



carbon**tanzania**



Annual Report

01 FEB 2016 – 31 JAN 2017

**Reducing Emissions from Deforestation and
Forest Degradation in the Yaeda Valley, Northern
Tanzania**

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Our Vision and theory of change

Carbon Tanzania's vision is that forest communities value their environment because of the direct and global benefits they derive from it. The global community invests in intact tropical ecosystems that are a cornerstone of global ecological health.

Who we are

Carbon Tanzania is an innovative conservation organisation, registered as a Tanzanian not-for-profit company based in Arusha, northern Tanzania. Founded by three dedicated conservation biologists, *Njano Mbilinyi, Marc Baker and St. John Anderson*, Carbon Tanzania's primary business focus is to provide unique skills, knowledge and experience-based services and interventions that lead to the production and delivery to market of forest-based carbon offsets. These offsets are generated through the actions of local Tanzanian communities conserving and managing their indigenous trees and forests.

Central to Carbon Tanzania's innovative conservation approach is a fundamental respect for local community land rights; this approach generates significant and sustained local economic benefits that incentivize and enable communities to conserve their immediate environment on which their way of life depends. It simultaneously contributes to preserving their traditional way of life and affords local communities increased options for how they manage their land.

Carbon Tanzania is a market leader in providing forest-based offsets to the Tanzanian tourism sector, as well as supplying an increasing number of offsets to the global voluntary carbon market. It provides a unique, tailored service to its clients including product support, institutional education and corporate social responsibility advice.

Our track record

Carbon Tanzania has proven its concept over the last 6 years through successfully developing its flagship community project in the Yaeda Valley in northern Tanzania. This avoided deforestation project focuses on an area of 20,790 hectares of dryland forest owned by the Hadzabe people. This project is now in its fifth year of generating internationally verified ex-post forest carbon offsets represented by 16,011 PVC (tCO₂e) per year in avoided emissions. In 2014 Carbon Tanzania expanded this project into the neighbouring village of Yaeda Chini to add a further 13,283 hectares, 4,600 PVC (tCO₂e) of dryland forest. The entire project area is now incorporated into a single Yaeda Valley REDD+ project covering 34,073 hectares. To date Carbon Tanzania has succeeded in selling the community-generated offsets at above average market price to both local and international buyers. This has resulted in US\$108,429 being channelled to communities in the area, with yearly income to communities from this single project set to exceed US\$80,000 per year going forward. Validated through the Plan Vivo Standard, this project is particularly noteworthy in that it is reinforcing the land and natural resource rights of two minority groups, the Hadzabe people, a unique hunter-gatherer community that has lived in the Yaeda Valley for some 40,000 years and the Barabaig, a semi-nomadic pastoralist tribe who utilise the Yaeda Valley grasslands.

Our Theory of Change

We view our role as linking global environmental concerns with local economic and livelihood needs. It is now widely accepted that we need to better manage the impact of greenhouse gas emissions on the global ecosystem in order to maintain and promote a healthy environment for human populations. Equally, rural communities in developing nations face daily challenges around managing their immediate environment that have wider consequences in the global context. Growing awareness of the critical role of tropical

terrestrial ecosystems in regulating global climate systems means that there is a self-serving interest for actors in more developed countries (particularly in North America and Europe) to invest in the conservation of forest habitats in the tropics, predominantly located in developing nations. Local communities often keenly appreciate the benefits that they can derive from their natural resources, but these benefits are often intangible, non-fungible and are realised over the long-term. Immediate economic needs can lead communities to accept short-term economic benefits that are too often realised through resource exploitation or donor funded initiatives, neither of which guarantees long-term sustainable returns or safeguards for traditional livelihoods.

Carbon Tanzania seeks to combine elements of conventional integrated conservation and development projects (ICDP) with a “payments for ecosystem services” (PES) approach. In some quarters, REDD+ has been conceived more narrowly as simply a system of conditional performance-based payments (PES)¹. Projects developed by Carbon Tanzania are similarly premised on performance based payments, but we have gone further in developing an approach to project implementation that recognizes the part that can be played by tried and tested interventions. These include participatory land use mapping, boundary determination, development of village land use plans, clarification of tenure, and introduction of alternatives to, or improved technology for, firewood and charcoal (e.g. energy efficient stoves).

Carbon Tanzania is the only private sector initiative in Tanzania that has successfully partnered with forest-adjacent communities to develop and implement an internationally accredited avoided deforestation project in natural forest, resulting in payments to communities from the voluntary carbon marketplace. In this regard, Carbon Tanzania has developed a clear understanding, well-regarded track record and proof of concept of how avoided deforestation projects can be successfully developed and implemented in Tanzania, despite the complexity of the operating environment. We have pioneered a business approach to meeting biodiversity conservation goals that simultaneously delivers reduced GHG emissions, improved livelihoods, localised economic development and support for traditional cultural values



¹ Sills *et al.* (2009), The evolving landscape of REDD+ projects.

Summary of Yaeda Valley REDD project for 2016

In this project cycle, 1st February 2016 to 31st January 2017, we have successfully completed the first year of the Yaeda extension and brought the entire Yeada Valley REDD+ project under a single management structure. The Project Development Document (PDD) has been updated to the newest version of the Plan Vivo standard (Version 2013) and incorporates two technical specifications, Yaeda I validated in 2012 and Yaeda II. We expect to conduct verification of Yaeda I and validation of the Yaeda extension (Yaeda II) in 2017. We have continued to train and equip our community monitoring teams, improving data collection and increasing the use of technology such as Garmin GPS/Camera units. Improved data collection and response has been augmented by a motorbike to expedite movement and by uniforms to foster the role the community guards (known as *walinzi wajadi* locally) play in enforcing the village by-laws.



The activity based monitoring system implemented in 2014 forms the basis for annual ex-post issuance of Plan Vivo Credits (see appendix) and has been updated in 2016 to include specific Sustainable Development Goal (SDG) targets that are being monitored and delivered by this project. This activity based monitoring system incorporates all the community monitoring data, tracks institutional arrangements, conflicts, land security as well as financial flows to communities, the latter being critical to ensure this payment for ecosystem service project continues to deliver on its promises. In 2017 we will start to introduce the DHIS2 monitoring system for Yaeda Valley². This innovated software is currently being designed for our specific needs, which includes an app that incorporates our needs and is translated into Swahili.

² <https://www.dhis2.org/overview>

Project summary and request for issuance for period 1st February 2016 – 31st January 2017.

Project overview	
Reporting period	1st February 2016 – 31st January 2017
Geographical area	Yaeda Valley, Mbulu District. 34.3E/03.30S
Technical specifications in use	Reducing Emissions from Deforestation and Forest Degradation in the Yaeda Valley. Updated June 2016.
Area under management (ha)	34,073ha Project area
<i>Areas put under management since last report (ha)</i>	(13,283ha added under updated PDD June 2016)
Project indicators to date	
Community groups with plan vivos and PES agreements (total)	Three village communities, Mongo Wa Mono, Domanga and Yaeda Chini following the CCRO / land use plan outlined in the technical specifications of the PDD.
Total PES payments made to communities to date (USD)	108,429USD
Total PES in trust to be paid in May 2017	23,163USD based on sales commitments
Plan Vivo Certificates issued to date	64,044
Allocation to buffer to date	16,010
Unsold stock / vintage	
2012	40
2013	16
2014	4,755
2015	16,011
2016	20,611
Project activity this reporting period	
Community groups with PES agreements signed	Three village communities, Mongo Wa Mono, Domanga and Yaeda Chini following the CCRO / land use plan outlined in the technical specifications of the PDD.
Approximate number of people	6,019 with seasonal variation
Area under management	34,073ha
Saleable Emissions Reductions achieved in this reporting period	20,611
Allocation to PV buffer account in this reporting period	5,153
Submission for PVC Issuance (tCO2)	20,611 PVCs
PVCs available for future issuance (REDD+ only)	0
Total PVCs issued (including this issuance)	84,655 PVCs

Part A. Project updates

A.1 Key Events in chronological order from February 2016 to January 2017

February 2016 - National Geographic Expeditions agree to a further year of offset purchase through Native Energy. Final draft of the Yaeda Chini village (Yaeda II) contract is conducted with village and district government. This contract which includes the CCRO³ title deed and certificate of incorporation for Carbon Tanzania. This format and procedure follows new regulations on contracting in Mbulu District. A learning session is conducted in Yaeda with the newly employed community scouts and the Yaeda manager distributes the training documents on climate change, REDD+ and the carbon cycle.

March 2016 – First draft of the updated project development document (PDD) for Yaeda Valley is submitted to the Plan Vivo Foundation. This version brings together Yaeda I and Yaeda II under one document and is also updated to meet the 2013 version of the Plan Vivo Standard. Masters Student from Uppsala University in Stockholm conducts a baseline socio-economic survey of participating communities.

April 2016 – Final contract with Yaeda Chini is signed at the Mbulu District lawyer's office in Mbulu on the 15th April 2016. Carbon Tanzania conducts its annual event with an afternoon of discussion on the conservation of landscapes with guest speakers from Ujamaa Community Resource Team and private sector companies offsetting their emissions with Carbon Tanzania. This is followed by an award ceremony for companies offsetting emissions.

April 2016 – Film brief is developed and completed preparing to film in May.

May 2016 – Bi-annual finance meetings are conducted in Mongo Wa Mono and Domanga villages. Filming of video for Carbon Tanzania promotional film is completed. Carbon Tanzania attended the opening of the National Carbon Monitoring Centre (NCMC) stakeholders meeting with the aim of setting Tanzania's forest reference emission level (FREL) for inclusion within the countries INDC.

June 2016 – Johanna Grant from ZeroMission visits Carbon Tanzania and the Yaeda project, spending three days getting to know the Hadzabe, project objective and land use plans.

August 2016 – Carbon Tanzania purchases a motorbike for the Yaeda project manager and new uniforms for all of the community guards.

September 2016 – Visit to Yaeda with social impact investors from HRSV.

October 2016 – Attended the Northern Tanzania climate impact study with community members. This study implemented by The Nature Conservancy (TNC) and the Northern Tanzania Rangelands Initiative (NTRI) aims to educate on what the expected changes to Northern Tanzania will be over the next 50 years. Visit to Yaeda with a film crew to produce a piece for the Deutsche Welle⁴ series "Africa on The Move" a news feature on Carbon Tanzania in the run up to CoP Marakesh.

November 2016 – Biannual finance meetings in Mongo wa mono and Domanga. These meetings were filmed for a television news report on USA Today and Voice of America, as well as for a written piece on Mongabay⁵. Carbon Tanzania core team conduct separate training sessions in Arusha as part of climate week. Climate change and the media and climate change and forests. CT team meet the CEO of Native Energy to discuss expanding our current relationship with them to secure long-term sales. UCRT conduct exercise remarking the land use boundaries.

³ Certificate of Community Right of Occupancy

⁴ <http://www.dw.com/en/tanzania-hadza-eco-warriors-fighting-for-their-land/av-36587995>

⁵ <https://news.mongabay.com/2016/11/ancient-hunter-gatherer-tribe-protects-traditional-forest-with-help-from-carbon-trading/>

November 2016 – Ca4bon Tanzania Director attends the Innovation Forum conference on “How Business can Tackle Deforestation” in London.

December 2016 – Updates to the website and implementation of an ecommerce system for sales enables Carbon Tanzania to streamline its online purchases and target individuals around the world. Carbon Tanzania attends the final meeting on Tanzania’s FREL at the NCMC in Morogoro.

January 2016 – Secure agreement with Native Energy to buy all outstanding stock (20,000 PVCs) and to forward sell PVCs for the next five years. Carbon Tanzania visits Yaeda with EndaSolar, a solar power company implementing a 200,000usd mini-grid in Yaeda Chini village to supply power to School and village area.

A.2. Successes and challenges

Land use and ownership rights to the forest resources remain secure. Ensuring by-laws are followed depends on project operations and revenue generated for communities and local governance structures by both this project and through the tourism products offered by Dorobo Tours and Safaris. Carbon Tanzania fully understands that this essentially means being able to continue the current sales trajectory and expand sales so that we can meet financial expectations and commitments (see sales section below). Ensuring some of the neighbouring pastoralist communities follow seasonal patterns within the overall land use plan continues to be a challenge. In 2016 heavy rains meant that the area designated for grazing was waterlogged until October so cattle grazing was displaced into the Hadzabe CCRO area. This created some conflict between the Hadza and Barabaig communities which was effectively resolved by intervention at the Ward level (Yaeda Chini).

We and our partners, including the Ujamaa Community Resource Team (UCRT), are constantly communicating and working with district government to ensure transparency. The Tanzanian Government takes the poaching of mega-fauna seriously but poaching in the region is a concern for communities. Due the distances involved and resource challenges, responses to poaching can be limited but Carbon Tanzania and its partner communities continue to work with district officials to meet these challenges. The manager for the Yaeda valley REDD project, Mr. Isack Bryson Magombe has already increased our capacity to be more responsive to community needs and improve our communication and information gathering from the communities, this is explained in more detail in this report. In 2017 we will begin the process of sending community scouts to the Pasiansi Wildlife Training Institute⁶ for further training on conducting patrols and wildlife management.



Sales

Bringing credits to market at a value that reflects expectations and project operations means Carbon Tanzania has continued to work towards diversifying and increasing its sales of PVCs. Our Business Development Manager, Sarah Borman, has developed a marketing and PR strategy that has guided us to a position where we have increased sales through social media marketing and a new ecommerce platform; an example of this is the gift certificate campaign which enabled us to sell at [REDACTED] / tCO₂e. However, based on current project expansion and our need to return investment on our social impact loan from HRSV, we need to ensure the sale of all issued credits within the year following issuance, potentially increasing both Tanzanian and overseas based markets for PVCs. Carbon Tanzania feels it can maintain between [REDACTED] /PVC by developing and diversifying sales which in the long term should create a more robust business model. An agreement with Native Energy to sell unsold stock of 20,000 PVC and the potential development of a five-year plan to sell all PVCs issued over the next five years will have a very positive impact on participating communities and project outcomes. The conditions of this one-off sale of unsold stock is that the money is directed towards education programs and outcomes within Yaeda valley which include education surrounding climate change, governance and increasing the capacity of the *walinzi wajadi* (community scouts).

A.3. Project Developments

REDD in the Yaeda Valley

In 2016, Carbon Tanzania incorporated both Yaeda I and Yaeda II under the same management structure to create a greater Yaeda Valley REDD+ project area. Carbon Tanzania has continued to build its capacity to better manage the project, this included the employment of a full time Yaeda valley manager, Mr Issac Bryson Magambo, who lives in Yaeda Chini. His role has slowly expanded to include district level engagement, mentoring and working with community scouts to ensure they are conducting surveys, collecting and collating the required data. Isaac also provides the link between community and village governance structures. By creating a working relationship with Uppsala University in Sweden

and with the Resilience in East African Landscapes (REAL) partnership, we engaged a masters student to conduct a baseline socio-economic survey focused on our work in the Yaeda valley (see monitoring results).

Table 1. Document updates

PDD Section	Date change	Description of update
PDD REDD Yaeda Valley	June 2016	Entire PDD updated from 2012 to 2015 version of the PVF Standard and the technical specifications incorporated into Part G.

A4. Future developments

Consolidation of the project extension in Yaeda will be the main focus of this coming year, improving the patrolling and on-site project management will continue to be a our priority. We are currently working on three major project interventions and developments;

Carbon Tanzania is currently developing a proposal to work with Farm Africa to build upon our current agricultural improvement process, a key part of enabling us to inform better land management. With the project extension incorporating Yaeda Chini, there is a growing need to professionalise agricultural extension officers, conduct a situation analysis of growing conditions and critically, attempt to improve links to market. Our Yaeda manager has begun the situation analysis this year with the onset of the rains so we have a baseline to work with, agricultural success varies every year which requires us to engage with the question; 'What agricultural output is likely to provide the best outcomes for land and regular marketable produce'. Our participatory analysis from the areas under *makazi* (agriculture) is on target for the second trimester of 2016 and will be reported on in the next annual report. UCRT have also made a proposal to increase rangeland health within the project area working with neighbouring pastoralist communities, the output from this is again a focus on rangeland health. All of these approaches play a role in reducing the need to impact the current project area.

Carbon Tanzania will plan to conduct the verification of this REDD project in 2017. We are currently investigating the approach and considering verification bodies (VVBs) and costs associated with the process.

Operational management and planning

Carbon Tanzania has continued its operational management and training exercises to clearly identify gaps and needs within the organisation. Carbon Tanzania has identified the need to engage with the Paris Agreement policy environment where it relates to REDD+ and is continuing to engage with the Tanzanian government through the National Carbon Monitoring Centre (NCMC) and other government agencies. Carbon Tanzania has conducted a strategy planning and human resource exercise. In 2017 Carbon Tanzania will employ a Monitoring and reporting manager, this job will involve the implementation of the DHIS2 monitoring system across all of Carbon Tanzania's project areas.

Sales and Marketing

As a business primarily dependent on revenue generated from the sale of PVCs and other verified offsets, Carbon Tanzania sees the marketing of its current inventory of PVCs as critical to project operations. Carbon Tanzania has developed its own market in Tanzania with tourism companies and will be developing both national and international sales further in the coming year. Sales also link to project operations as Carbon Tanzania has incorporated payments to communities (see monitoring in appendix and results in section 5) as part of activity based monitoring.

Part B. Project activities, total project size and participation

This project works with hunter-gatherer Hadza (or Hadzabe) and Barabaig pastoralist communities in Mongo Wa Mono, Domanga and Yaeda Chini villages. By working in conjunction with traditional leaders, the elected village governments and a team of community members, Carbon Tanzania has established a system of results-based payments for ecosystem services through the sale of *ex-post* Plan Vivo Certificates (PVCs). This REDD+ project strengthens land tenure, management capacity and local natural resource management, enhances and diversifies local incomes, and contributes to local, national and global environmental conservation aims.

Table 2. Project Activity Summary

Name of Technical specification	Area (ha)	No households	No communities
REDD in Yaeda Valley updated June 2016	34,073 ha	n/a	3

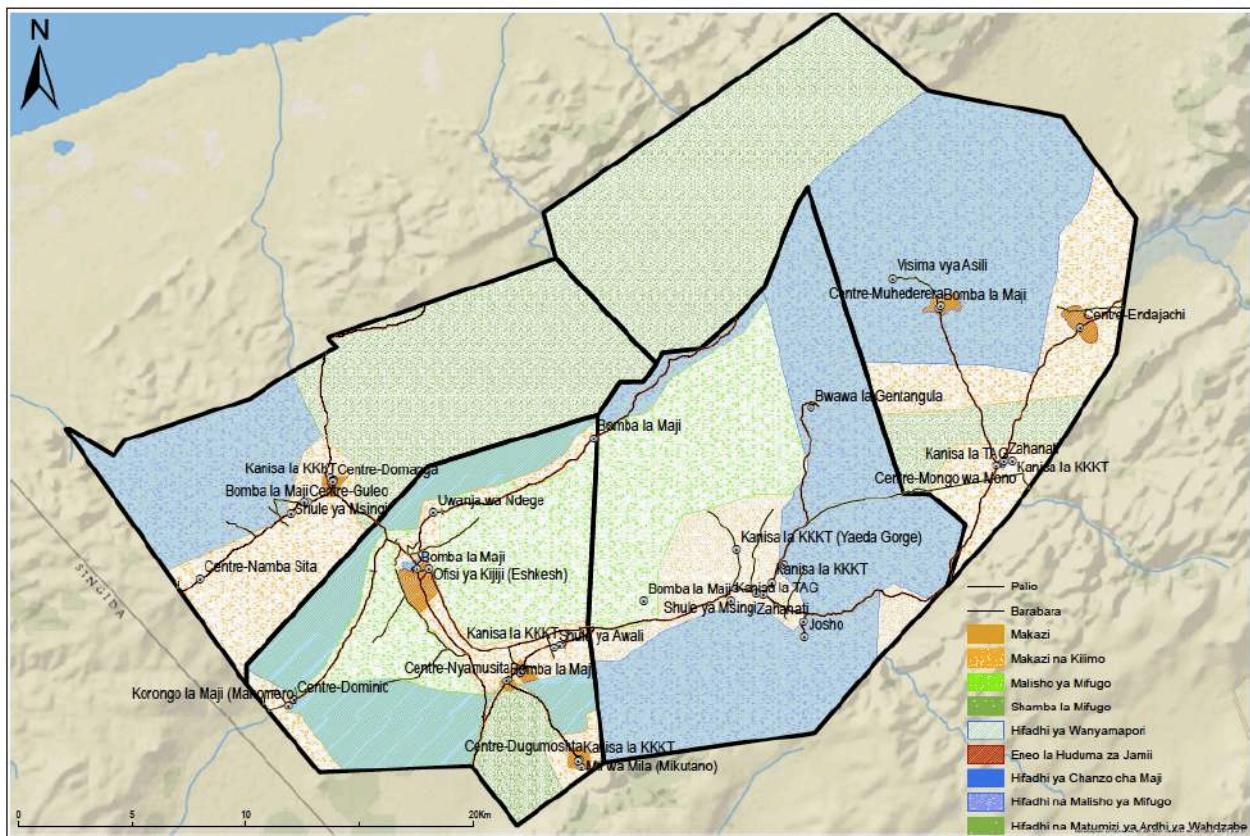
Successful avoided deforestation is being achieved through a series of interventions including reinforcing the implementation of the approved village land use plan (see below) and associated village by-laws, improving forest conservation and management activities and addressing the primary driver of deforestation, slash and burn agriculture.

The community members are achieving these aims by patrolling and reporting any land use change and / or poaching activities, which are occurring illegally within the designated project area. This data, with support from external government agencies, is being used to tackle illegal land intrusion and resulting land conversion at both a local and district level.

Farmers are supported through designated areas within the villages that have been identified based on best fit for agriculture; analysis of aspect and soil type allow for improved agricultural conversion but are external to the project area (see Land use plan map B1 and any carbon).

B1. Land use plan for Mongo Wa Mono, Domanga and Yaeda Chini villages

MPANGO WA MATUMIZI BORA YA ARDHI (VIJJI VYA: YAEDA CHINI, ESHKESH, MONGO WA MONO NA DOMANGA), WILAYA YA MBULU



Part C. Plan Vivo Certificate Issuance Submission

C1. Carbon Tanzania is applying for issuance of 20,611 PVC based on contractual agreements with the two Hadzabe communities, Mongo Wa Mono and Domanga, and the village of Yaeda Chini who have successfully carried out their obligations stated in the contractual agreements. This is reflected in the activity based monitoring results and collated in section Part E of this annual report.

Table 3. Statement of tCO2e reductions available for issuance as PVCs, based on activity for reporting period February 2016 – January 2017.

Area ID	Total area (ha)	tCO2e available from previous periods	Total tCO2e achieved this period	Non permanence Risk % buffer	No of PVCs allocated to buffer account	No of PVCs requested from saleable carbon	tCO2e available for future issuances
Yaeda Valley	34,073	0	25,764	20%	5,153	20,611	0

Table 4. Allocation of issuance request

Buyer name / unsold stock	No of PVCs transacted	Registry ID if destined for unsold stock	Tech spec associated with issuance
Carbon Tanzania	20,611	103000000002262	REDD in Yaeda Valley
TOTAL	20,611		

C.4. Data to support issuance request

Data supporting issuance request is listed Part E. Monitoring Results and Annex 1.

Part D. Sales of Plan Vivo Certificates

D1. Sales of Plan Vivo Certificates

Sales of PVC have increased marginally in this reporting period to 13,456 tCO2e (PVC). Whilst this is encouraging and reflects a diversification of sales, Carbon Tanzania wants to be selling or have signed agreements to sell its 16,011 annual PVC issuance by June every year, the Yaeda phase II issuance will complement this and Carbon Tanzania estimates it will be selling approximately 20,500 PVCs per year based on project developments and sales projections. With this end in mind Carbon Tanzania has prioritised communications, sales and marketing expertise to expand and diversify our offsets by the end of 2017 and beyond.

Historical sales data – 5-year consolidation

Annex 4 includes a chart that represents a consolidation of all Carbon Tanzania's historical sales data, organised into standardised reporting periods as per the Plan Vivo standard that we have chosen. Due to earlier discrepancies between the agreed Plan Vivo reporting periods (1st of February of one year to the end of January of the following year) and the retirement periods used by Carbon Tanzania to aggregate their retirements on the Markit Registry (calendar years), aggregated data from previous Carbon Tanzania Annual Reports to Plan Vivo does not precisely agree with corresponding Markit retirement records. We have presented a table that adjusts for these discrepancies and which demonstrates that the total number of credits retired from Markit now matches to within a very small margin of error the number of credits sold to our clients, both direct and indirect.

A separate source of discrepancy in the historical retirement data when compared to the sales annually reported to Plan Vivo is the annual aggregation of client retirements that we have performed each year to date. When we sell small volumes to local and direct clients (often less than 100 tonnes per sale, sometimes as little as 10tCO2e), we do not retire each and every sale immediately from Markit. At year-end, we aggregate the sales to one client (for example 5 sales of less than 100 tonnes each throughout the year) together and make one retirement. In some cases these aggregates sales have been a combination of sales of different vintages. This means that year on year the declared sales of vintages as reported to Plan Vivo through the Annual Report process have not matched precisely with the Markit Registry retirements. However overall retirements since project start match with our reported sales figures over the 4 previous reporting periods.

Table 5. Consolidated figures for Carbon Tanzania reported sales and corresponding Market Registry retirements, project start to January 2017

Reporting period	Carbon Tanzania reported sales	Markit Registry retirements and holdings
Start to 2012	5153.33	0
Feb 2013 to Jan 2014	5529.65	2500
Feb 2014 to Jan 2015	9580.2	13,062
Feb 2015 to Jan 2016	9436.75	9615
Feb 2016 to Jan 2017	13,455.64	6,667
Unsold / unretired or not transferred stock (31/01/17)	20,888.43	20,822
Markit Holdings		11,378
Totals	64,044	64,044

Currently Carbon Tanzania has two sales channels for its offsets: direct sales and resellers.

Direct Clients: Direct sales are the primary means of distribution with the highest retail price at [REDACTED] per PVC. Carbon Tanzania has developed a unique customer base in the Tanzanian tour operator sector that initially relied on the personal relationships of its founders with the target customers, and has subsequently evolved to include tourist outfitters and lodge and hotel owners seeking to enhance their eco-travel credentials. The local credibility of Carbon Tanzania combined with the relevance of the project activities to customer priorities means that new customers are being added in this segment monthly.

International Resellers: In 2016 four resellers have continued to offset with Carbon Tanzania. Due to the large volumes requested by one individual reseller, a lower level of [REDACTED] per unit selling price was accepted on these sales.



Domanga based walinzi wajadi or traditional scouts on patrol.

Table 6. Buyers and transaction volumes in Feb 2016 January 2017

Company	Tonnes offset	Price	Vintage	Total sale
Ker and Downey Safaris Ltd	25.2		Yaeda1 2013	
Sentinal Outdoor Institute	29.9		Yaeda1 2013	
Native Energy	4000		Yaeda1 2014	
Fair Travel TZ	38.2		Yaeda1 2013	
Dorobo	69.5		Yaeda1 2013	
Maps Edge	9.24		Yaeda1 2013	
Guiding Principles	44.2		Yaeda1 2013	
African Environments	71.5		Yaeda1 2013	
African Environments	21		Yaeda1 2013	
Maps Edge	37		Yaeda1 2013	
Matembezi	60		Yaeda1 2013	
Regional Air Services	8.8		Yaeda1 2013	
Zero Mission	1000		Yaeda1 2014	
Native Energy	1000		Yaeda1 2014	
Maps Edge	43.5		Yaeda1 2013	
Friedkin Conservation Fund	413.7		Yaeda1 2013	
Clevel	300		Yaeda1 2013	
Asilia	986		Yaeda1 2013	
TSL	103.4		Yaeda1 2013	
Kisima Ngeda	40.7		Yaeda1 2013	
Dorobo	57.4		Yaeda1 2014	
Native Energy	2000		Yaeda1 2014	
Sustainable Travel International	1236		Yaeda1 2014	
Braeburn School	84.3		Yaeda1 2014	
Maps Edge	89		Yaeda1 2014	
Maps Edge	99.2		Yaeda1 2014	
Maps Edge	136.3		Yaeda1 2014	

Sustainable Travel International	1004	Yaeda1 2014	
African Environments	154	Yaeda1 2014	
Edward McAlpine	100	Yaeda1 2014	
Nature Discovery	193.6	Yaeda1 2014	
TOTAL	13,455.64		

NB. Carbon Tanzania pays communities aggregated payments in May and November as shown in the project timetable Part H. This is done to balance financial needs, such as school fees that are paid at a specific time of year and with availability of natural food (May being end of wet season and November end of dry season).

Part E. Monitoring Results

E1. Ecosystem services monitoring - Activity based monitoring

Monthly community based monitoring of the project area forms part of the activity based monitoring schedule. The community monitoring reports on three potential threats; 1. Illegal land incursion resulting in habitat loss, thus loss of above ground biomass (this is within the project area and leakage area). 2. Overgrazing or illegal cattle incursion and associated construction of cattle corals (known locally as a 'boma'). 3. Poaching or illegal bush meat hunting, this being a socio-economic issue for the Hadzabe.

The community based monitoring aims to record events systematically to allow for presentation and discussion with the communities, village, project partners and district government. Importantly, the monthly community based monitoring also outlines how these issues were dealt with by local authorities so that UCRT and Carbon Tanzania can follow up in village and district meetings with recommendations of how potential issues can be resolved. In 2015 the Mbulu District Council ordered the police to station one officer in Yaeda Chini in response to reported issues of land incursion, an issue not just in the Yaeda Valley but nationwide.

E.1 Activity based monitoring results refer to the activity based monitoring schedule in the appendix.

Green: Indicates that the project is on track to achieve the expected climate benefits and issuance continues as per the performance targets and contractual agreements with the communities.

Orange: Indicates some project activities are not on track to deliver the expected climate benefits. If one or more of these indicators are orange then corrective actions are needed and are to be reported in the annual report to Plan Vivo. Issuance may be withheld from Carbon Tanzania and revenue may be withheld from communities depending on the indicator or the performance

Red: Indicates that project activities are not on track to deliver the expected climate benefits. If the project has one or more red indicators, corrective actions are required and issuance is withheld from Carbon Tanzania and payments are withheld from communities until evidence is shown of corrective action being taken.

Table 7. Activity based monitoring results.

Indicator	Thresholds			Means of verification / comment on threshold
	Green	Orange	Red	
Community user rights over forest-based resources				Land use plans are in place, no changes made to law or policy on user rights
Community tenure, ownership and rights over land				CCROs are in place, no changes made to law or policy on ownership

Management Institutions			All functioning
Effort spent on conflict resolution by UCRT			7 days have been spent in Yaeda by UCRT in Yaeda in 2015 related to pastoralist conflict and cattle enclosures in the project area.
Coverage by community guards			Monthly reports indicate approx. 60% of project area was covered during January 2015 in Mongo wa Mono and Domanga. Patrolling has improved from 2015.
Land use change			Whilst there has been cattle enclosures built inside the project area and leakage area that requires some land clearance, this is minor (average size 25m in diameter) there has been no land use change related to agricultural clearing in either the project or leakage areas. All infringements of by-laws have been reported and acted upon
Payments to the community guards, communities and local government			All payment schedules have been met and increased due to positive sales of PVCs in 2016 period

The Yaeda Chini pastoralist area in January 2017



Finance meetings in November 2017 – these meetings are always under a magnificent Baobab tree



E.2 Land use monitoring

Table 8. Results of land use monitoring.

Threat	Occurrence / incident per community area	Reporting and action by community	Reporting and action by village / district
Unplanned agriculture	In Domanga there were no incidents of unplanned agriculture within the project area.	-	-
	In Mongo wa Mono there were no incidents of unplanned agriculture within the project area.	-	-
	In Yaeda Chini there were no incidents of unplanned agriculture within the project area.	-	-
Illegal hunting (poaching)	In Domanga there were 2 illegal hunting incidents recorded in the project area. None of these incidents involved Elephant poaching; all were reserved to illegal meat poaching.	All incidents are reported to village and district government.	Whilst individuals were reported only one arrest was made by the village.
	In Mongo wa Mono there were 3 illegal hunting incidents recorded, in both cases bush meat hunting was recorded at night.	All incidents are reported to village and district government	No arrests were made in relation to these incidents but the police believe the man arrested in Domanga was the same poacher.
	In Yaeda Chini there were 3 illegal hunting incidents recorded, in both cases bush meat hunting was recorded at night.	All incidents are reported to village and district government	One man was arrested and taken to the police in Mbulu District.
Non-agricultural land conversion	In Domanga, the construction of bomas by Taatoga pastoralists continues to be recorded both on the edge and inside the project area.	Community scouts ask the Taatoga not to clear land within the project and report to the village chairman.	Reported to village chairman who orders the boma to leave and refrain from any habitat clearance in the project area.
	In Mongo wa Mono, the construction of bomas by Taatoga pastoralists continue to be recorded both on the edge and inside the project area.	Community scouts ask the Taatoga not to clear land within the project and report to the village chairman.	Reported to village chairman who orders the boma to leave and refrain from any habitat clearance in the project area..
	Whilst cattle are permitted in Yaeda Chini protected area. Boma construction is only allowed seasonally.	Community scouts record boma construction but these are gone by the onset of the rains in December	-
Cattle incursion	Cattle incursions during the end of the dry season continue across the landscape. Whilst this has no impact on above ground biomass, cattle herds displace wildlife so is a socio-economic issue for the Hadzabe.	The community and UCRT continue to communicate the land use plan. In most cases the cattle are coming from outside of the area and people are simply unaware that land use planning is in place.	UCRT and Carbon Tanzania will continue to educate people about land use planning and UCRT have conducted an exercise remarking the boundaries of the land use plan

E.4. Biodiversity monitoring

The Hadza are one of Tanzania's most distinctive and threatened human cultures, with a deep reservoir of indigenous knowledge pertaining to natural resource use. The Hadza are strict, almost obligate, hunter-gatherers and do not raise any livestock, although some do keep fields of domestic crops (indigenous African millet). Whilst famine might be part of the cultural history of neighbouring pastoralists or agriculturalists, this is not the case for the Hadza as they can survive on a rich diversity of foods. As the Hadza are able to exploit a wide range of seasonally available birds, mammals and plant species our biodiversity monitoring program is interested on what types of mammals are consumed (Figure 11.) on an annual basis.



The Yaeda valley forest in Yaeda Chini village

Avifauna

Avifauna are good long-term indicators of ecosystem health. Monitoring is conducted by the external Carbon Tanzania team in conjunction with the *walinzi wajadi* due to the skills required to identify specific species. Timed Species Counts (TSCs) were completed in two locations set in the baseline, inside the project area (within undisturbed Acacia – Commiphora woodland) and outside the project area (within mixed woodland and agriculture). The use of TSC counts allows for comparative analysis of the frequency of specific bird species between the two areas shows no significant variation from the baseline which is expected.

Mammals

Mammals were monitored by the community teams as an indication of presence (*observed: Obs*) as well as consumption by Hadza (*eaten: eat*). Larger mammal species can be split into two classes, resident and migratory, in 2016 the following mammal species were observed within the project area. It should be noted than many of these large mammals range over large areas and data on movement is limited, we ensure that our data is passed into the Tanzania Mammal Atlas, which in turn informs better conservation management across the larger landscape.

Table 9. Mammal records for 2016, Obs: observed but not eaten, Eat: eaten. R: known resident, M: Possibly migratory, R/M?: Unknown resident / migratory status.

Species	Resident or migratory	Observed: Obs, Eaten: Eat												Notes
		Jan	Feb	Mar	Apr	Ma	Jun	July	Aug	Sep	Oct	Nov	Dec	
Giraffe	R	Obs /eat	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Resident populations with some migrant individuals
Elephant	M/R	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Obs	Resident populations with some migrant individuals
Zebra	R		Obs	Obs	Obs	Obs	Obs /eat	Obs /eat	Obs	Obs /eat	Obs	Obs /eat	Obs /eat	Common resident
Impala	R	Obs /eat	Obs /eat	Obs /eat	Obs	Obs	Obs /eat	Common resident						
Kudu	R	Obs /eat	Obs /eat	Obs /eat	Obs	Obs /eat	Obs /eat	Obs /eat	Obs	Obs /eat	Obs /eat	Obs /eat	Obs /eat	Common and highly prized by Hadza
Dikdik	R	Obs /eat	Obs /eat	Obs	Obs	Obs	Obs	Obs /eat	Obs	Obs	Obs	Obs	Obs	Common resident
Eland	R/M?	Obs	Obs /eat		Obs	Obs	Obs	Obs /eat	Obs	Obs		Obs /eat	Obs	Known to range over large areas
Wildebeest	R/M			Obs		Obs		Obs	Obs	Obs	Obs	Obs	Obs	
Buffalo	R/M?				Obs	Obs	Obs							Possibly migratory from Ngorongoro highlands
Warthog	R	Obs	Obs /eat			Obs /eat	Obs /eat	Obs	Obs		Obs	Obs /eat	Obs /eat	common
Bushbuck	R	Obs							Obs					Only recorded in certain habitats, secretive and possibly common
Crested Porcupine	R					Obs /eat								
Leopard	R							Obs	Obs	Obs				Resident and often heard

Lion	R/M?												Obs			Almost certainly not resident	
Baboon	R	Obs	Obs	Obs	Obs /eat	Obs	Obs	Obs /eat	Obs	Obs	Obs	Obs /eat	Common				
Hyena (species not specified)	R	Obs Obs Obs												Resident			
Bush Pig	R				Obs	Obs		Obs	Obs				Widespread				
Wild Dog	M	Obs Obs Obs												Wide ranging			



Giraffe are resident to the Yaeda area but rarely eaten by the Hadza communities.

E5. Socio-economic baseline and actions to address issues arising

Issue identified during the survey	Action taken
Request more transparency of carbon selling process: Carbon Tanzania promised to present the annual report of carbon sell (how many tons of carbon were sold and for what carbon price have they been sold, as well if and how much carbon prices have been fluctuating). The villagers mentioned that according to the contract they signed, Carbon Tanzania has to present the annual report at the end of each year. But the villagers mentioned that such a thing never happened.	1. Every six months at finance meetings the amount of carbon sold is communicated to community members and village government. Carbon Tanzania has requested that all community members attend such meetings so that they are aware. 2. AR translated into Swahili for circulation and Swahili training guide developed
During the discussion in Mongo wa Mono village, it was mentioned that in 2015 24 tons of carbon was available for sale. But only 16 tons were sold. The villagers wonder what happened to the remaining 8 tons.	1. CT has included more information on Markit registry into its for presentation at bi-annual meetings
The village discussed about appointing 1-3 village representatives to acquire the necessary training to sufficiently understand the mechanism behind carbon storage in forests and carbon markets. They wish to cooperate with Carbon Tanzania in this matter.	1. Training materials developed and delivered to Yaeda. 2. Training conducted by Isaac Bryson with community members
Problem of transportation between villages was identified, specifically to travel faster between villages and to location of arising land use	1. A motorbike was purchased for the Yaeda project

conflict. Gives the opportunity for guards to observe the area and react faster.	manager to address response to needs stated.
Improvement of communication between villages and traditional guards as area covers big distance and from time to time travelling to different areas is difficult for example during raining season (roads and rivers unable to pass).	1. Carbon Tanzania cannot build roads.
5% of the community fund from the carbon sale is paid to the local government (district) but they concluded that this is not useful as they didn't see any direct support for their issues (such as villagers from neighbouring wards entering the protected zone).	1. This information was communicated to UCRT and District Government. District government plays an important role in land and natural resource management although this might not be communicated well to communities. 2. UCRT agreed to bring this into their established meetings with Villages.
Mongo wa Mono villagers wonder why traditional guards are only paid from community funds and not from Carbon Tanzania office as well as they profit as well from the efforts made by traditional guards to keep forbidden activities out of the conservation area.	1. Protecting the resource is the community's legal responsibility. Carbon Tanzania cannot, legally pay scouts directly. The communities were informed.

Part F. Impacts

F1. Evidence of outcomes

Carbon Tanzania has proven its concept through working closely with communities, village and district government and other partners within the region. This is evident in our expansion of the project at the request of neighbouring communities. One of the noticeable impacts Carbon Tanzania is starting to achieve is a *transformative change* in the way communities govern and manage their land. This impact, whilst difficult to measure, is outlined in the monitoring data where reported incidents are now seeing greater action from authorities. This is partly driven by the actions of UCRT and Carbon Tanzania at a district level, but mainly by the communities feeling that they have a *element of expectation as the communities have decided to pay a percentage of their revenue to the district government*.

The Haydom Medical Fund has been an extremely positive impact, this rolling fund means that instead of the Hadzabe having to ensure the fund has money in it, the hospital has agreed that the fund can temporarily dip into negative balance with the knowledge that both Dorobo Tours and Safaris and Carbon Tanzania have committed to pay money directly into the fund on behalf of the communities.

Part G. Payments for Ecosystem Service update

All payments made to producers in May and November 2016 are based on contractual agreements and communities meeting their monitoring targets. Revenue dispersal is based on scheduled community meetings - these payment structures are outlined in detail in Annex 2. In all cases no payments have been withheld this reporting period.

Table 10: Summary of payments made and held in trust

1. Reporting year	2. Total previous payments USD	3. Total ongoing payments USD	4. Total payments made (2+3) USD	5. Total payments held in trust until May 2017 USD	6. Total payments withheld USD
Feb 13 - Jan 14	29,674	-	29,674	0	0
Feb 14 – Jan 15	28,184	-	28,184	0	0
Feb 15 – Jan 16	30,937	-	30,937	0	0
Jan 16 – Feb 17	47,351	3,220	50,571	23,163	0
TOTAL	105,209	3,220	108,429	23,163	0

Part H. On-going Community Participation

Community participation has been on-going throughout the 2016 - 2017 project period. Carbon Tanzania has bi-annual financial planning and conflict resolution meetings with the community in May and October every year (see table 10). In addition to these meetings, quality assurance visits are made every trimester to collect monitoring data and carry out specific tasks. The dates of the financial planning meetings are chosen to coincide with project issuance, contractual agreements and peak needs of the community (see figure 9 below), which are usually related to seasonal conditions. Carbon Tanzania schedules payments to the communities to coincide with the annual meeting in the first week of May, which allows for a delivery of the annual report and monitoring data to the communities and the payments which reflects the results based payment plan.

Table 11. Time frame – meetings, data, seasonality and community needs. Green: wet season & brown: dry season.

Month & Season	Operational activities		Community revenue incoming / outgoing Issues effecting communities
	Carbon Tanzania role	Communities role	
January		Monthly patrols and reporting to project coordinator	Schools fees paid to government school
February	Quality Assurance visit trimester 1	Monthly patrols and reporting to project coordinator	<i>Availability of tubers and fruiting plants provides indigenous food.</i>
March		Monthly patrols and reporting to project coordinator	<i>Availability of tubers and fruiting plants provides indigenous food</i>
April		Monthly patrols and reporting to project coordinator	<i>Availability of tubers and fruiting plants provides indigenous food</i>
May	Bi-annual community/village government meetings Quality assurance trimester 2	Bi-annual community/village government meetings Monthly patrols and reporting to project coordinator	Revenue use is planned for the coming dry season -Haydom Medical Fund paid -allocation of revenue towards food purchase
June	Quality Assurance visit trimester 2	Monthly patrols and reporting to project coordinator	Maize crop becomes available at low cost so food can be bought in bulk and stored
July		Monthly patrols and reporting to project	Maize crop becomes available at low cost so food can be bought in bulk and stored

		coordinator	
August		Monthly patrols and reporting to project coordinator	<i>Food scarcity begins, greater nomadic movement by communities – increased dependency on use of maize and agricultural output</i>
September	Quality assurance trimester 3.	Monthly patrols and reporting to project coordinator	<i>Food scarcity - dependency on use of maize and agricultural output</i>
October		Monthly patrols and reporting to project coordinator	<i>Undushibi berries become available – indigenous food begins end dry season (NB. This can vary)</i>
November	Bi-annual community/village government meetings	Bi-annual community/village government meetings	<i>Indigenous foods become more widely available reducing stress and increasing community cohesiveness. Revenue use is planned for the coming wet season (see section 8)</i>
December		Monthly patrols and reporting to project coordinator	

The main aim of these meetings is to discuss carbon sales and to inform the community as to how much money will be transferred into their accounts. This forum involves all community members and village government and allows for discussion on what money should be spent on and any problems arising from within the community (see section 5). These meetings are attended by Carbon Tanzania and UCRT.

Part I. Project operating costs

Table 12. Breakdown of Operational Costs 2016

Expense	Narrative	Cost (US\$)	Contribution from sales of Plan Vivo Certificates
Personnel	HR costs	2,710	No
Village/community payments	Scouts/field assistants / village	69,450	100%
	Scouts	8,451	100%
	Community Contribution	53,914	100%
	Others Payment	7,085	100%
Office/admin	Organizational Costs	11,205	100%
	Printing and communication		100%
	Rent and utilities		100%
	Other office costs		100%
	Fuel and vehicle expenses	11,205	
	Travel and accommodation		100%
Travel / field work	Vehicle hire, food and supplies in the field	10,622	100%
Consultancy	Professional fees	1,736	100%
Audits	Validation costs		
	PIN		
	PDD		
	Tech Spec		
	Issuance (2014)	4,095	100%
	Project visit		

Marketing	Consultant fees / website development / conferences	100%
Total project costs		99,818

Annex 1. Activity monitoring indicators for issuance of annual ex-post credits (results are show in Part E.)

Green: Indicates that the project is on track to achieve the expected climate benefits and issuance continues as per the performance targets and contractual agreements with the communities.

Orange: Indicates some project activities are not on track to deliver the expected climate benefits. If one or more of these indicators are orange then corrective actions are needed and are to be reported in the annual report to Plan Vivo. Issuance may be withheld from Carbon Tanzania and revenue may be withheld from communities, depending on the indicator or the performance.

Red: Indicates that project activities are not on track to deliver the expected climate benefits. If the project has one or more red indicator, corrective actions are required and issuance is withheld from Carbon Tanzania and payments are withheld from communities until evidence is shown of corrective action being taken.

Indicator	Sustainable Development Goals (SDG#)	Thresholds			Means of verification
		Green	Orange	Red	
Community user rights over forest based resources	SDG 2.3.1. Secure access to natural resources SDG 2.5.1. Plant and animal resources secured in conservation	User rights over forest based resources are enacted through national laws and acts governing natural resource use. Knowledge of these laws and acts is understood by participating communities.	User rights over forest based resources are enacted through national laws and acts governing natural resource use. These laws and acts are poorly understood by participating communities.	New acts governing resource use are proposed by the government removing ownership rights from participating communities that directly impact the legal basis of this project.	1. CT and UCRT and closely engaged in policy development with local and national government. 2. Training is continually being conducted on user rights with participating communities.
Community tenure and ownership over land	SDG 1.4.2. Secure Land rights for indigenous communities	Land use plan and associated by laws are documented and implemented. Boundaries are clear and well understood. Community rights over land is secure through Community Customary Rights of Occupancy (CCRO).	Conflict over land use zones, the land use plan or changes to village land planning laws create unplanned changes to the current land use plan and associated Community Customary Rights of Occupancy (CCRO).	Conflict over land use zones, the land use plan or changes to village land planning laws create unplanned changes resulting in voiding of current land use plan, management regime and CCRO.	1. CT and UCRT and closely engaged in policy development with local and national government. 2. Concrete boundary markers are in place and accompanied by clearly marked signs. 3. UCRT work to manage any potential land use conflicts
Coverage by community guards	SDG 8.3.1. Direct and sustainable employment	Community guards have covered and reported on >=50% of project area and leakage area that month.	Community guards fail to cover or report on >=30% of project or leakage area that month.	Community guards fail to patrol, collect data or report on project or leakage area.	1. Data loggers and GPS provide quantitative data on movement by community guards. 2. Monthly monitoring forms are collated and collected by CT and indicate activity.
Land use change	SDG 15.1.1. Protection of forest resources resulting in reduced deforestation SDG15.5.1. Protection of RED list species	Community guards reporting through the monthly monitoring system indicate no land use change occurred within the project area.	Community guards reporting through the monthly monitoring system indicate farming or land clearance within the leakage area or project area	Community guards reporting through the monthly monitoring system indicate farming or land clearance within the leakage area or project area	1. Monitoring reports collated monthly by the local project coordinators are sent to CT and UCRT, these document and georeference all land use change and the response by village / district government. 2. By-laws enacted

			>=10% buffer. Village government immediately acts on information and reports to CT and UCRT.	>=10%. Village government fails to act on information and report to CT and UCRT.	through the land use plan make it illegal to farm or clear land in the project area.
Payments to the community guards, communities and local government	SDG 2.4.1. Sustainable agriculture. SDG 3.8.2. Coverage of community by health insurance SDG 3.B.1. Sustainable access to affordable medicines SDG4.1.1./4.6.1. Access to primary and secondary education	Monthly payments to the community guards provide the incentive to carry out project activities and community payments are realized to ensure all community members and local government parties benefit from carbon revenue.	Monthly payments to the patrol teams provide the incentive to carry out project activities however revenue to communities and local government parties is not paid so limited benefits may in result discontent in the project.	No payments are made to patrol teams, communities, or local government and no benefits are realized from carbon revenue.	<ol style="list-style-type: none"> 1. CT conducts its own sales and marketing to ensure revenue is available from sales of carbon offsets and is able to predict and manage payments to communities, village and district/ government. 2. CT pays the patrol teams directly using M-Pesa ensuring payments are always made

Annex 2. Payment structure to communities

May 2016

Carbon Tanzania

Community Payments May 2016	Total funds available, (based on Sales, Nov 2015 to Apr 2016)	Tsh 53,000,000
Domanga	%	26,500,000
Hadza Community	91%	24,000,000
less Scout payments Nov 14 to Apr 15		3,780,000
Other deductions		0
less Haydom Fund		1,000,000
Balance to Domanga Hadza May 2014		19,220,000
Village Government	6%	1,500,000
Mbulu District	4%	1,000,000
Education fund	0%	0
total		26,500,000
Mongo wa Mono	%	26,500,000
Hadza Community	76%	20,252,000
less Scout payments Nov 14 to Apr 15		3,780,000
Other deductions		0
less Haydom Fund		1,000,000
Balance to Mongo Hadza May 2014		15,472,000
Village Government	24%	6,248,000
Mbulu District	0%	0
Eduation Fund	0%	0
Yaeda Chini Ward Gov.	0%	0
total		26,500,000

November 2016

Carbon Tanzania

Community Payments Nov 2016	Total funds available, (based on Sales, May 2016 to Oct 2016)	Tsh 44,070,000
Domanga	%	22,035,000
Hadza Community		17,535,000
less Scout payments Nov 14 to Apr 15	17%	3,780,000
Other deductions		0
less Haydom Fund		1,000,000
Balance to Domanga Hadza May 2014	58%	12,755,000
Village Government	7%	1,500,000
Mbulu District	5%	1,000,000
Education fund	5%	1,000,000
Kata ya Eshkesh	5%	1,000,000
total		22,035,000
Mongo wa Mono	%	22,035,000
Hadza Community		15,625,000
less Scout payments Nov 14 to Apr 15		3,980,000
Other deductions		0
less Haydom Fund		1,000,000
Balance to Mongo Hadza May 2014		10,645,000
Village Government	20%	4,410,000
Mbulu District	5%	1,000,000
Eduation Fund		0
Yaeda Chini Ward Gov.	5%	1,000,000
total		22,035,000

Annex 3. Retirements and transfers Markit registry 2015

Retirements

Vintage	Quantity	Serial Number	Retirement Date	Retirement Remarks
2013	90	PV-PVC-TZ-103000000004180-01012013-31122013-2950173-2950262-MER-0-P	13-4-17	2016 offsets for The Map's Edge
2013	70	PV-PVC-TZ-103000000004180-01012013-31122013-2950263-2950332-MER-0-P	13-4-17	2016 offsets for Dorobo Tours and Safaris
2013	93	PV-PVC-TZ-103000000004180-01012013-31122013-2950333-2950425-MER-0-P	13-4-17	2016 offsets for African Environments safari client departures
2013	25	PV-PVC-TZ-103000000004180-01012013-31122013-2950426-2950450-MER-0-P	13-4-17	Offsets for Feb 2016 Serengeti Safari
2013	414	PV-PVC-TZ-103000000004180-01012013-31122013-2950451-2950864-MER-0-P	13-4-17	Operational offsets for Friedkin Conservation Fund, for year 2015
2014	324	PV-PVC-TZ-103000000004180-01012014-31122014-3120855-3121178-MER-0-P	13-4-17	Offsets for The Map's Edge safari departures 2016
2014	84	PV-PVC-TZ-103000000004180-01012014-31122014-3121179-3121262-MER-0-P	13-4-17	Operational Offsets for Braeburn International School Arusha, for Sept 2015 to July 2016
2014	57	PV-PVC-TZ-103000000004180-01012014-31122014-3121263-3121319-MER-0-P	13-4-17	Dorobo Tours and Safaris offsets for 2016
2014	154	PV-PVC-TZ-103000000004180-01012014-31122014-3121320-3121473-MER-0-P	13-4-17	Offsets for African Environments safari clients 2016
2013	986	PV-PVC-TZ-103000000004180-01012013-31122013-2950865-2951850-MER-0-P	13-4-17	Operational offsets for Asilia Camps, Lodges and Hotels for June 2015 to May 2016
2013	41	PV-PVC-TZ-103000000004180-01012013-31122013-2951851-2951891-MER-0-P	13-4-17	Operational Offsets for Kisima Need Tented Camp for 2015
2012	38	PV-PVC-TZ-103000000004180-01012012-31122012-2658404-2658441-MER-0-P	13-4-17	Operational Offsets for Fair Travel Tanzania for year 2015
2014	103	PV-PVC-TZ-103000000004180-01012014-31122014-3121474-3121576-MER-0-P	13-4-17	Operational offsets for Tarangire Safari Lodge for 2015
2014	100	PV-PVC-TZ-103000000004180-01012014-31122014-3121577-3121676-MER-0-P	14-4-17	Edward McAlpine domestic offsets for 2016
2014	194	PV-PVC-TZ-103000000004180-01012014-31122014-3121677-3121870-MER-0-P	14-4-17	Nature Discovery climb offsets for 2015-16

Transfers

Source Account ID	Source Account Name	Destination Account ID	Destination Account Name	Vintage	Quantity
103000000002262	Carbon Tanzania	10000000000298	NativeEnergy, Inc.	2014	4000
103000000002262	Carbon Tanzania	100000000000432	ZeroMission AB	2014	1000
103000000002262	Carbon Tanzania	100000000001034	CLevel	2013	300
103000000002262	Carbon Tanzania	100000000000298	NativeEnergy, Inc.	2014	1000
103000000002262	Carbon Tanzania	100000000000298	NativeEnergy, Inc.	2014	2000
103000000002262	Carbon Tanzania	100000000000805	Sustainable Travel International	2014	1236
103000000002262	Carbon Tanzania	100000000000805	Sustainable Travel International	2014	1004

Annex 4: Historical Sales Data

Buyer	Tonnnes	Price	Vintage	Total sale
Reporting period 1 (start to Jan 2013)				
JAS	35		Yaeda1 2012	
MBS	53		Yaeda1 2012	
Braeburn School	57.7		Yaeda1 2012	
Summits Africa	59.7		Yaeda1 2012	
Traveller's Philanthropy	80.9		Yaeda1 2012	
Sanjan	96.5		Yaeda1 2012	
ME	8.4		Yaeda1 2012	
Theobald Barber	147.2		Yaeda1 2012	
ME	20.2		Yaeda1 2012	
Braeburn School	132.9		Yaeda1 2012	
Regional Air Services	376.2		Yaeda1 2012	
ME	21.4		Yaeda1 2012	
ME	99.6		Yaeda1 2012	
ME	76.7		Yaeda1 2012	
Summits Africa	55.9		Yaeda1 2012	
ME	57.5		Yaeda1 2012	
GP	5.7		Yaeda1 2012	
ME	12.1		Yaeda1 2012	
ME	42.1		Yaeda1 2012	
Summits Africa	55.8		Yaeda1 2012	
ME	37.97		Yaeda1 2012	
Asilia	187.7		Yaeda1 2012	
ME	39.75		Yaeda1 2012	
GP	50.94		Yaeda1 2012	
ME	186.9		Yaeda1 2012	
GP	135.7		Yaeda1 2012	
ND	59.8		Yaeda1 2012	
ME	85.2		Yaeda1 2012	
ME	18.81		Yaeda1 2012	
ND	78.3		Yaeda1 2012	
Sanctuary Retreats	122		Yaeda1 2012	
A&K	222.1		Yaeda1 2012	
Summits Africa	95.2		Yaeda1 2012	
Asilia	342.2		Yaeda1 2013	
GP	74.06		Yaeda1 2012	
ME	31.9		Yaeda1 2012	
ND	40.8		Yaeda1 2012	
GP	127.96		Yaeda1 2012	
Braeburn School	72.8		Yaeda1 2012	
ME	42.96		Yaeda1 2012	
ME	17.96		Yaeda1 2012	
Sanjan	18.9		Yaeda1 2012	
ME	88.47		Yaeda1 2012	
ND	54.1		Yaeda1 2012	
Cap Conseil	54		Yaeda1 2012	

ME	67.03	Yaeda1 2012
ME	40	Yaeda1 2012
GP	109.32	Yaeda1 2012
Summits Africa	180	Yaeda1 2012
Braeburn School	126.5	Yaeda1 2012
Sanjan	10.3	Yaeda1 2012
Honeyguide Foundation	55.6	Yaeda1 2012
Asilia	602.7	Yaeda1 2012
ND	180.9	Yaeda1 2012
Totals	5153.33	
Reporting period 2 (Feb 13 to Jan 2014)		
GP	65	Yaeda1 2012
ME	89.23	Yaeda1 2012
A&K	856.3	Yaeda1 2012
ME	123.3	Yaeda1 2012
Kisima Ngeda	35.1	Yaeda1 2012
ME	48.3	Yaeda1 2012
Wildlife Explorer	150	Yaeda1 2012
GP	117.88	Yaeda1 2012
ND	120.8	Yaeda1 2012
ME	57.62	Yaeda1 2012
Fair Travel TZ	41	Yaeda1 2012
Native Energy	2500	Yaeda1 2012
GP	31.94	Yaeda1 2012
ME	83.98	Yaeda1 2012
Asilia	719.7	Yaeda1 2012
Braeburn School	129.5	Yaeda1 2012
ND	169.8	Yaeda1 2012
ME	95.8	Yaeda1 2012
ME	94.4	Yaeda1 2012
Totals	5529.65	
Reporting period 3 (Feb 14 to Jan 2015)		
GP	68.3	Yaeda1 2012
Dorobo	18.7	Yaeda1 2012
Zero Mission	500	Yaeda1 2012
Dorobo	11.2	Yaeda1 2012
ME	26.1	Yaeda1 2012
Kisima Ngeda	43	Yaeda1 2012
Native Energy	4572	Yaeda1 2012
STI	512	Yaeda1 2012
AE	57	Yaeda1 2012
Fair Travel TZ	79.9	Yaeda1 2012
ME	134.1	Yaeda1 2012
Summits Africa	195.3	Yaeda1 2012
Dorobo	26.9	Yaeda1 2012
GP	134.6	Yaeda1 2012
ME	44.3	Yaeda1 2012
A&K	936.1	Yaeda1 2013

Sanctuary Retreats	190.6	Yaeda1 2013
STI	489.2	Yaeda1 2012
ME	216	Yaeda1 2012
Wildlife Explorer	128.7	Yaeda1 2013
Asilia	779	Yaeda1 2013
TSL	116.6	Yaeda1 2012
ME	97.5	Yaeda1 2012
Carbon Tanzania	23.8	Yaeda1 2012
ME	179.3	Yaeda1 2013
Totals	9580.2	
Reporting period 4 (Feb 15 to Jan 2016)		
AE	174.5	Yaeda1 2013
Dorobo	39.2	Yaeda1 2013
ND	123.3	Yaeda1 2012
ME	24	Yaeda1 2013
Kate McAlpine	9.5	Yaeda1 2012
Native Energy	4000	Yaeda1 2013
Braeburn School	76.8	Yaeda1 2012
GP	131	Yaeda1 2013
AE	245	Yaeda1 2013
ME	242.5	Yaeda1 2013
STI	904	Yaeda1 2013
TNC	345.5	Yaeda1 2013
ME	222	Yaeda1 2013
ND	105.3	Yaeda1 2013
ME	30	Yaeda1 2012
Kisima Ngeda	35.7	Yaeda1 2013
TSL	116.5	Yaeda1 2013
Dorobo	37.1	Yaeda1 2012
Clevel	300	Yaeda1 2013
Zero Mission	165	Yaeda1 2013
Asilia	954.1	Yaeda1 2013
Braeburn School	76.8	Yaeda1 2013
ME	50.8	Yaeda1 2013
Duma Explorer	130.7	Yaeda1 2013
AE	232.5	Yaeda1 2013
Wildlife Explorer	114.5	Yaeda1 2013
ND	110.7	Yaeda1 2013
Acacia Natural Resource Cons	11.75	Yaeda1 2013
Tree Campaign	203	Yaeda1 2013
GP	183	Yaeda1 2013
Carbon Tanzania	17	Yaeda1 2012
East Africa Photo Safaris	25	Yaeda1 2013
Totals	9436.75	
Reporting period 5 (Feb 16 to Jan 2017)		
Ker and Downey Safaris Ltd	25.2	Yaeda1 2013
SOI	29.9	Yaeda1 2013
Native Energy	4000	Yaeda1 2014

Fair Travel TZ	38.2	Yaeda1 2013
Dorobo	69.5	Yaeda1 2013
ME	9.24	Yaeda1 2013
Guiding Principles	44.2	Yaeda1 2013
AE	71.5	Yaeda1 2013
AE	21	Yaeda1 2013
ME	37	Yaeda1 2013
Matembezi	60	Yaeda1 2013
Regional Air Services	8.8	Yaeda1 2013
Zero Mission	1000	Yaeda1 2014
Native Energy	1000	Yaeda1 2014
ME	43.5	Yaeda1 2013
FCF	413.7	Yaeda1 2013
Clevel	300	Yaeda1 2013
Asilia	986	Yaeda1 2013
TSL	103.4	Yaeda1 2013
Kisima Ngeda	40.7	Yaeda1 2013
Dorobo	57.4	Yaeda1 2014
Native Energy	2000	Yaeda1 2014
STI	1236	Yaeda1 2014
Braeburn School	84.3	Yaeda1 2014
ME	89	Yaeda1 2014
ME	99.2	Yaeda1 2014
ME	136.3	Yaeda1 2014
STI	1004	Yaeda1 2014
AE	154	Yaeda1 2014
Edward McAlpine	100	Yaeda1 2014
ND	193.6	Yaeda1 2014
Total Sales	13455.64	
Adjustment made for minor discrepancies ⁷	66.43	
Unsold Stock	20,822	
TOTAL ISSUANCE	64,044	

⁷ Minor discrepancies in CT sales charts due to up-rounding of sales on Markit