

# **THE UPPER TANA -NAIROBI WATER FUND TRUST**

KENYA

## **PROJECT** **Agroforestry for a secure future**

### **ANNUAL REPORT 1**

Submitted by: Upper Tana Nairobi Water Fund Trust  
Date of submission: 13 April 2023  
Reporting period: from 1 Jan 2017 to 24 Nov 2022

#### **Address**

31 El Molo Drive, Lavington  
P. O. Box 197- 00100  
Nairobi, KENYA



# Contents

Acronyms .....	4
Summary .....	5
Part A: Project updates .....	6
A1 Key events.....	6
A2 Successes and challenges.....	6
A3 Project developments .....	7
A4 Future Developments .....	8
Part B: Project activities.....	9
B1 Project activities generating Plan Vivo Certificates .....	9
B2 Project activities in addition to those generating Plan Vivo Certificates.....	9
Part C: Plan Vivo Certificate issuance submission .....	10
C1 Contractual statement.....	10
C2 Issuance request .....	10
C3 Allocation of issuance request.....	11
C4 Data to support issuance request.....	11
Part D: Sales of Plan Vivo Certificates.....	12
D1 Sales of Plan Vivo Certificates.....	12
Part E: Monitoring results.....	13
E1 Activity-based indicators.....	13
E2 Socio-economic monitoring .....	13
E3 Biodiversity monitoring.....	13
Part F: Impacts.....	15
F1 Evidence of outcomes.....	15
Part G: Performance-based support .....	16
G1 Summary of support by year.....	16
Part H: Ongoing participation .....	17
H1 Recruitment .....	17
H2 Project Potential .....	17
H3 Community participation .....	17
Part I: Project operating costs .....	18

I1 Allocation of costs.....	18
Annexes.....	19

**Citation:**

Kariuki, A, Kihara, F & Berry N. (2023). Annual Report. Agroforestry for a secure future project of UTNWF Trust. Submitted to Plan Vivo Standard. Nairobi Kenya

## Acronyms

CAC	Counties Advisory Committee
FAT	Focal Area Team
FFS	Farmers Field School
FSAP	Farm Specific Action Plan
MPAT	Multidimensional Poverty Assessment Tool
PDD	Project Design Document
PVC	Plan Vivo Certificate
SLM	Sustainable Land Management
SMS	Short Message/Messaging Service
UTNWF	Upper Tana Nairobi Water Fund

# Summary

<b>Reporting period</b>	1 Jan 2017* to 24 Nov 2022
<b>Geographical area</b>	Upper Tana River watershed, including parts of Nyeri, Murang'a, Nyandarua, Laikipia, Kirinyaga and Kiambu counties, Kenya.
<b>Technical specification(s)</b>	Agroforestry: Fruit Orchards, Alley Cropping, Enrichment Fallows, Dispersed Interplanting, Boundary Planting

\* This date is within 5-years of the initial PDD submission to Plan Vivo on 27 Nov 2020

Project indicators	Historical (pre 2017)	Added/Issued this period (2017-2022)	Total
Number of Farmer Representatives with signed Plan Vivo agreements	0	146	146
Number of farmers under Farmer Representatives with signed Plan Vivo agreements	0	164,368	164,368
Area under management (ha) where PES agreements are in place	0	153,078	153,078
Allocation to Plan Vivo buffer (tCO <sub>2</sub> )	0	5,000	5,000
Saleable emissions reductions achieved (tCO <sub>2</sub> )	0	1,039,126	1,039,126
Total Unsold Stock (PVC)	0		
<b>Plan Vivo Certificates (PVCs) issued to date</b>			0
<b>Allocated to the Plan Vivo Buffer by vintage</b>			
2017-2022 vintage			5,000
<b>Plan Vivo Certificates requested for issuance by vintage</b>			
2017-2022 vintage			20,000
<b>Plan Vivo Certificates available for future issuance</b>			1,019,126
<b>Buffer PVCs available for future issuance</b>			254,756
<b>Total PVCs issued (including those requested in this report)</b>			20,000

# Part A: Project updates

## A1 Key events

Since the start of the project on 1 Jan 2017, almost 3 million tree and shrub seedlings have been planted by more than 150,000 farmers that have developed Farm Specific Actions Plans (FSAPs) with support of UTNWF. The project design document was first submitted in November 2020 and was substantially revised after receiving feedback from Plan Vivo. The project was validated in November 2022, and as of 24 Nov 2022 146 Plan Vivo agreements have been signed by representatives of 164,368 farmers.

Throughout the reporting period, UTNWF has worked with other partners to provide extension support services to farmers to increase the adoption of agroforestry and other conservation activities in the watershed. Farmer education forums continue to be spearheaded by the project in close collaboration with farmer representatives. Tree distribution for new farmers is facilitated by the respective area farmer representative.

## A2 Successes and challenges

Some of the project successes over the reporting period include:

- Effective tree seedlings demand generation – in addition to the FSAP, extension officers make use of an SMS platform to reach many potential farmers as well as conducting routine monitoring visits to farmers who are already implementing project activities. A total of 140,512 farmers have been enrolled into the SMS communication platform.
- Partnerships – partnerships with the local county governments have been strengthened with formulation of four policies that will lead to more effective management of the natural resource and sustainable management of farmlands.
- Gender empowerment – the project has continued to help women in the project area with labor and time saving technologies like drip kits and biogas. The latter prevents excessive logging of immature trees.
- Area under agroforestry has increased to 153,078 hectares providing substantial benefits for nature and people.

Some of the challenges experienced over the reporting period are:

- Inadequate resources to meet the increasing planting materials demand generated. More campaign and partnerships are being explored to provide more funds for the activities.
- Pandemics – the COVID-19 pandemic affected the movement and interaction of people. It slowed the rate at which farmers would meet with the agricultural extension officers to draw farm plans.
- Climate/weather variations – changing seasons affected the planting season and timely delivery of materials. Some seasons are missed completely where rainfall becomes inadequate to grow certain crops.
- Landslides – impacts on water ways and riparian areas because of extreme rainfall events. Sometimes the landslides areas that have previously been conserved. All the landslides will be rehabilitated with agroforestry materials. The landslide-prone areas will be identified and stabilised by planting more trees, whilst the community will be receiving alerts during the rainy seasons.

## A3 Project developments

The PDD has been updated to reflect a revised initial reporting period, and to reflect the initial extent of project areas and participants enrolled in the project. The changes are summarised in Table 1.

**Table 1 Project Design Document (PDD) updates**

Previous PDD version: 1.0		
Revised PDD version: 1.1		
PDD section	Date changed	Short description of update
Executive Summary	13 April 2023	Number of farmers increased from 50,000 to 165,000
A	13 April 2023	Number of households expected to benefit increased from 50,000 to 165,000
C1	13 April 2023	Number of farmers increased from 50,000 to 165,000 and from 44,821 to 164,368; number of hectares increased from 36,121 to 153,078
D3	13 April 2023	Number of hectares increased from 36,121 to 150,000
E1	13 April 2023	Number of farmers increased from 44,821 in January 2021 to 164,368 in November 2022
F2	13 April 2023	Number of households increased from 44,821 to 165,000
G2	13 April 2023	Number of farmers increased from 50,000 to 165,000
G3	13 April 2023	Project start date changed from 1 April 2017 to 1 January 2017
I4	13 April 2023	Project start date changed from 1 April 2017 to 1 January 2017; end of first reporting period changed from 31 Dec 2021 to 24 Nov 2022
I5	13 April 2023	Number of hectares increased from 36,121 to 150,000
Annex 03	4 Aug 2023	Tree lucerne added as a shrub species to Alley Cropping and Enriched Fallow systems

**Table 2: Progress against corrective actions**

Document	Corrective action	Activity against this
Validation Report	FA01 (CAR01): Capacity building among farmer group representatives on their roles and responsibilities within the group under the plan vivo sales agreement prior to (e.g, by sms) and during the signing of the agreement will be undertaken and evidence provided in Annual Reports	In person meetings to discuss roles and responsibilities were carried out between project staff and all farmer representatives prior to signing PV Agreements. (see Supporting Information FA01)

Validation Report	FA02 (CAR03): Project to provide evidence that training on technical specification of PDD to technical project partners involved in delivery of project extension services has been undertaken to Plan Vivo	None
Validation Report	FA03 (CAR08): Project to provide evidence that training on technical specification of PDD to individual farmers has been undertaken to Plan Vivo	SMS messages with details of the project have been sent to 164,368 farmers. (see Supporting Information FA03). A training plan has been developed to cover all the farmers and shared with PV.

## A4 Future Developments

The UTNWF has developed a 5-year strategic plan from 2022 to 2026 that aims to increase the number of farmers by an additional 20,000 while still working with the already reached farmers in same geographical area. Three million additional tree seedlings will be planted in the watershed. This development will involve the farmers who are in the same project area but were not previously participating in the project.

## Part B: Project activities

### B1 Project activities generating Plan Vivo Certificates

Table 3: Project activity summary

Name of technical specification	Approximate Area (ha)*	Number of farmers**
Fruit Orchards	9,930	159,999
Alley Cropping	5,145	11,671
Enrichment Fallows	312	9,056
Dispersed Interplanting	3,075	12,822
Boundary Planting	3,280	22,324

\* Area under individual technical specification estimated from recommended planting densities.

Expected carbon benefits are calculated based on number of trees distributed.

\*\* Note that individual farmers can have more than one technical specification applied to their land.

### B2 Project activities in addition to those generating Plan Vivo Certificates

The following is some of the measurable progress of the Upper Tana Nairobi Water Fund as it has generated a vast array of benefits for people who depend on the watershed.

- 53,273 farmers engaged to implement other soil conservation and water-saving methods on their farmlands including terraces, grass strips and rainwater harvesting in water pans
- 15,607 rainwater harvesting pans excavated and lined with UVI-treated liners for water storage
- 1,015 km of grass strips and 606 km of terraces established to reduce surface runoff and hold nutrient and moisture on farms.
- A mobile phone platform for conservation and weather advisory messaging established with 140,512 farmers enrolled on the platform
- 287 households have installed drip irrigation kits of different sizes to maximize crop production, save on water, labour and increase incomes.
- 52 km of rural roads shoulder have been stabilized with vegetative cover to reduce sediments runoff to rivers and reservoirs.

## Part C: Plan Vivo Certificate issuance submission

### C1 Contractual statement

This issuance is based on the 146 Plan Vivo agreements provided in Annex 1, which are signed by representatives of all farmers participating in the project, and is in line with the conditions of issuance described in the agreement(s).

### C2 Issuance request

**Table 4: Statement of tCO<sub>2</sub> emission reductions available for issuance as Plan Vivo Certificates based on activity for reporting period 01/01/2017 to 24/11/2022**

Tech. Spec	Saleable ER's (tCO <sub>2</sub> ) available from previous periods*	Total ER's (tCO <sub>2</sub> ) achieved this period**	% Buffer	No. of PVCs allocated to buffer from ER's achieved this period	Saleable ER's (tCO <sub>2</sub> ) from this period
Fruit Orchards	NA	881,509	20%	176,302	705,207
Alley Cropping	NA	65,743	20%	13,149	52,594
Enrichment Fallows	NA	1,309	20%	262	1,047
Dispersed Interplanting	NA	106,379	20%	21,276	85,103
Boundary Planting	NA	243,969	20%	48,794	195,175
<b>TOTAL</b>	<b>NA</b>	<b>1,298,909</b>	<b>20%</b>	<b>259,783</b>	<b>1,039,126</b>

\*Number of tCO<sub>2</sub> sequestered or avoided emission through participants' activities in previous reporting periods which have not yet been issued as PVCs

\*\*Number of tCO<sub>2</sub> sequestered or avoided emission through participants' activities this reporting period.

**Table 5: Issuance request for reporting period 01/01/2017 – 24/11/2022**

Tech. Spec	No. of PVCs allocated to buffer from ER's issued this period	No. of PVCs available for future allocation to buffer from ER's issued this period	Issuance request (PVCs)	ER's (tCO <sub>2</sub> ) available for future issuances
Fruit Orchards	3393	172909	13,572	691,635
Alley Cropping	253	12896	1,013	51,581
Enrichment Fallows	5	257	20	1,027
Dispersed Interplanting	410	20866	1,638	83,465
Boundary Planting	939	47855	3,756	191,419
<b>TOTAL</b>	<b>5000</b>	<b>254756</b>	<b>20,000</b>	<b>1,019,126</b>

### **C3 Allocation of issuance request**

None of the requested PVCs have been allocated to buyers.

### **C4 Data to support issuance request**

A spreadsheet with details of all seedlings distributed to farmers that are named in Plan Vivo Agreements in Annex 1, and spreadsheets showing the calculation of carbon benefits for each technical specification, are provided in Annex 2.

## **Part D: Sales of Plan Vivo Certificates**

### **D1 Sales of Plan Vivo Certificates**

No sales of Plan Vivo Certificates were made in the reporting period, because this is the project's first monitoring period so no certificates were available prior to the issuance requested in this report.

## Part E: Monitoring results

### E1 Activity-based indicators

A spreadsheet with details of all seedlings distributed to farmers that are named in Plan Vivo Agreements in Annex 1, and spreadsheets showing the calculation of carbon benefits for each technical specification, are provided in Annex 2.

The following progress indicators will be collected every 3-years from each project area during the 10-year agreement period:

- % survival of each species of planted trees/shrub/bamboo
- % of dead trees/shrubs/bamboo of each species that have been replanted

The following performance indicators will be measured in a random stratified sample of project areas, with each site being visited at least once every 5-years throughout the agreement period.

- Average DBH of planted trees/shrubs/bamboo of each species
- Basal area of pre-project trees
- Crop yield from project areas
- Fruit yield from project areas with fruit orchards

No progress indicators or performance indicators were recorded during the current reporting period, as this is outside of the 10-year agreement period.

### E2 Socio-economic monitoring

Socio-economic impacts of the project will be monitored with a multi-dimensional poverty assessment that will be repeated at 5-yearly intervals throughout the agreement period to assess the following indicators:

- Percentage of households with improved Multidimensional Poverty Assessment Tool (MPAT) score
- Number of household members supported in coping with the effects of climate change
- Number of people adopting technologies that reduce or sequester greenhouse gas emissions
- Crop production and productivity in the project area.
- Increased ability of people to manage environmental and climate-related risks.

Results of the MPAT survey and monitoring of socioeconomic indicators carried out in 2021 are provided in Annex 3.

### E3 Biodiversity monitoring

Results of monitoring of indicators that relate to environmental and biodiversity impacts of the project are included in the monitoring of socioeconomic indicators carried out in 2021 are provided in Annex 3.

## **Part F: Impacts**

### **F1 Evidence of outcomes**

Evidence of project outcomes will be derived from the monitoring results provided in Annex 3. The first analysis of outcomes will be made with the next annual report.

## **Part G: Performance-based support**

### **G1 Summary of support by year**

No payments or in-kind support has been provided from the finance generated from the PVCs and no PVCs have been issued.

# Part H: Ongoing participation

## H1 Recruitment

164,368 farmers were recruited during the reporting period. See Annex 1 for details.

## H2 Project Potential

There are 19,150 farmers that have received trees as part of the carbon project, but still need to finalise their farm specific action plans and/or be included in a Plan Vivo agreement. These farmers and their trees are not included in this 2022 Annual Report and they will only be included in a future Annual Report after confirmation all work is complete in their farms.

**Table 6 Details of potential project participants**

Number of potential project participants	19,150
--	--------

## H3 Community participation

During the reporting period, there has been 172 community meetings and trainings held at different levels that brief members on the carbon project progress, benefits, representation, and agreement with the carbon with certifiers. There were at least 8 meetings held through established groups, 5 Farmers Field Schools (FFSs), 9 focal area committee meetings that has representation of all stakeholders working in a particular watershed and 6 County Advisory Committees (CAC) meetings that brings together the lead government agencies in the 4 counties which links the project activities to the government priorities, and 144 individual meetings with farmer representatives while training them on their responsibilities and carbon project conditions before signing agreements.. Evidence of these meeting was provided to the project validator.

The Counties Advisory Committee meetings tracked the progress on the implementation of Sustainable land management and recommended that the carbon project should be designed as planned to support the sustainability of conservation activities and requested the stakeholders to sensitise the community on the same.

The FAT meetings tracked the progress on monthly basis and advised the stakeholders on continuous sensitisation of communities and communicate on the carbon conditions.

The FFS meetings and the established groups was basically training on SLM where carbon project was a key item in the agroforestry. The members who are trainers of trainers were informed on the carbon project conditions and benefits where most preferred to be paid in kind which resonates well with a study that had been done on Payment for Ecosystem services before the start of the project.

# Part I: Project operating costs

## I1 Allocation of costs

**Table 7 Allocation of costs**

Expense	Narrative	Amount (in USD\$)	Contribution from sale of PVCs	Contribution from other sources
Salary for the staff	Salary for 4 Water Fund staff, facilitation for 4 County Extension Assistants, 30 County Technical staff, 15 technology promoters and casual workers who help in the distribution of planting materials during planting seasons	315,000	0	From the organisation fundraising campaigns.
Cost for seedlings	Procurement of tree seedlings that are given to the farmers at no cost	369,199	0	From the organisation fundraising campaigns.
Cost for PIN Development	Payments for the review of the PIN	750	0	From the organisation fundraising campaigns.
Cost for PDD	Payment for the development of the PDD and the review cost for the Plan Vivo	14,000	0	From the organisation fundraising campaigns.
Cost for Validation	Cost used to hire the Carbon Validator	12,000	0	From the organisation fundraising campaigns.
Participant trainings and materials	124 clusters	50,000	0	From the organisation fundraising campaigns.
Monitoring	The project sustains a full time Monitoring, Evaluation and Learning Officer. The project also does mobile phone SMS polling to gather rapid data as well as COMBO Collect software for gathering farmer data into the database	120,000	0	From the organisation fundraising campaigns.

## **Annexes**

**Annex 1 Plan Vivo agreement(s)**

**Annex 2 Monitoring results for issuance request**

**Annex 3 Socio-economic monitoring results**

**Annex 4 Community meeting records (summary)**