

**2012**

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

**Marc Baker – Carbon Tanzania**

**1<sup>st</sup> March 2013**

## 1. Summary

<b>Reporting period</b>		March 2012 – March 2013
<b>Technical specifications in use</b>		Reducing Emissions from Deforestation and Forest Degradation in the Yaeda Valley – January 2013
<b>Area under management (ha) i.e. implemented <i>plan vivos</i></b>	<b>Areas put under management since last report (ha)</b>	20,790ha Project area
<b>Smallholders with <i>plan vivos</i> and PES agreements (total for project)</b>	<b>New smallholders with PES agreements since last report</b>	Two communities, Mongo Wa Mono and Domanga following the land deed / land use plan outlined in the Technical specifications.
<b>Community groups with <i>plan vivos</i> and PES agreements (total)</b>	<b>New groups with PES agreements since last report</b>	Two communities, Mongo Wa Mono and Domanga following the land deed / land use plan outlined in the Technical specifications.
<b>Plan Vivo Certificates issued to date</b>		None
<b>Submission for new Certificate Issuance for areas under management (tCO2)</b>		18,012

## 2. Key Events, Developments and Challenges

### **Key Events in chronological order from 1<sup>st</sup> March 2012**

- 21<sup>st</sup> – 23<sup>rd</sup> March 2012– Contract development / learning event in Mongo Wa Mono and Domanga with all community members and Ujamaa Community Resource Trust (UCRT).
- 3<sup>rd</sup> - 5<sup>th</sup> May 2012– Contract development with District officials and UCRT in Mbulu (District Capital).
- 6<sup>th</sup> May 2012– Contract signing with community members / village government / district government and UCRT in Mongo Wa Mono and Domanga villages.
- 11<sup>th</sup> May 2012 – Submission of first draft PDD and Tech specs to Plan Vivo Foundation for desk review.
- 5<sup>th</sup> – 8<sup>th</sup> June 2012 – Development of project marketing and film production in Domanga village area with France 5 TV.
- 19<sup>th</sup> June 2012- Submission of PDD and Tech specs to Plan Vivo Foundation incorporating comments and changes made during the desk review.
- 4<sup>th</sup> – 6<sup>th</sup> September 2012 – Village scout training with Tanzania National Parks (TANAPA) personnel and members of the village government in Umbeya, Domanga.
- 25<sup>th</sup> – 26<sup>th</sup> September 2012– Field officer training for disbursement of funds through M-Pesa (mobile phone banking).
- 19<sup>th</sup> – 23<sup>rd</sup> November 2012 - Certification visit to Project Area with third party consultant (as per Plan Vivo consultation process).
- 21<sup>st</sup> – 24<sup>th</sup> January 2012– Training event with village scouts introducing digital equipment (camera and GPS) to refine monthly monitoring and data collection.
- 25<sup>th</sup> February 2012– Final PDD and Tech specs sent to Plan Vivo Foundation following inclusion and action of all CARs and recommendations made by third party auditor (as per Plan Vivo consultation process)
- Completion of VERPA agreement with Native Energy, Vermont, USA to sell 2,500 tCO2e for National Geographic International travel.

## **Key Developments**

- Completion and submission of project documentation to Plan Vivo Foundation, desk review and visit by third party consultant.
- Signing of MoU with The Nature Conservancy to ensure satellite monitoring is conducted on an annual basis in this project area and the Yaeda project extension planned for submission and completion in 2013.
- Design and first village meetings for the project expansion in Yaeda Valley, which will expand the project area in Mongo Wa Mono village and include the village of Yaeda Chini village in the larger project area. The expansion, as outlined in the PDD has two main benefits, this extension will reduce the potential for leakage in the current core project area and increase revenue dispersal to both the Hadza and Tatogaa pastoralists currently living in Yaeda Chini.
- Employment of marketing consultant to focus on the expansion of carbon sales in the Tanzanian tourist market from current level of 2,600tCO2e in 2012. This consultant will also advise on marketing materials
- Completion of marketing materials including social media for carbon buyers and printed information packs for companies to enable them to advertise their commitment to climate mitigation and sustainable development.
- Development of a MoU with Native Energy for US based sales of PVCs.

## **Key Challenges**

Transferring funds to participating communities through bank transfers has been a challenge because of the distance of the project location from a banking system. This has been addressed by switching to M-Pesa payment, a money transfer system that works through mobile phone networks. The charges for using this system are absorbed by Carbon Tanzania to ensure no loss to the communities.

Carbon sales to ensure our commitments to communities are met. With this in mind we have employed a marketing consultant to refine social media marketing and increase Tanzanian based markets for PVCs.

### 3. Activities, total project size and participation

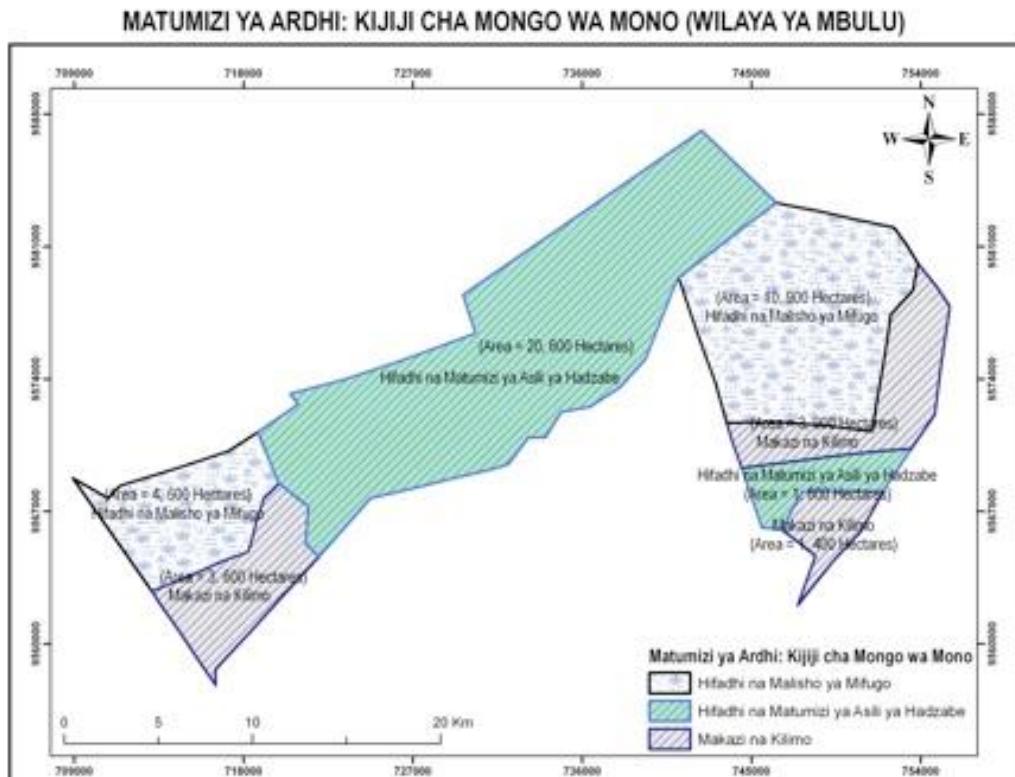
This project works with hunter-gatherer Hadza (or *Hadzabe*) and pastoralist communities in Mongo Wa Mono and Domanga villages. By working in conjunction with traditional leaders, the elected village governments and a team of community members, Carbon Tanzania (CT) has established a system of results-based payments for ecosystem services (PES) 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. Successful avoided deforestation will be achieved through a series of interventions including reinforcing the implementation of the approved village land use plan 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 happening illegally within the designated project area. This data with support by external government agencies is being used to tackle illegal land intrusion and resulting land conversion at both local and district level.

Farmers are supported through designated areas within the villages that allow for agricultural conversion but are external to the project area and any carbon calculations (fig 1 below)

- There are currently two communities engaged in this project with a plan to increase the project area by a further 15,000ha in 2013 which will include a further community, Yaeda Chini Village.
- The **total area covered** by the project is 27,790ha of protected area within the greater land use plan shown below in fig 1.

Figure 1. Land use plan for Mongo Wa Mono and Domanga villages



Map datum and Projection: WGS 1984, Zone 36 S: Map drawn by UCRT, 2010

#### 4. Submission for Plan Vivo Certificate Issuance

Buyer/PES funder	Volume (tCO <sub>2</sub> )	Total Price (\$/tCO <sub>2</sub> ) <sup>2</sup>	Producers & PV numbers				Price to producer/group (\$/tCO <sub>2</sub> ) <sup>4</sup>	Monitored? (Y/N)		
			Location	Producer/Producer Group name or ID number <sup>3</sup>	Description					
					System (name of tech spec)	Area (ha)				
Carbon Tanzania	9,006	5 -10	Domanga	Domanga	REDD	9,446	3	Y		
Carbon Tanzania	9,006	5 - 10	Mongo Mono	Wa Mono	REDD	11,344	3	Y		

<sup>2</sup> Pricing varies depending on volume.

<sup>3</sup> Producer Domanga Gerson Malle Zugika (on behalf of Hadza community) / producer Mongo Wa Mono Gidabude Gidahonda (on behalf of Hadza community)

## 5. Sales of Plan Vivo Certificates

NB. All sales so far have been forward sold within the tourism market in Tanzania. These offsets will be retired with Markit immediately following issuance.

Vintage	Name of purchaser/source of funds	Number of Plan Vivo Certificates purchased	Price per Certificate	Total amount received (\$)
2012	Abercrombie & Kent	1144		
2012	Asilia Camps and Lodges	1133		
2012	Braeburn School Arusha	390		
2012	Guiding Principles	569		
2012	The Maps Edge	1113		
2012	Nature Discovery	342		
2012	Regional Air	376		
2012	Summits Africa	447		
2012	Sanjan	126		
2012	Independent*	315		

**Pricing information has been removed for confidentiality.**

\*This is a combination of a local conference, individuals and one UK based travel agent.

## 6. Summary of Monitoring Results

### Land Use Monitoring

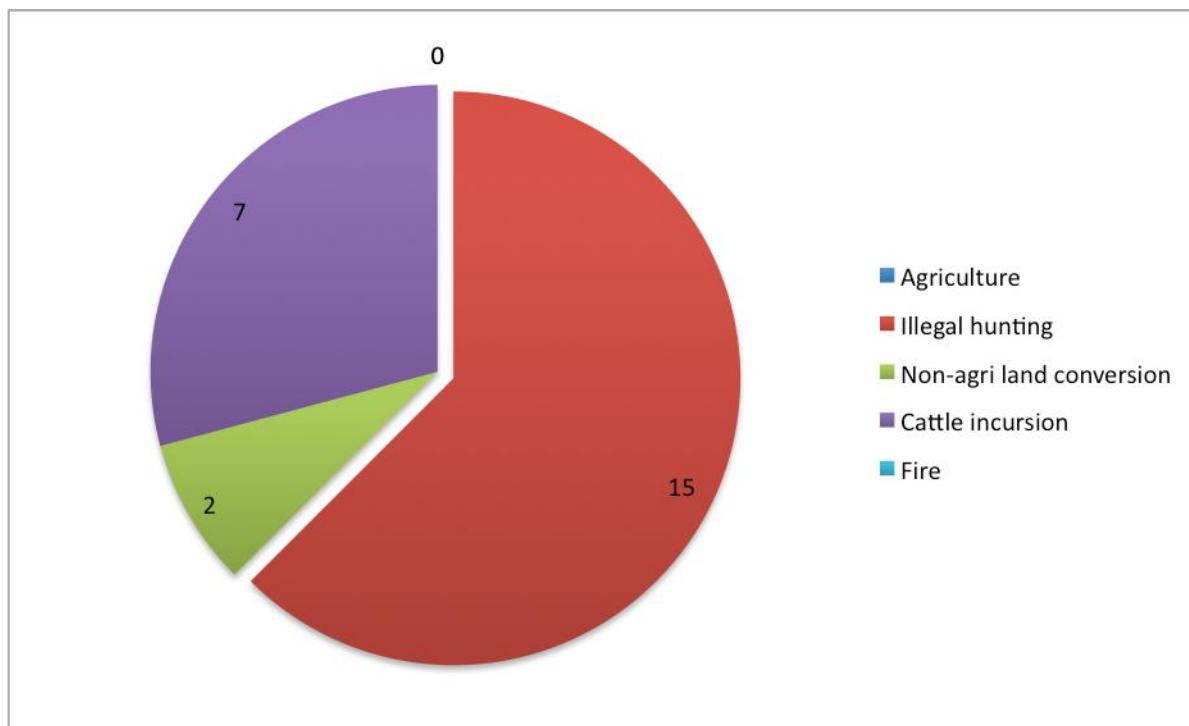
Monitoring of the project area targets three main threats, land incursion that results in habitat loss (this is within the project area and leakage area), overgrazing or illegal cattle incursion, and illegal hunting, the latter being a socio-economic issue for the Hadzabe. The community based monitoring aims to record events systematically to allow for *presentation and discussion with the communities, village, project partners and district government*.

The monitoring forms also allow the community coordinator to record what action was taken by the relevant authorities so that we can identify areas to improve both the monitoring and response, the monitoring database is attached as an excel file (activity monitoring database.xls).



For the purposes of monitoring we report on 5 different land use classifications on a monthly basis, all of which were perceived as threats to the communities well being; Unplanned agriculture, illegal hunting, non-agricultural land conversion, cattle incursion and fire.

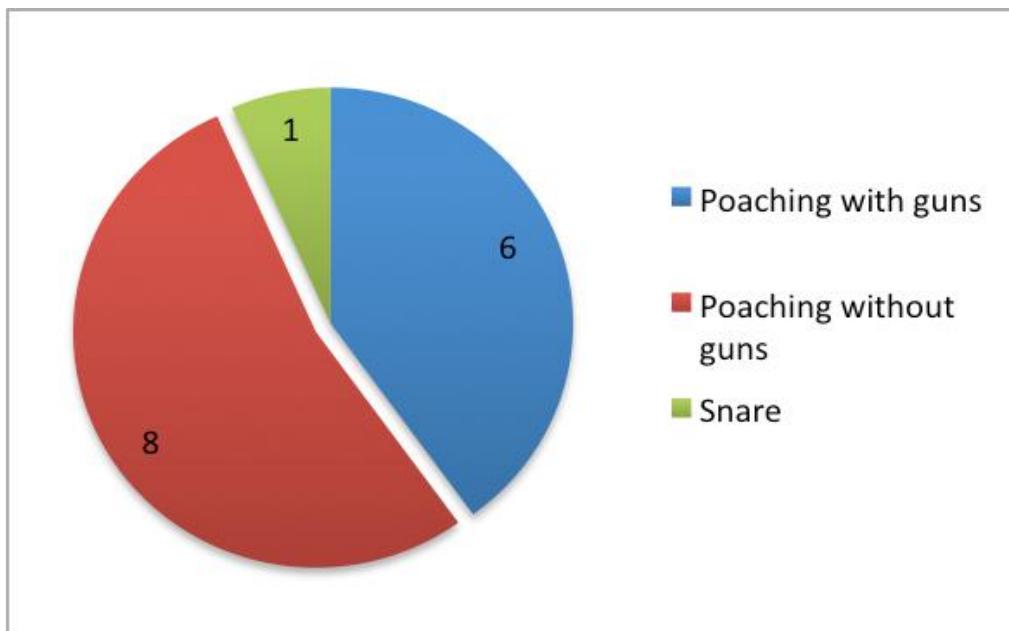
Fig 2. In 2012 illegal hunting incidents (n=15) where the most reported.



Agriculture	0
Illegal hunting	15
Non-agricultural land conversion	2
Cattle incursion	7
Fire	0



Fig 3. Of these hunting incidents, 8 were report to involve firearms



Results of the monitoring reinforce a known illegal hunting problem, which involves firearms (fig 3) and is within the jurisdiction of district government. This report and associated data has been reported to the wildlife division and authorities responsible in Mbulu District. The district Game Officer advised Carbon Tanzania to conduct a training exercise to ensure that the walizi wajadi are aware of legal aspects of dealing with illegal hunting and how to approach and deal with these types of incidents. This training exercise was conducted by a ranger from TANAPA (Tanzania national parks) (shown in section 2 – Key Events).

Cattle incursions were reported on 7 separate incidents, where these incidents occurred along with non agricultural land conversion (2 incidents) the incidents where reported to the village government and acted upon at a local level, of 7 reported cattle incursions 6 where reported to local government and action was taken to remove the cattle through a procedural non-conflict manner involving relevant authorities. Of these 5 incidents, the people clearing land were asked to stop and leave the area by the village executive officer. Once it was understood that this area is under a land management plan, the people responsible for minor clearance to areas moved outside of the project area without conflict.

There was no reported agriculture activity within the project area and leakage area during the 2012 period.

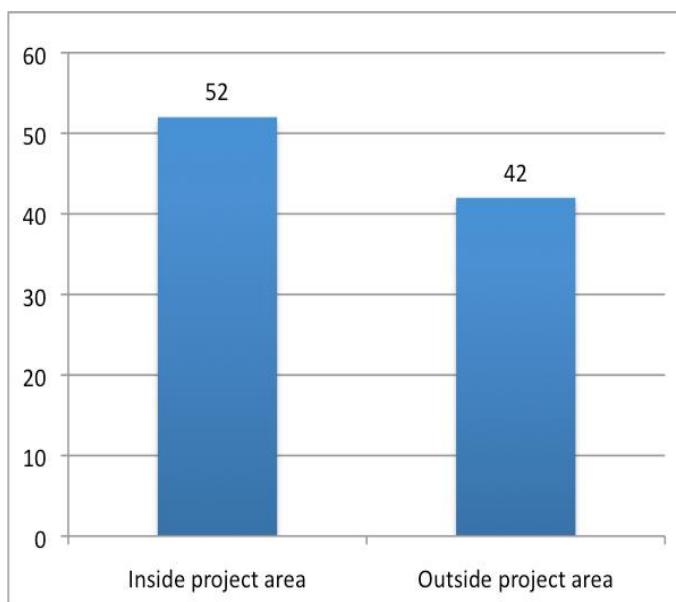
### **Biodiversity monitoring – setting the baseline**



## Birds

At this stage biodiversity monitoring is setting baselines for future change detection, all bird monitoring and analysis will be conducted by external Carbon Tanzania team due to the skills required to identify specific species. Timed Species Counts (TSCs) were recorded to two locations, inside the project area (within undisturbed Acacia – Commiphora woodland) and outside the project area (within mixed woodland and agriculture), the results of the species diversity are shown in fig 4. As expected species diversity is greater within the project area, this is baseline data and the annual counts will likely indicate a growing variation.

**Fig 4. Species diversity inside and outside the project area.**

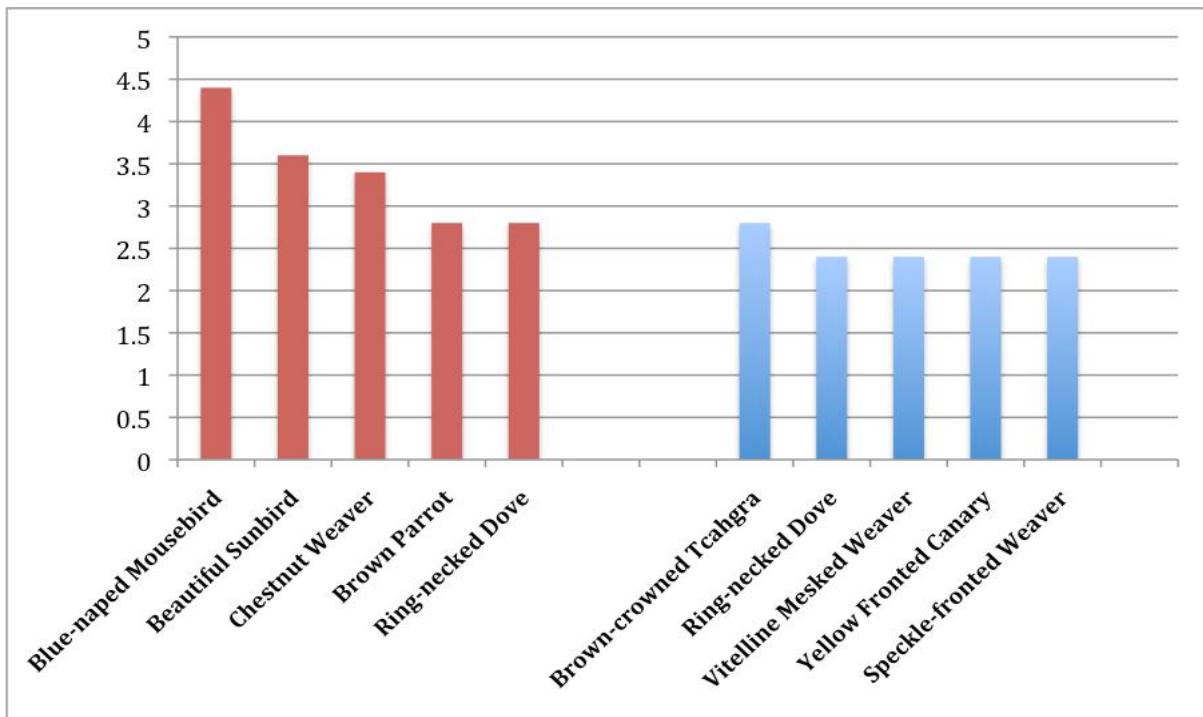


The use of TSC counts allows for comparative analysis of the frequency of specific bird species between the two areas. The TSC index shown in figure 5 indicate the top five commonest species and clearly shows not only that the bird diversity is significantly different but also the species within woodland occur at a greater frequency. Year on year analysis of these top five species will almost certainly indicate a change in habitat use by birds.

**Figure 5. Results of TSC index within and outside the project area.**



Species shown - RED inside project area BLUE outside project area.



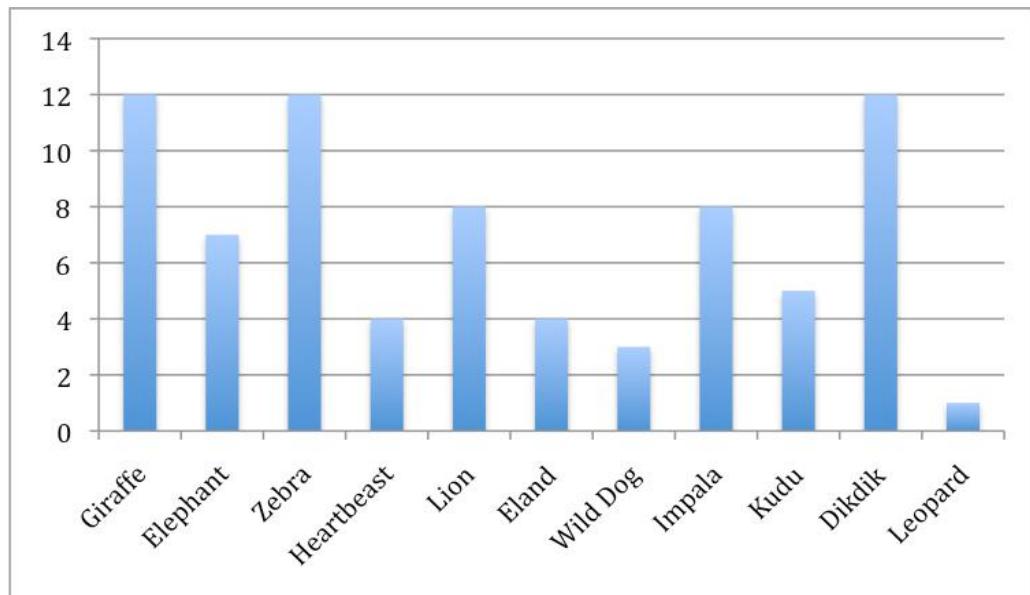
## Mammal monitoring

Mammals were monitored by the community teams as an indication of presence and absence. Figure 6 below indicates the number of times each of the large mammal species were observed during the 2012 monitoring cycle. It should be noted than many of these large mammals range over large areas and knowledge of migration routes is still basic.

The data indicates Giraffe, Dikdik (a small antelope) and Zebra occur throughout the year. It is highly likely that Leopard is also present but the secretive nature of this mammal is a bias to data collection.



Fig. 6. Mammals recorded in the project area during the 2012 project cycle.



## 7. PES update

### Payments to date

Payments made to producers (as of March 2013) Figures are in Tshs with exchange rate of Tshs1500 / 1usd.

Community / village	Fieldwork (Tshs / Usd)	Direct payments to Walinzi Wajadi	
Mongo Wa Mono	1,030,000/- 686usd	5,707.000/- 3,804usd	
Domanga	1,630,000/- 1,086usd	6,138,000/- 4,092usd	
<b>Total</b>	<b>1,772usd</b>	<b>7,896usd</b>	<b>9,668usd</b>

Adjustments to results based payment plan (reflecting CAR 07/12, 12/12, 13/12 and REC 14/12 of the validation report) are shown below, these are payments,



due to begin in May 2013 will be made in the 2013 – 2014 period. **These changes are made in the technical specifications (Table 10, Page 25)** and have been outlined to communities.

<b>Deforestation Indicator</b>	<b>Payment Response/ Adjustment</b>	<b>Avoided deforestation targets and Payment amounts based on lower sale price of 5usd / tCO2e and structured upwards to ensure 60% of sale price is transferred to the community</b>
Annual Monitoring shows that deforestation within the project area and leakage belt is prevented through project interventions equalling a reduced rate of deforestation >90% of baseline conditions calculated from the reference region.	Payments continues as per schedule	<u>Payment for Avoided Deforestation</u> - 173+ha conserved per year - 173 ha eligible for crediting per year - 116 tCO <sub>2</sub> stored in each ha - 20,014tCO <sub>2</sub> eligible to sell per year - Leakage buffer (10%) removed (2,001tCO <sub>2</sub> e) - Predicted creditable amount - 18,012tCO <sub>2</sub> e - Target price 7usd/tCO <sub>2</sub> e - Target payment to community \$75,652usd per year paid to Villages/Jamii Funds based on payments structure outlined in PDD
Deforestation reduced by 40% - 90% of baseline	Payments reduced until corrective measures are taken and evidenced as effective in next annual assessment	<u>Payment for Avoided Deforestation</u> - 48 – 173 ha conserved per year - 48 – 173 ha eligible for crediting per year - 116tCO <sub>2</sub> stored in each ha - 8895 – 20,014 tCO <sub>2</sub> eligible to sell per year - Leakage buffer (10% removed) 890 – 2001tCO <sub>2</sub> e - Predicted creditable amount – 8005 – 18,012tCO <sub>2</sub> e - Target price 7usd / tonne - Target payment to community:\$33,623 / \$75,652
	<u>Payment to Walinzi Wajadi and Community Coordinator</u> - 45.75 – 155.55 ha conserved per year - Payments outlined in 1.2d of contract reduced by 50% until corrective measures are taken and evidenced as effective in next annual assessment	
Deforestation reduced by <40% of baseline	Payments suspended until corrective measures are taken and	<u>Payment for Avoided Deforestation</u> - 0 – 45.75 ha conserved per year - No credits purchased and US\$0 paid to Villages/ Jamii Fund until corrective measures are taken and evidenced in next annual assessment.  <u>Payment to Walinzi Wajadi and Community Coordinator</u>



	evidenced as effective in next annual assessment	- 0 – 45.75 ha conserved - Payments outlined in 1.2d of contract suspended until corrective measures are taken and evidenced as effective in next annual assessment.
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## 8. Ongoing Community Participation

Community participation has been ongoing throughout the 2011 - 2012 project development stage (see section 2) and is evidenced within the project documentation. One inclusion at this stage relates to annual meetings (**REC 01/12 which was changed by Plan Vivo to a CAR**), this has been added and a date set for first week of May 2013 and thereafter every first week of May.

This date was chosen to coincide with project issuance and contractual agreements, annual reports aim to be completed by the first week of March, Plan Vivo then have 30 days to reply and issue credits to the Markit registry. Carbon Tanzania then have time to prepare payments to the communities to allow for payments to coincide with the annual meeting in the first week of May which allows for a delivery of the annual report, monitoring etc to the communities and payment which reflects the results based payment plan.

## 9. Breakdown of Operational Costs

Expense	Description	Cost (US\$)	Contribution from sales of Plan Vivo Certificates	Contribution from other income (e.g. grants)
Personnel*	<i>Project Co-ordinator</i>	\$36,000	0	<i>Pro bono</i>
Personnel	<i>Sales and Finance Manager</i>	\$24,000	0	<i>Pro bono</i>
Village community payments	/ Scouts / field assistants / village	\$6,981	\$6,981	0



Office / admin	Supplies, printing etc...	\$2,689	\$2,689	0
Equipment	GPS units, cameras, tents, survey tools etc...	\$6,981	\$1,749	0
Travel / field work	Vehicle hire, food and supplies in the field	\$14,063	\$14,063	0
Consultancy	Financial / technical	\$2,494	\$2,494	0
Extra activities	Government payments, contract development, support to villages / volunteers	\$4,655	\$4,655	0
Audits	Validation costs PIN PDD Tech Spec Plan Vivo Desk Review Project visit	\$750 \$500 \$200 \$500 \$2742	\$4692	0
Marketing	Consultant fees / website development / conferences	\$1,805	\$1,805	0
<b>Total project start up costs**</b>			<b>\$39,128</b>	<b>0</b>

\*The company owners and project developers have invested time into project development pro-bono, so whilst the cost is shown to provide a financial baseline project development the revenue is not taken out of the sale of PVC's.

\*\*As the first year of the project we have included all start up costs, this is will be shown as only operation costs in the 2013 annual report.

## 10. Future Development

IN 2013 Carbon Tanzania will be aiming to increase the area under this REDD project by a further 15,000ha in Mongo Wa Mono and a further village, Yaeda Chini. This project expansion is adjacent to the current project area and has been defined in the PDD. The project expansion will require a further technical specification as the drivers of deforestation, whilst still mainly agriculture are geographically different from the current project, carbon Tanzania aims to have these technical specifications ready for submission to the foundation by the last



quarter of 2013 with the aim of issuance being ready for the next annual report in March 2014.

In addition to the expansion of the REDD project, Carbon Tanzania aims to include soil carbon in its baseline calculations for the entire project area, preliminary samples (below fig 2.) indicate this may be viable however the Carbon Tanzania team are still investigating methodologies and want to ensure that any methodology meets that required by the Plan Vivo technical standards prior to investing in the field operations.

**Fig 2. Preliminary Soil Samples for Domanga village area.**

Sample no	Dry soil weight (gm)	Organic carbon (OC) as percentage of dry weight	Organic carbon (OC) as proportion of dry weight	total C in gm	Organic matter OM
1	<b>246.8</b>	<b>4.5</b>	<b>0.05</b>	<b>11.11</b>	<b>7.33%</b>
2	<b>311.9</b>	<b>0.93</b>	<b>0.01</b>	<b>2.90</b>	<b>1.60%</b>
3	<b>191.7</b>	<b>2.13</b>	<b>0.02</b>	<b>4.08</b>	<b>3.68%</b>
4	<b>115.1</b>	<b>2.55</b>	<b>0.03</b>	<b>2.94</b>	<b>4.40%</b>
5	<b>150</b>	<b>1.32</b>	<b>0.01</b>	<b>1.98</b>	<b>2.28%</b>
6	<b>311.9</b>	<b>1.77</b>	<b>0.02</b>	<b>5.52</b>	<b>3.05%</b>
7	<b>231.3</b>	<b>2.21</b>	<b>0.02</b>	<b>5.11</b>	<b>3.81%</b>
8	<b>221.1</b>	<b>2</b>	<b>0.02</b>	<b>4.42</b>	<b>3.45%</b>
9	<b>241.4</b>	<b>2.95</b>	<b>0.03</b>	<b>7.12</b>	<b>5.08%</b>
10	<b>125.6</b>	<b>2.45</b>	<b>0.02</b>	<b>3.08</b>	<b>4.18%</b>
11	<b>256.3</b>	<b>4.12</b>	<b>0.04</b>	<b>10.56</b>	<b>7.11%</b>
<b>Total</b>	<b>2403.1</b>	<b>26.93</b>			
<b>Mean</b>	<b>218.5</b>	<b>2.4</b>			