

Exhibit 56 TIST Phase II Report