



The Kasigau Corridor REDD Project Phase II – The Community Ranches

Project Design Document

Taita Ranching Company Ltd	Maungu Ranching (DA) Company Ltd	Mgeno Ranching (DA) Company Ltd
Kasigau Ranching (DA) Company Ltd	Kambanga Ranching (DA) Company Ltd	Wangala Ranch
Amaka Ranching Company Ltd	Dawida Ranching (DA) Company Ltd	Washumbu Ranching (DA) Company Ltd
Sagalla Ranching (DA) Company Ltd	Choke Ranching (DA) Company Ltd	Kutima Ranching Company Ltd
	Ndara Ranching (DA) Company Ltd	

**Version 9
April 27th, 2011**



Project Design Document (PDD)
For Verification Using the
Climate, Community and Biodiversity (CCB)
Project Design Standards Second Edition – December 2008

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Verification Period - Project Start Date through December 31st, 2010

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PROJECT EXECUTIVE SUMMARY

This Project Design Document (PDD) is being submitted by Wildlife Works Carbon LLC, on behalf of the indigenous Community Group of landowners, who are the owners of the Carbon Credits derived from a Reduced Emissions from Deforestation and Degradation (REDD) project in SE Kenya in an area of wilderness known as the Kasigau Corridor.

The objective of the project is to protect in perpetuity those dryland forests that form a wildlife dispersal and migration corridor between Tsavo East and Tsavo West National Parks, to conserve the important biodiversity found in those forests, to provide alternative sustainable development opportunities for the local communities that live adjacent to the forests and to prevent the Emissions that would otherwise occur were those dryland forests to be converted to subsistence agriculture using the Slash and Burn methods typical to this area of Kenya. We will demonstrate that in addition to meeting all of the Climate, Community and Biodiversity (CCB) Standards for Approval, we will also demonstrate that the project meets two out of three of the optional additional criterion for GOLD Level approval under the CCB Standard, Second Edition, December 2008.

This project has also been submitted under the Voluntary Carbon Standard (VCS) REDD AUMDD Standard following the approved VCS methodology VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0.

We will show that through a combination of Dryland Forest protection and extraordinary community sustainable development activities, this project is estimated to avoid the emission of over 48 Million metric tonnes of CO₂e which would have been emitted due to slash and burn deforestation over the 30 year project life, or approximately 1,291,967 metric tonnes per year across the Carbon Pools of Above and Belowground Biomass, as well as Soil Carbon, after allowing for risk insurance buffer.

We will also show that the project area is home to a fantastic diversity of mammals (over 50 species of large mammal, more than 20 species of bats), birds (over 300 species) and important populations of IUCN Red List species such as Grevy's zebra (*Equus grevyi*), Cheetah (*Acinonyx jubatus*), Lion (*Panthera leo*), African wild dog (*Lycaon pictus*) as well as over 2000 African elephants (*Loxodonta africana*) seasonally.

Finally we will prove that the project is indisputably additional (under the project financial additionality tool) and that the Baseline - far from being hypothetical - is an extension of actual deforestation that was occurring aggressively in the reference region right up to the time Wildlife Works signed Conservation Agreements to protect these Community Group Ranches at the beginning of 2010. We will use satellite imagery to clearly demonstrate this fact, as well as to establish an accurate deforestation Baseline (without-project scenario) in the Kasigau Corridor.

GENERAL SECTION

G1. Original Conditions in the project area

General Information

G1.1. Project Area Location and Physical Parameters

The Kasigau Corridor REDD Project is located in Coast Province in Southeastern Kenya, approximately 150 km Northwest of Mombasa, a city of approximately 700,000 inhabitants. The project area includes almost 500,000 acres which is a combination of private forested land, community owned group ranches, and community trust lands. Adjacent to the project area are a large number of villages and subsistence agricultural activities.

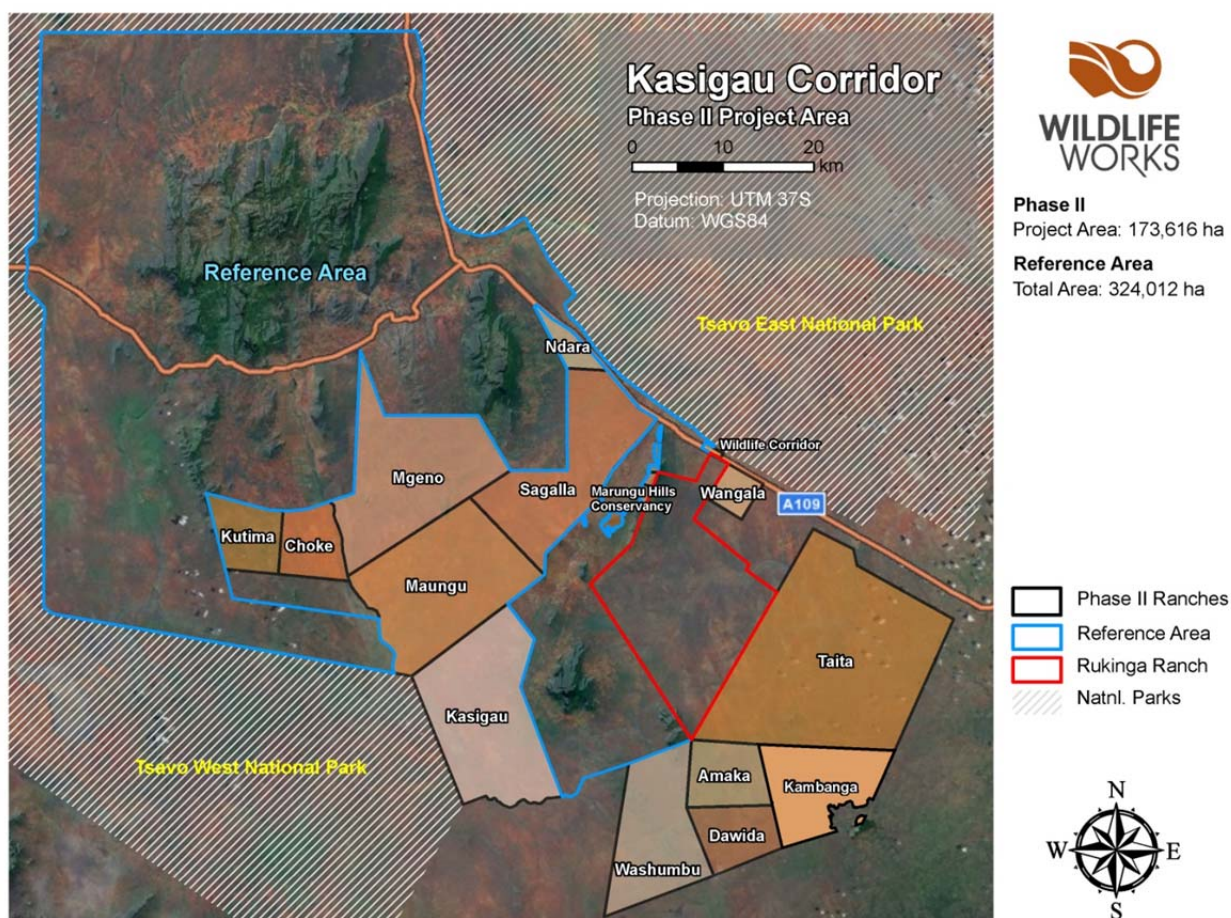
In order to manage the complexity of such a large project, especially given the fact that the REDD methodologies are new and evolving rapidly we split the project into two phases, the first Phase which was submitted to CCB and successfully validated by CCB at GOLD Level in December 2009, covered all that land known as Rukinga Ranch, a 30,166 hectare piece of wilderness at one end of the Kasigau Corridor. This Project Design Document (PDD) covers Phase II of the project and addresses the forest conservation of 13 blocks of land owned by Indigenous Community Ownership Groups, each one of the thirteen blocks being owned by different legal entities formed years ago by the Communities and the Government of Kenya to hold legal title to the land.

The 14 blocks of land covered under this Phase II of the Kasigau Corridor REDD Project total 169,741 hectares* and are;

- Taita Ranch, which is 35,612 ha known as LR 12264 owned by Taita Ranching Company Ltd a collection of indigenous local shareholders
- Mgeno Ranch which is 21,232 ha known as LR 12178 and owned by Mgeno Ranching (DA) Company Ltd., a collection of indigenous local shareholders
- Maungu Ranch which is 21,619 ha known as LR 12179, and owned by Maungu Ranching (DA) Company Ltd. a collection of indigenous local shareholders
- Kasigau Ranch which is 21,186 ha known as LR 12180, and owned by Kasigau Ranching (DA) Company Ltd., a collection of indigenous local shareholders
- Wangala Ranch which is 2,023.5 ha known as LR 12262 and owned by Livingstone and Alphonse Ikonge, local indigenous shareholders
- Kambanga Ranch which is 12,948 ha known as FR 195/6 and owned by Kasigau Ranching (DA) Company Ltd., a collection of indigenous local shareholders
- Dawida Ranch which is 4,046.86 ha known as LR 14208 and owned by Dawida Ranching Group Company Ltd., a collection of indigenous local shareholders
- Washumbu Ranch which is 14,501 ha known as LR 14206 and owned by Washumbu (DA) Ranching Company Ltd., a collection of indigenous local shareholders
- Amaka Ranch which is 5,998 ha known as LR 14207 and owned by Amaka Development Limited., a collection of indigenous local shareholders

- Sagalla Ranch which is 17,402 ha known as LR 12177 and owned by Sagalla Ranchers Limited, a collection of indigenous local shareholders
- Ndara Ranch which is 1834.77 ha known as LR 12176 and owned by Eliud Timothy Mwamunga, a local indigenous stakeholder
- Choke Ranch which is 5076 ha known as LR 12199/3 and owned by Raymond Joel Mwangola a local indigenous shareholder
- Kutima Ranch which is 5076 ha known as LR 12199/4 and owned by Kutima Investments Limited, a collection of indigenous local shareholders

A map identifying the relevant area is shown below and in Annex 1. The land within the project boundary has been tropical dryland forest¹ for at least 20 years and has been a primary forest since recorded times².



These group ranches are part of that land that forms a corridor of land (the Kasigau Wildlife Corridor) between the Tsavo East and Tsavo West National Parks, located to the South East of the Taita Hills, an area of high conservation value and the northern most extent of the Eastern Arc Mountain range.

¹ UN IPCC, Good Practice Guidance for LULUCF, Table 3A.1.8;

² Earliest record that has been located is dated 1895 which identifies the area as forested [Hobley 1895 – Upon a Visit to Tsavo and the Taita Highlands – The Geographical Journal 1895 Vol 5 No 6 pp 545-561]

There are several Administrative Districts involved in the project area, with a total estimated population of over 350,000 people. There are estimated to be approximately 100,000 people within 5 km of the project boundaries.

Climate

The climate in this region of Kenya is semi-arid, with average annual rainfall in the 300-450mm range. There are no permanent water sources on the Project Land. Historically, rains occurred seasonally twice a year, in December and April, known as the grass rains and the long rains respectively. However, in the past ten years, local climatic conditions appear much more irregular and there have been two periods of extended drought in this time period.

The project is located at 3° S, and receives strong sunshine most days of the year. The coolest month is August, the hottest February.

Soils

The dominant soil type within the project area, and typical for this area of Kenya, is red laterite, which characteristically contains high amounts of iron and aluminum. There are also small bands of black cotton soil occurring randomly within the project area, but account for a tiny - and we believe insignificant - contributor to the project's soil carbon pool. There are areas within the Project Boundary where Gneiss Islands, or rocky outcrops penetrate the soil to form small rocky hills. These outcrops also represent a tiny portion of the land and were therefore similarly omitted from the project's soil carbon pool.

Geology

The project area is geologically dominated by the remnants of the Eastern Arc Mountains, which include the Taita Hills, Mt. Kasigau (seen in the photo below) at the Centre of the project area, and lesser hills such as Sagalla, and the Marungu Range that runs North-South along the Western boundary of the Rukinga Sanctuary. These hills all fall within the Kasigau Corridor project area, and are home to remnant patches of montane cloud forest, and to several endemic bird and flora species.



Mt. Kasigau near the center of the Kasigau Corridor

G1.2. Types and Condition of Vegetation at the project area

The vegetation in the project area has been stratified into regimes representing homogenous areas of landcover. They roughly correspond to elevation within the project area, which ranges from 1500-3500 ft above sea level. However the actual stratification was performed using Landsat imagery, and a software tool called ENVI, using training data from Phase I of the Project to create polygons of similar expected biomass. Here is the result of our classification using ENVI on a Landsat image delineating the individual ranches in the project area. Each color represents a distinct strata in the classification.

1. Montane Forest

On the slopes of the Taita Remnants from 2000-3500ft elevation, there exist fragments of montane forest, similar in composition to the much more well studied forest fragments of the Taita Hills that are located approximately 30kms NW of the project area. The Taita Hills forest fragments in Southeast Kenya currently cover an area of only 3 km². This reflects a 98% reduction in indigenous forest cover over the last 200 years, mainly due to clearance for agriculture (Myers et. al 1999, Newmark 2002). Despite the small size of the twelve remaining forest fragments (range 1-179 ha, 9 fragments < 10 ha) these remnants are of global conservation importance because of their long list of rare and endemic species, both flora and fauna. The fragmentation of this stratum occurred prior to our arrival as a result of illegal harvest for building poles and fuelwood by members of the communities adjacent to the project area in the years of early population colonization of the community lands located there. There are still some patches of primary forest in this area. Dryland Forest

2. The majority of the project area is comprised of Acacia-Commiphora Dryland Forest, where the dominant species are drought specialists, possessing a number of strategies to find and preserve moisture in a semi-arid environment, including dropping or folding all foliage in dry periods to reduce moisture loss from transpiration, when they photosynthesize through their bark to survive. Major species include;

- Acacia tortilis,
- Acacia nilotica,
- Acacia bussei,
- Acacia hockii,
- Commiphora africana,
- Commiphora campestris,
- Commiphora confusa.

The average canopy height is between 5-7m with the maximum height being approximately 10m. There are occasional taller hardwood species such as;

- Terminalia spinosa,
- Melia volkensii,
- Boscia coriacea,
- Cassia abbreviata,
- Newtonia hildebrandtii

In total 53 species of tree were encountered during the extensive plot sampling performed for this project. The great majority of this strata is in its historic condition, and although there have been anthropogenic activities on the project area for the past 35 years, such as cattle grazing, charcoal burning and small ecotourism projects, there has been no significant alteration to the forest extent within the project area. One unique characteristic of this project is the extent to which African elephants (*Loxodonta africana*) damage the trees in the dryland forest as they feed and some believe to open up the canopy to allow more grasses to grow. As a conservative measure we have chosen not to count fallen dead wood in our carbon stocks, although in some instances there is a significant amount due to elephant damage. We also believe that the presence of large herds of Somali owned cattle in recent times in much of the project area may have resulted in a reduction in the biomass in the project area, as the cattle would prevent new saplings growing up to fill gaps made by elephant, so we expect to see a significant improvement in the biomass within the project area during the Project crediting period.

This Dryland Forest stratum was subdivided using Landsat satellite imagery classification, supported by ground truthing from Phase I, using a software tool called ENVI. This accurately grouped the project area into forested strata with similar spectral signatures in the Landsat data, and was used both for sample design and for calculation of relative area of each stratum to apply the GHG averages by plot by strata to arrive at total GHG per strata.

3. Savannah Grassland

At the lowest elevations of the project area and in a band that runs irregularly through the project area the thick Acacia-Commiphora Forest thins and eventually transitions to patches of grassland. The Grassland stratum is comprised of indigenous savannah grasses and shrubs, with the occasional Acacia zanzibarica. Again this stratum is in its historic condition, and provides significant support for the biodiversity within the project area, feeding large ungulates such as Cape buffalo, Common and Grevy's zebra and Eland, which in turn ensures the survival of the large carnivores in the project area.

G1.3. Project Boundaries of the project area and the project area

The Phase II project area boundary covers the following pieces of land located in the Kasigau Corridor (See project area Map Annex 1):

- Taita Ranch, which is 35,612 ha known as LR 12264 owned by Taita Ranching Company Ltd a collection of indigenous local shareholders
- Mgeno Ranch which is 21,232 ha known as LR 12178 and owned by Mgeno Ranching (DA) Company Ltd., a collection of indigenous local shareholders
- Maungu Ranch which is 21,619 ha known as LR 12179, and owned by Maungu Ranching (DA) Company Ltd. a collection of indigenous local shareholders
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- Amaka Ranch which is 5,998 ha known as LR 14207 and owned by Amaka Development Limited., a collection of indigenous local shareholders
- Sagalla Ranch which is 17,402 ha known as LR and owned by Sagalla Ranching (DA) Company Ltd., a collection of indigenous local shareholders
- Ndara Ranch which is 1834.77 ha known as LR 12176 and owned by Eliud Timothy Mwamunga, a local indigenous stakeholder
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- Kutima Ranch which is 5076 ha known as LR 12199/4 and owned by Kutima Investments Limited, a collection of indigenous local shareholders

The 13 group ranches are privately owned under leasehold ownership from the Government of Kenya, with one exception, being Amaka Ranch, which is classified as freehold land.

*NOTE that at the time of creation of this PDD, WW Carbon has legally binding Carbon Agreements with all 13 Community Ownership Groups.

The Mt. Kasigau Corridor also includes several areas bordering local communities, outside the privately owned group ranches and located on Community Trust Lands, collectively owned by the communities as a whole. The areas represent locations under high-threat of deforestation, as they are immediately adjacent to the existing communities. Although small in size, these Community Trust Land areas serve the extremely important purpose of raising community awareness about conservation as well as initiating conservation practices within the communities immediately surrounding the project area, thus securing the area from slash and burn deforestation in the future.

- Marungu Hills Conservancy Area – a small 1000ha, but important community owned strip of land at the ridge of the Marungu Hills that the Community has requested be placed in the REDD project.

*NOTE that at the time of creation of this PDD, WW Carbon has a written commitment from the local authorities to assign the carbon rights of the Marungu Hills Conservancy to WW Carbon for inclusion in this project, but the process of issuing the legal title deeds to this land was not complete at the time of field validation.

Wildlife Works has also secured a parcel of land along the Mombasa highway to serve as a wildlife safe crossing point. This stretch of road will be left open and undeveloped between the Tsavo East National Park boundary in the north and Jojoba, Rukinga and Wangalla Ranches in the south.

- Wildlife Corridor Link - 156.3ha

Now that the land has been officially demarcated, the Marungu Ward Councillor Mr James Mboga (pictured at the centre of the first photograph) will apply for permission for sign boards to be erected at either side of the corridor, alerting traffic to be vigilant and drive carefully through the corridor. Wildlife Works Carbon will assist with funding the construction of the signboards and the revenue collected through the sale of carbon credits from the land inside the corridor will be distributed through the Marungu Hills Conservancy Association.

The 14 blocks of land covered under this Phase II of the Kasigau Corridor REDD Project total 169741 hectares*.

The project area includes the land that falls between Tsavo East National Park and Tsavo West National Parks south and east of Voi town, and includes over a dozen communities including Maungu, Itinyi, Buguta, Marungu, Kale, Mwakasinyi, Sasenyi, Kilibasi, Mackinnon Road, Sagalla, Mwatate, Rukanga, Jora, Bungule and the privately held group ranches of Kasigau, Taita, Amaka, Maungu, Mgeno, Kambanga, Wangala, Buchuma, Washumbu, Dawida, Sagalla and Wananchi which are owned by various local community members, in some cases with 50 shareholders, in others with as many as 2500. See Map of project area in Annex 1.

Note that for financial and other reasons this project could not be pursued in a single Phase, so the project area map shows the approximate split of the overall project area into Phase I and II. It is possible that with the success of the first two phases of this Project that other lands in the area will decide to come under the REDD project, but in some cases the rules for forest cover would have to be relaxed, or an avoided grassland conversion methodology would have to be developed in order for those pieces of land to qualify for Emission reductions.

G1.4. Carbon Stocks within the project zone

Carbon stocks were measured using the approved VCS methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0*. Wildlife Works chose to use this approach, as we are concurrently validating this project with VCS. Additionally, Wildlife Works owns and maintains the VCS methodology referred to above, and therefore has strong experience implementing its procedures and adhering to the methodology's applicability conditions.

Due to an experienced and effective team of Wildlife Works personnel on the ground at the project zone, and because we always focus on local job creation and training whenever possible, we chose to conduct our Carbon Forest Inventory using fixed permanent plot sampling, covering the entire 169,741 hectares with a statistically representative numbers of plots. Please see "Standard Operating Procedure Biomass" and "Standard Operating Procedure Soils" documents, provided to the verifier, for detailed field protocols used throughout this Phase II project.

The project area comprises 169,741 ha of dryland forest located in the southeast of Kenya. Altitudes range from approximately 450m to 1000m (see elevation map in section 6.3 The Reference Region), and the ecosystem encompasses montane forest on the slopes of the higher elevations, transitions through Acacia-Commiphora dryland forest at mid elevations and levels at grassland-dominated savannah at the lowest elevations. In order to most accurately estimate biomass in the Phase II project area, with reasonable time and expense, we divided the entire zone into 7 landcover strata based on ecosystem type, as there is a high perceived variation in average biomass across the 6 forest strata, with larger trees in high density in the dense montane forest stratum, medium to large trees and lots of shrubs in the middle dryland forest strata and scattered trees, very few shrubs and heavy grass cover in the grassland / sparse stratum. Overall, the 7 strata sum to the total project land area, depicting overall landcover in the Phase II project.

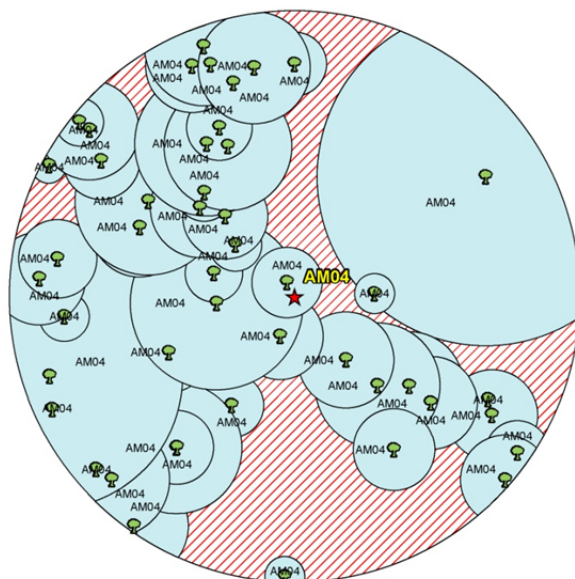
Biomass plot sampling was conducted throughout the monitoring period under the supervision of Wildlife Works VP Carbon Development Jeremy Freund and VP African Field Operations Rob Dodson. All plot sampling was conducted using the same successful, exacting protocol that was used for the Kasigau Corridor Phase I, Rukinga Sanctuary VCS project, and adheres to the methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0* previously referred to. Proper adherence to the SOP was ensured throughout the sampling process for all 13 group ranches.

To most accurately estimate biomass in the sanctuary, within the monitoring period at reasonable cost, we determined that a stratified random plot sampling technique would be best suited to the project area. A total of 429 Plots were overlaid on each of the 13 group-owned ranches in a stratified random pattern for all strata identified in the landcover map shown below, and the Biomass SOP was used to collect a comprehensive forest inventory, also summarized below.

Soil inventory coordinates were provided to the soil plot sampling teams by our GIS team, at randomly selected forest plot locations, in a subset of ranches, as well as in shambas (farms) adjacent to the project area, in the reference region. They sampled using the following method,

illustrated further in the Standard Operating Procedure Soils provided separately to the validator.

Every REDD project must initially demonstrate that it meets the definition of “forest” under UN IPCC guidelines. This guideline was initially 30% but has been revised down to 15% in Kenya. This involves meeting minimum 15% canopy cover requirements. We field-measured the distance from center of plot, azimuth and canopy diameter for all sampled trees, allowing us to use ArcGIS to calculate canopy percentage for each plot (see plot example for Amaka Ranch below), and then derive an average canopy cover for the project area. The Kasigau Corridor REDD Project achieved 34.6% average canopy coverage and therefore qualifies as forest under UN IPCC guidelines.



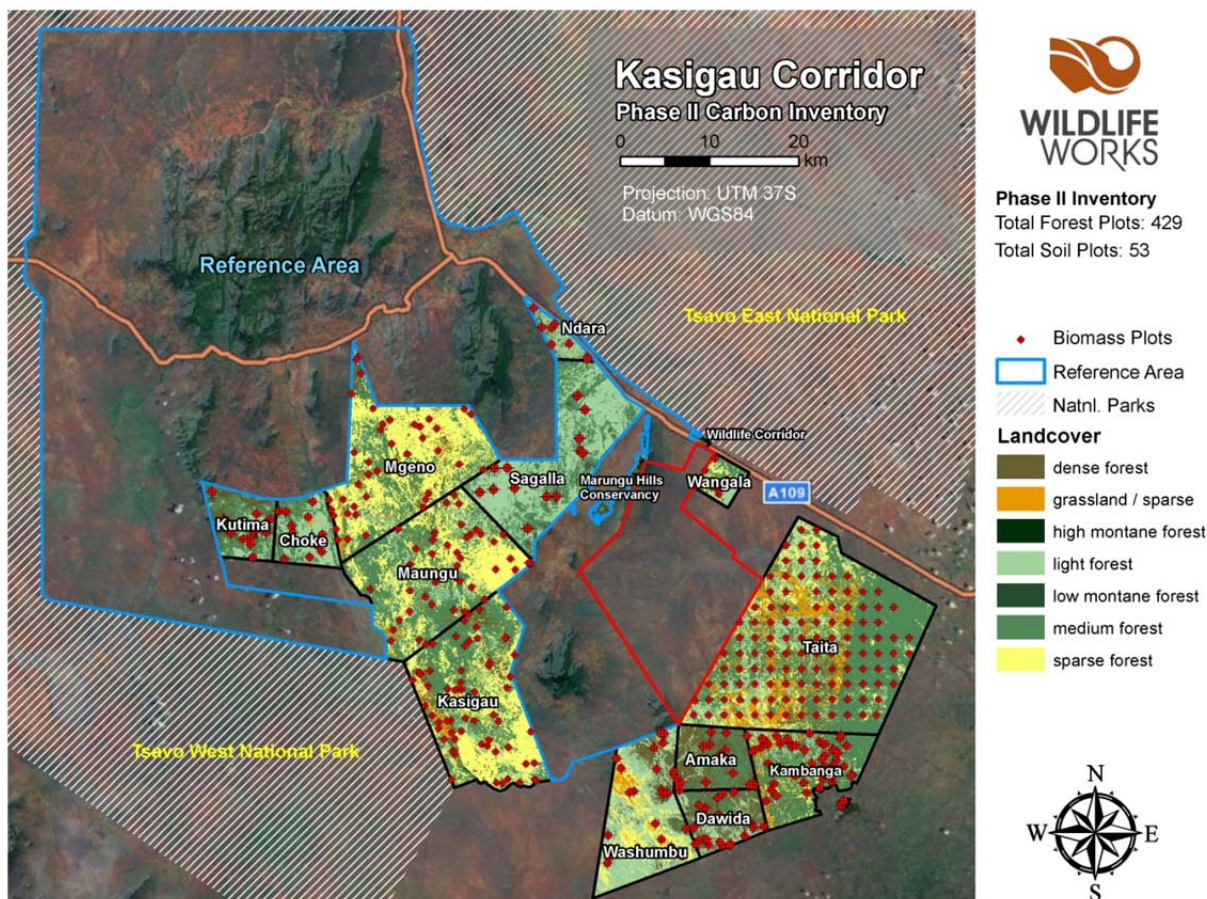
Sample canopy cover GIS analysis plot in Amaka Ranch

We chose to include the following carbon pools in the project, inferring significant contributions to emissions reduction from each:

- Aboveground Biomass – trees
- Aboveground Biomass – shrubs and grasses
- Belowground Biomass – trees
- Belowground Biomass – shrubs and grasses
- Fallen Dead Wood - excluded
- Soil Carbon

We chose not to include:

- Leaf litter - a relatively small pool, and their exclusion would lead to a conservative estimate of carbon stocks.
- Wood Products - we do not permit any harvesting of wood from the project area (planned deforestation / degradation), and virtually no harvesting of wood for long-lived products occurs illegally within the project area.
- Fallen dead wood - we considered its omission from the carbon pools to be conservative.



Landcover Strata Boundaries and Plot Locations for the Phase II Forest Carbon Inventory

Aboveground Biomass – trees

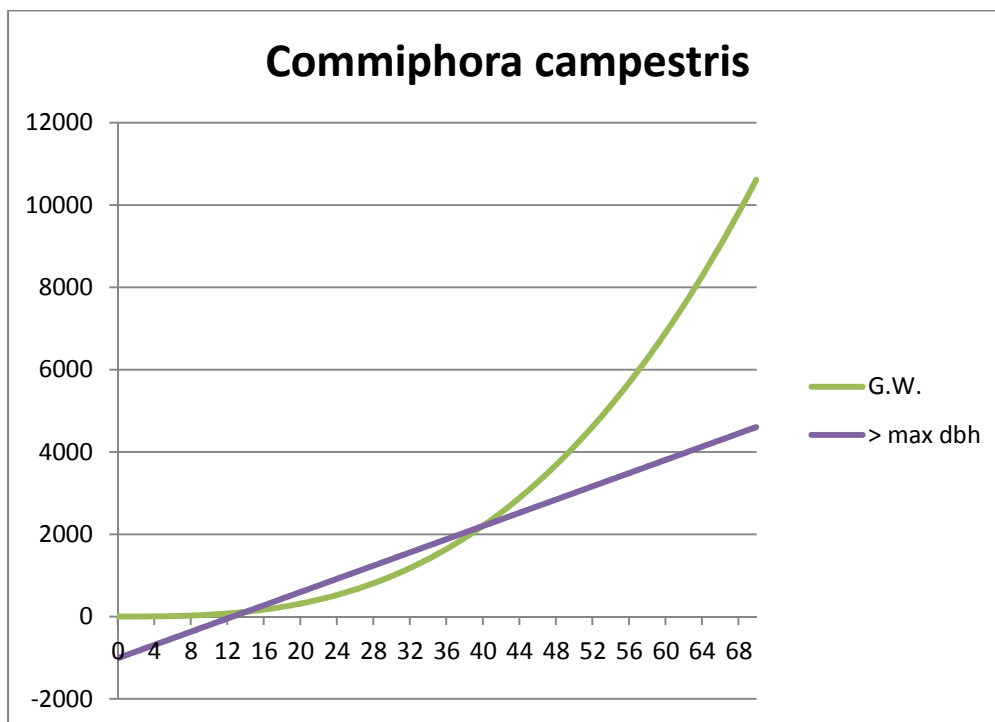
We conducted a review of the references in the UN IPCC 2006 GL for AFOLU and could not locate refereed literature focused on dryland tropical forest. As a result, we concluded that average biomass and the allometric equations presented in the UN literature would lead to significant over estimation of the carbon in our forest. Commiphora species are not dense (hard) trees and are therefore relatively light in relation to a given diameter. Furthermore, none of the tree species in Phase II are of commercial value. Consequently, little timber, and therefore very little scientific data, exists for them.

To produce data for the types of species in the project area, we used limited destructive harvesting, cutting and weighing a range of trees at varying dbh. We then derived custom allometry for each of the dominant species present in the project. For rare species, with little statistical importance to the biomass estimates, we used a mean equation derived from the total of all destructive harvest of all species.

Upon the suggestion of the validator, rather than utilizing simple power curves relating dbh to green weight, we opted for a more conservative approach to ensure that our allometry was not overestimating biomass, due to the relatively small number of large trees destructively harvested. This approach is described below:

- For all trees smaller than 35cm dbh, we developed a power relationship between dbh and green weight of the form $Green\ Weight = a[DBH]^b$

- For trees measured above the maximum destroyed dbh for each species, a linear model was used, the slope of which is equal to the tangent of the line at 35cm dbh for the all-species curve. This ensures a two-piece approach, with a power curve capturing the variability for all trees of smaller size, and a more conservative linear model for larger trees for which we had less data:



For example, for the most prevalent of the species in the project area, *Commiphora campestris*, the plot of tree green weight to dbh is as demonstrated above. The standard dbh/G.W. power curve was developed from destructively harvested data

$$\text{Green Weight} = 0.06774[\text{dbh}]^{2.81566}$$

whereas the linear equation is used for all *Commiphora campestris* species measured above the maximum dbh that was destructively harvested (40cm).

- As an additional measure of conservativeness, we opted to use weighted regression to develop the power curves for smaller trees, ensuring that the scarcity of large trees was not excessively biasing the model. Coefficients for all destructively harvested trees are presented below, along with their weighting type:

Species	Weight Type	a	b	N	Max DBH	R ²	$\bar{E}$
<i>Acacia bussei</i>	None	3.3796	1.6416	8	18	.80	7.82
<i>Acacia hockii</i>	None	0.6850	2.1820	17	23	.93	-2.46
<i>Acacia nilotica</i>	None	1.3615	1.9513	10	23	.86	14.83
<i>Acacia tortilis</i>	None	2.6060	1.6175	9	20	.85	0.13
<i>Boscia coriacea</i>	1/BA	0.2033	2.3647	15	34.2	.77	7.30
<i>Boswellia neglecta</i>	1/BA ²	1.3025	1.8332	18	37	.40	13.87
<i>Commiphora africana</i>	1/BA ²	0.6293	1.9456	17	24	.75	13.17
<i>Commiphora campestris</i>	1/BA ²	0.06774	2.8156	17	40	.83	13.072
<i>Commiphora confusa</i>	None	0.1147	2.6634	18	23	.77	2.912
<i>Lannea alata</i>	DBH	0.5603	2.1027	17	17	.85	13.216
<i>Lannea rivae</i>	None	0.1488	2.6421	22	16	.54	11.7
<i>Acacia sp.</i>	None	1.1421	1.9954	44	23	.85	1.99
<i>Boscia sp.</i>	1/BA	0.2033	2.3647	15	34.2	.77	7.30
<i>Boswellia sp.</i>	1/BA ²	1.3025	1.8332	18	37	.40	13.87
<i>Commiphora sp.</i>	1/BA	0.10527	2.66544	52	40	.87	11.26
<i>Lannea sp.</i>	None	0.3288	2.3233	39	17	.62	11.18
All species (<35 cm DBH)	None	0.3411	2.3016	166	34.2	.74	9.50

Accuracy allometry coefficients for dominant species in Phase II

- Genus-level allometric equations were developed using all trees for each of 5 dominant Genuses in the ecosystem, and these curves were used when species-level equations were not available. In the absence of genus-level curves, the all-species curve was used by default, for those rare trees for which no destructive harvest data was available.

Results for all of the remaining species can be found in the supporting file "allometry_weighted_PhaseII.xlsx", available to the validator upon request.

These allometric equations were used to calculate aboveground *Green Weight* for each species in each plot in each stratum for each of the ranches in the project zone.

A carbon fraction, cf_{sp} , for all species of 50% was used for trees and shrubs, and 45% for herbaceous vegetation, as per the UNIPCC 2006 GL AFOLU Chapter 3.2, and an average dry weight to green weight of 50% to convert biomass to tonnes Carbon, according to equation [50] in the VCS methodology

$$x_{i,j,k} = \frac{44}{12} \times \frac{1}{1,000} \times f_{sp}(\bullet) \times cf_{sp} \quad [50]$$

Aboveground biomass was aggregated for all tree species within each plot, as per equation [45] in the VCS methodology

$$y_{j,k} = \frac{1}{a_{j,k}} \sum_{i \in \mathcal{X}_{j,k}} x_{i,j,k} \quad [45]$$

where:

$y_{j,k}$ = a quantity estimated for or measured on plot j in stratum k

$a_{j,k}$ = area of plot j in stratum k

$x_{i,j,k}$ = a quantity estimated for or measured for individual i on plot j in stratum k

$\mathcal{X}_{j,k}$ = set of all measurements of a type in plot j in stratum k

Belowground biomass for all vegetation was calculated using a root:shoot ratio of 0.4 (as per the UNIPCC 2006 GL AFOLU Chapter 3.2)

The results of these calculations can be found in the supporting carbon model databases for each ranch, available to the auditor upon request.

The sum of all plots within a strata within each ranch was performed, yielding a total aboveground and belowground biomass aggregate value presented in metric tonnes GHG per strata, per ranch, which was then expanded by the area of each strata to provide a total GHG value for each ranch.

Finally the ranch totals were summed to provide a project area total, measured in m.t.GHG.

The results of these calculations can be found in the supporting aggregate spreadsheet: "Forest Inventory Phase II Summary-Strata2_v4.xlsx".

Aboveground Biomass – Shrubs

See Annex 2 for the plot sampling methodology used to capture the data from the field to use to calculate the shrub carbon pool. Shrub biomass was calculated using destructive harvest factors for the dominant shrubs and a miscellaneous shrub category. This was performed for each plot within a stratum within each ranch, and the totals were aggregated across all plots by strata, for each ranch, and then totaled across ranches for a project area total.

Aboveground Biomass – Herbaceous

See Annex 2 for the plot sampling methodology used to capture the data from the field. We harvested grasses from four 1m square plots in quadrants within each of the fixed tree sampling plots. Grass bundles were dried and weighed to obtain sample plot grass weights, and an area expansion factor was applied to calculate plot and strata total carbon biomass in metric tonnes per hectare. We then applied the Carbon Dioxide / Carbon ratio (44/12) to obtain total CO2e inventory. This was performed for each plot within a stratum within each ranch, and then the totals were aggregated across all plots by strata, for each ranch, and then totaled across ranches for an aggregate project area total.

Soil Carbon

The procedure used to calculate soil carbon was again taken from the VCS methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0*. The field sampling methodology utilized is outlined in Annex 2. For this Phase II project, soil samples were taken from randomly selected tree sample plot locations within 3 ranches in the project zone, and then used to calculate unconverted soil carbon stock within the dryland forest, to compare with those values obtained for outside farms cleared at least 10 years prior to start date.

Using equation [61] of the VCS methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0* , we calculated soil carbon loss

$$y_{j,k} = \frac{44}{12} \times 10 \times cf_{soil,j,k} \times \rho_{soil,j,k} \times d_{j,k} \times \left(1 - \frac{v_{rf,j,k}}{v_{soil,j,k}}\right) \quad [61]$$

where:

$y_{j,k}$ = soil carbon stock in plot j stratum k

$\rho_{soil,j,k}$ = bulk density of fine portion of soil sample in plot j in stratum k

$cf_{soil,j,k}$ = carbon fraction of soil sample in plot j in stratum k

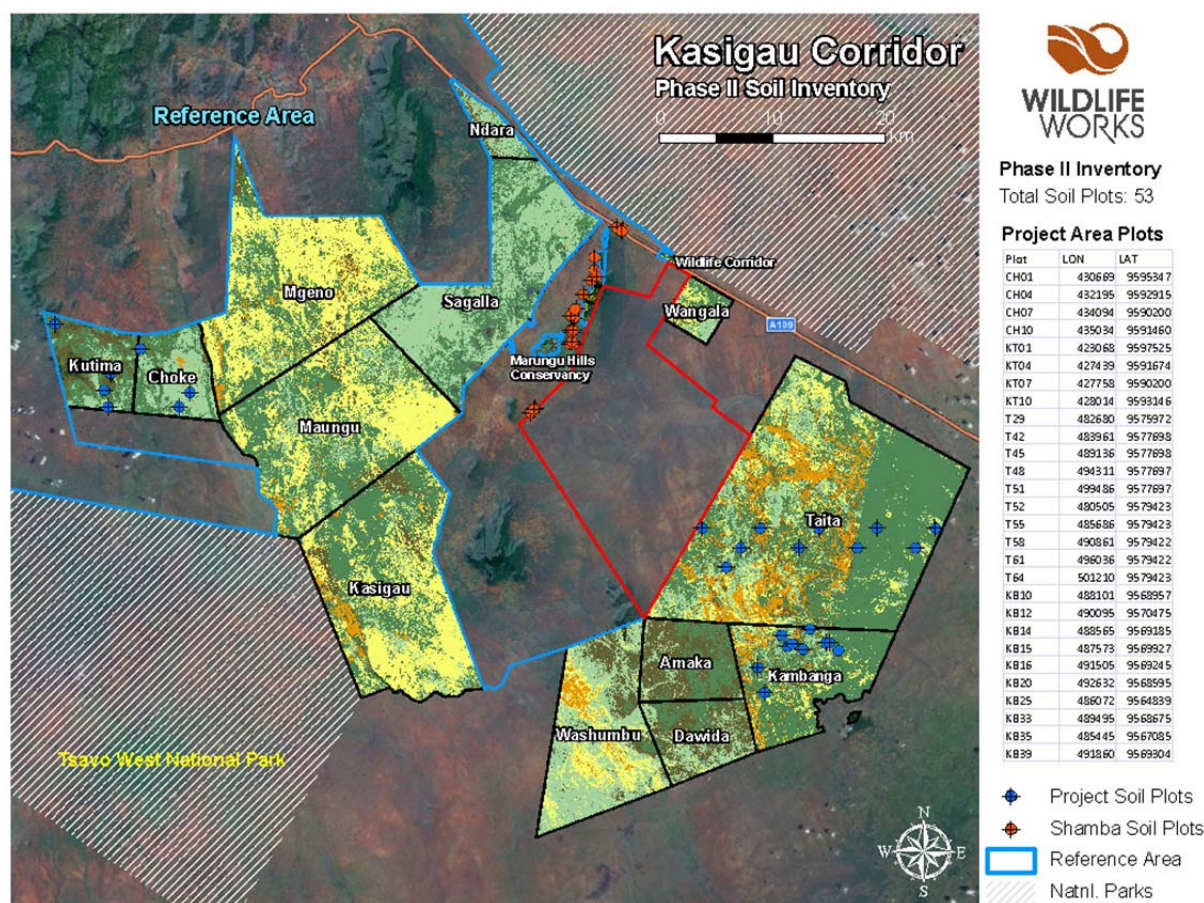
$d_{j,k}$ = depth of soil sample in plot j in stratum k

$v_{soil,j,k}$ = total volume of soil sample in plot j in stratum k

$v_{rf,j,k}$ = volume rock fragments (> 2mm) in soil sample taken in plot j in stratum k

A scientifically recognized standard factor of 1.724 (58% SOM=SOC)³ was used to convert soil organic matter (SOM) as measured in the plot samples by the independent testing laboratory Crop Nutrition Laboratory Services to soil organic carbon (SOC). Bulk density was also calculated by the lab. The Carbon Dioxide / Carbon ratio (44/12) was applied to yield CO₂e.

The soil carbon plots, both within (unconverted) and outside (converted) the project zone are shown in the following map:



The results obtained for soil carbon starting inventory during Phase II *within the project area* are illustrated in the following table:

³ Bohn, McNeal, O'Connor. 1979. Soil Chemistry. Wiley – Interscience publication.

Ranch	Plot	Top Soil Bulk Density (g/cm ³)	Top Soil Carbon (%)	Sub Soil Bulk Density (g/cm ³)	Sub Soil Carbon (%)	Total Soil Carbon (t/ha)	Soil GHG Equivalent (t/ha)
Choke	CH01	1.290	1.470	1.300	0.790	128.779	472.190
Choke	CH04	1.290	1.210	1.310	0.750	115.602	423.874
Choke	CH07	1.420	0.920	1.320	0.480	83.544	306.328
Choke	CH10	1.350	1.090	1.300	0.690	106.935	392.095
Kutima	KT01	1.330	1.070	1.320	0.250	65.793	241.241
Kutima	KT04	1.210	0.800	1.380	0.420	69.612	255.244
Kutima	KT07	1.160	0.510	1.220	0.430	54.470	199.723
Kutima	KT10	1.200	0.960	1.440	0.370	71.856	263.472
Taita	T64	1.348	1.732	1.304	1.099	170.389	624.760
Taita	T52	1.304	1.341	1.324	0.648	112.574	412.773
Taita	T58	1.434	1.436	1.399	1.216	180.784	662.874
Taita	T42	1.377	1.341	1.341	0.880	137.983	505.938
Taita	T29	1.369	1.543	1.332	0.900	147.340	540.248
Taita	T61	1.328	1.484	1.257	0.687	119.512	438.209
Taita	T45	1.446	1.218	1.364	0.674	117.204	429.747
Taita	T48	1.354	1.166	1.302	1.019	140.292	514.404
Taita	T55	1.524	0.915	1.397	0.715	111.797	409.923
Taita	T51	1.247	1.578	1.281	0.868	136.897	501.956
Kambanga	KB10	1.376	1.417	1.467	0.804	141.101	517.372
Kambanga	KB12	1.320	1.186	1.345	0.854	127.347	466.938
Kambanga	KB14	1.382	0.867	1.343	0.781	109.337	400.904
Kambanga	KB15	1.261	1.428	1.279	0.781	123.904	454.316
Kambanga	KB16	1.399	0.731	1.399	0.819	110.916	406.692
Kambanga	KB20	1.179	1.673	1.350	0.884	142.743	523.391
Kambanga	KB25	1.363	1.599	1.357	0.636	125.821	461.342
Kambanga	KB33	1.520	1.001	1.396	0.897	133.236	488.531
Kambanga	KB35	1.416	1.215	1.399	0.883	138.034	506.124
Kambanga	KB39	1.327	1.540	1.299	1.294	178.951	656.155

A total of all carbon stocks *measured* in the project area at the beginning of the project crediting period is shown in the table below:

Pool	Total GHG (m.t. CO ₂ e)
Aboveground and Belowground Biomass (trees, shrubs, and grasses)	15,944,631
Soils	75,311,455
Total	91,256,086

Note that the total measured carbon stocks in the project area does not equal the total CO₂e reductions being claimed by the project proponents. This latter value is determined according to the VCS methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0* Section 11 Quantification of NERs, and depends on several other project-specific factors, including the chosen lifetime of the project, the linear rate selected by the project

proponent to represent the without-project (baseline) scenario, OUT areas, discounting due to leakage and removal of buffer tonnes due to risk of reversal analysis. The final calculated gross NERs for *the lifetime* of this Phase II project are as follows:

Pool	Total GHG (m.t. CO₂e)
Aboveground and Belowground Biomass (trees, shrubs, and grasses)	14,534,964
Soils	33,913,804
Total (30 yr reduction)	48,448,769
Gross Mean reduction for the project crediting period (30 years)	1,614,959

After removing risk of reversal tonnage (20%) as double-validated by two independent VCS-approved bodies, this project yields the following net emissions reductions (issued credits):

Net mean reduction: **1,291,967 tCO₂e / yr**

Wildlife Works Carbon has an excellent leakage mitigation strategy in place for this project, and estimates that little to no leakage will be measured in the leakage reference area. If in fact leakage is measured, it will be deducted from the project reduction totals, as per Section 10 of the VCS methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0*, and ultimately the net mean reduction value listed above would be discounted.

G1.5. Community Information

The community in the project area is essentially two communities.

Taita

The vast majority of stakeholders within the project area are from the Taita tribe. Traditional Taita peoples have lived in this district since historic times, although some were moved out of the project area in the early 20th century as a result of activities that took place in the First World War, and who began to return to the project area mid-20th century. The population throughout the 20th century was mostly restricted to the higher elevations of the Eastern Arc Mountains and the slopes of Mt Kasigau, where higher rainfall and cooler climates made agriculture easier. Towards the late 1980s and early 1990s the Taita population on the main Taita Hills at the center of the District became too large to support the traditional practice of subdividing land and passing on plots to the next generation, and so Taita families began to descend to the lower elevations where the climate was much hotter and drier. In the 1980s a German Government Agricultural scheme acquired 5000 acres of what was then Rukinga Ranch and began a Jojoba growing scheme that brought lots of people to the area, but subsequently failed after completely clearing approximately 4000 acres of Dryland Forest. This land is no longer part of the project area, as it was legally excised from Rukinga and is now owned by a Nairobi businessman, but it is in the project area, and is now being restored by Wildlife Works as wildlife habitat, although it falls outside the scope of this Carbon project, due to low canopy cover.

The Mombasa highway was in such a shocking state of disrepair during the 1990s that trucks were forced to make many stops on the road from Voi to Mombasa, for repairs, and as a result roadside villages in the lower elevations began to prosper. Maungu, which is one of the main villages in the project area began to grow in the mid to late 1990s, with prostitution and bars to serve the trucking community. As a result Maungu has one of the highest HIV rates in the world as reported by the WHO. As the population grew rapidly in the 1990s, colonization took place from Maungu South along the unpaved public road towards Mt. Kasigau that runs through the Centre of the project area. The Taita are subsistence agriculturalists, so they cleared the dryland forest and planted maize, with little success. However 1998 was an El Nino year with abundant rainfall, and that further accelerated deforestation and immigration.

The only other formal employer in the project area is the Taveta Sisal Estates on the Western edge of the project area, which employs hundreds of low wage farm laborers. Other than that there are no formal employers other than Wildlife Works in the project area, other than service business, small shops, bars etc. and there were very few schools and no medical clinics when the Kasigau Corridor Project began.

Duruma

The other community within the project area is largely made up of Duruma peoples, from the Coast of Kenya. The Duruma are one of the poorest tribes in Kenya, a circumstance that some attribute to an unhappy accident that their tribal lands fall right on the National boundary between Kenya and Tanzania that was drawn on a paper map by Queen Victoria in the late 19th century, but never clearly marked on the ground, which has led to the Duruma being ignored by both Kenya and Tanzania over the years. Local lore has it that they first came to the project area in the early 1990s when they were promised land by a local Taita politician

who had taken a Duruma wife in return for their votes in local elections. The only problem was he promised them land he did not own that is within the project area. The Duruma are polygamists, and therefore the common practice was for a husband to bring his second or third wives to the project area to establish agricultural plots. The husband would leave them in the bush with their small children and return to the Coast where they would spend most of the time with the family of the first wife. The husband would then return at harvest and claim a large portion of the crop should there actually have been a crop, and would take it back to the Coast family. These single parent families were rarely successful at agriculture, but continued to clear land aggressively hoping they would find the perfect location where the tragically localized rainfall patterns would find their land. In the interim the teenage males would snare for food, the Duruma being much more comfortable in the bush than the Taita farmers.

The project area was never inhabited historically, as there are no permanent water sources and it is remote from the hills that formed the traditional location of the Taita populations. The project area was gazetted in the 1970s as several Private Group Ranches for grazing land for certain members of the Taita communities then resident over 30 kms away on the Taita Hills. However they never had significant herds of cattle and therefore although they formed legal entities such as the Taita Ranching Co. Ltd. to hold title in the land granted by the post-independence Government, the local population never made use of the project area. Over the years some local shareholders in each of the ranches sold their shares to outsiders, so the ownership is quite varied between the 13 ranches.

Wildlife Works has been involved in the project area since 1998, when they began construction of the eco-factory that sits on private land adjacent to the project area. In January 2000 Wildlife Works' Founder, Mike Korchinsky was forced to purchase the majority of the shares in Rukinga Ranching Company Ltd. from the then colonial owners, in order to protect the investment made in the EcoFactory conservation project, because the land was to be sold to a Somali cattle slaughterhouse operator from Mombasa who was going to use the land for fattening and slaughtering cattle for export to the Saudi Arabian Peninsula. Wildlife Works then took over financial responsibility for Rukinga Ranch forest monitoring and protection in January 2005. Rukinga has been protected by Wildlife Works as a forest habitat since this time but on a loss-making basis. When the Voluntary Carbon Standard (VCS) implemented their program for making REDD projects eligible to generate VCUs in November 2008, WW sought financing to initiate a REDD project for the Kasigau Corridor Phase I Project. After finding the necessary financing through a joint venture called Wildlife Works Carbon LLC, this project was launched. All documentation relating to this sequence of events was made available to the Validator during Phase I and Phase I was successfully validated subsequently.

Phase II is now using the funds and expertise that have been learned with the Phase I - Rukinga Project to expand the REDD project to 13 other Community Owned Group Ranches, plus one community area in the Kasigau Corridor. All these group ranches have never been financially viable and are therefore prime candidates for avoided deforestation conservation projects. Through carbon financing and Wildlife Works management these areas will very soon become vital parts of the overall Project objectives.

G1.6. Current Land Use

Legal title to most land in Kenya was originally held by the "Crown" during the colonial period, and then reverted to the Government of Kenya post-independence (1963). Over the years the Government has issued leasehold title deeds to land in the project area, but only for large

blocks of land known as Group Ranches, which applies to all the ranches in the project area. Until recently the villages and communities maintained a traditional community trust land system in the land areas outside of the Group Ranches, where the Chief (which is the highest appointed administrative officer at the Location level) can allocate land to a family for farming, but the family has no formal legal rights on the land. This system was largely ignored by the immigrant Duruma who just began to clear and occupy land initially within the community land zone

The government has just decided to begin rural land schemes in which community trust lands are being subdivided into legal plots and title given to the families currently occupying them, but this process is very slow and fraught with nepotism and implementation difficulties. In this case, we believe that allocation of individual title to currently forested community land will be very damaging to the environment as while the community as a whole has been able to maintain the forest cover, and understands the land is poor agricultural land, when a poor individual is given the title to land they immediately clear it to farm as that is all they know.

For the time being the majority of the land in the project area is part of legally allocated group ranches in which Public companies owned by local shareholders, such as Maungu Ranching Co. Ltd hold the title. Some of these group ranches have 50 shareholders, some have 2500. None of these group ranches operate their own cattle ranching, in most cases there are no economic activities on the land at all, and these lands have been badly hit in the past fifteen years by the illegal charcoal trade which turns the best hardwood trees into bags of charcoal for a few dollars each. There has also been rampant bush meat poaching over the years especially in the more remote Group Ranches. The balance of the land in the project area is still community trust land although much of it is in the process of being subdivided for farming plots.



G1.7. Current Biodiversity

The project area, now known as Phase II of the Kasigau Corridor REDD Project, is part of the greater Tsavo ecosystem. A semi-arid area of Dryland Forest interspersed with Savannah Grasslands that spreads north to the Tana River and South into Tanzania. It is an ecosystem with incredible species diversity of large mammals and birds, the vast majority of the area falls within Tsavo East and Tsavo West National Parks. It is part of one of Conservation International's Global Hotspots, The Eastern Arc Mountains hot spot. The project area forms a corridor of land between the two National Parks and as such almost all of the species present in the National Parks are now also present in the project area See Annex 5 for species lists found (no formal census has been carried out yet in Phase II ranches). This list was generated by actual observations of Rangers and staff of the Rukinga Sanctuary and the previous tourism operation that operated on Rukinga, and is excerpted from the Taita Discovery Center Guide, published by the Taita Discovery Center, a copy of which was provided to the Validator.

It is felt that as investment and proper land and wildlife management is implemented, these species (historically present) will return to most of the ranches in the Kasigau Corridor. The conservation activities surrounding CCB/VCS/REDD and Carbon /Conservation Easement agreements should allow biodiversity to return.

The best sources for full descriptions of the birds and mammals of this part of Africa are:

Birds of Kenya and Northern Tanzania. Dale Zimmerman, Donald Turner and David Pearson. 1996. Russel Friedman Books, Halfway House, South Africa.

The Kingdon Field Guide to African Mammals. Jonathan Kingdon. 1997. Academic Press, London.

The project area now provides a home and area of relative safety to several key species of interest, including an average population of African elephants (*Loxodonta africana*) estimated between 500 and 1000. A few other notable species present on Rukinga are lion (*Panthera leo*), leopard (*Panthera pardus*), cheetah (*Acinonyx jubatus*), serval cat (*Felis serval*), spotted hyena (*Crocuta crocuta*), African hunting dog (*Lycaon pictus*) and about 12 species of ungulates, such as eland (*Taurotragus oryx*), Cape buffalo (*Syncerus caffer*) and the highly endangered Grevy's zebra (*Equus grevyi*). A wide range of other species are included in the area's wildlife population, among them various carnivores, primates, rodents, reptiles, amphibians, and over 300 avian species. In addition to animal species, Rukinga is home to thousands of species of plants indigenous to the Tsavo ecosystem. All photos of wildlife in this document were taken on Rukinga Sanctuary, part of the Phase I of the Kasigau Corridor REDD Project.

The population of the Phase II project area could easily reach 1500 elephants seasonally and as such represents a significant population concentration.

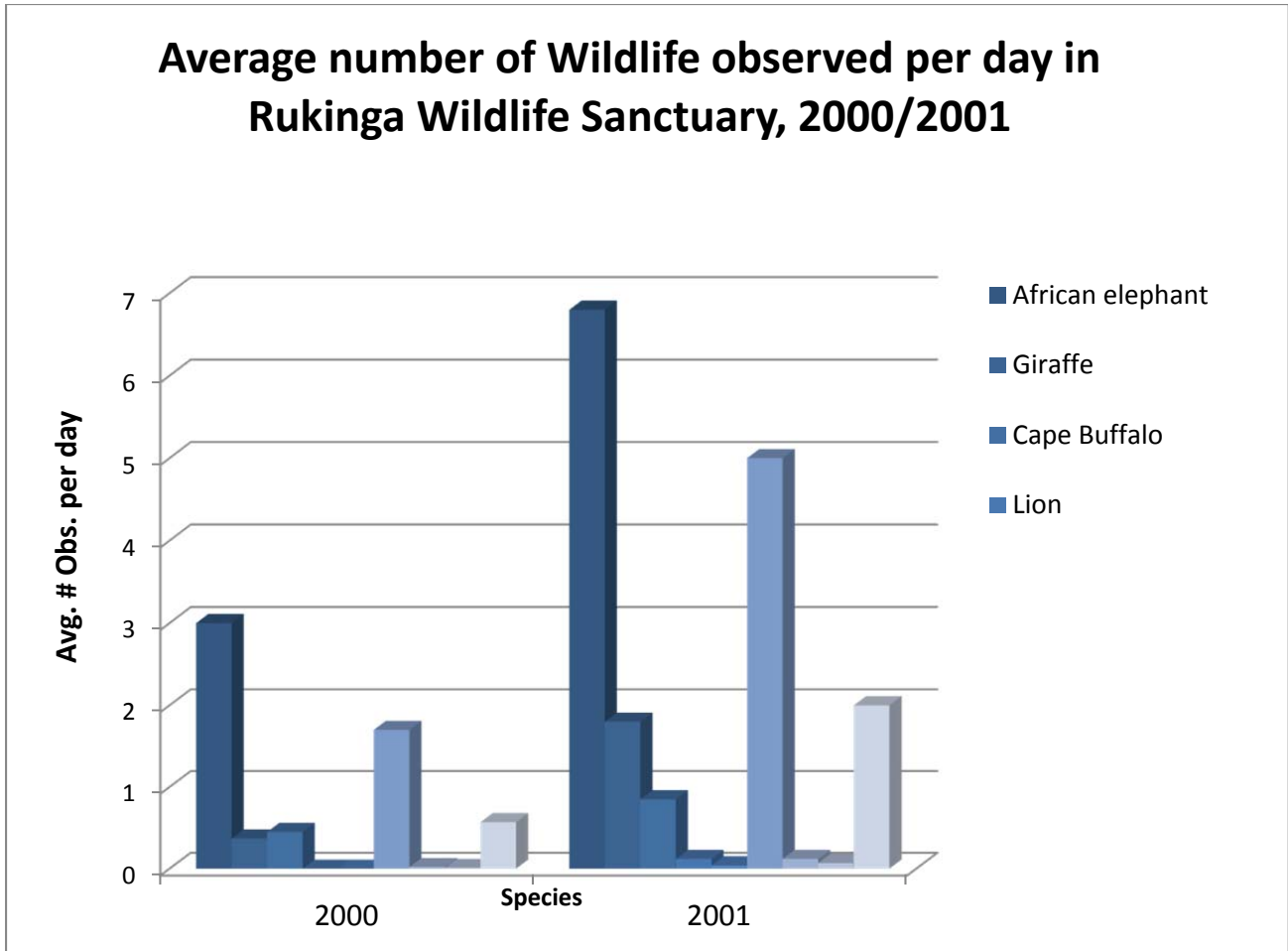


Cape Buffalo, African Elephant and Grevy's zebra in the project area

The Corridor has been studied by many internationally renowned wildlife researchers over the years, including Bruce Patterson from the Chicago Field Museum who has been conducting important lion research on Rukinga for years, Dr. Barbara McKnight who studied the Corridor as a dispersal area and corridor for African elephants moving between the two National Parks, Kim Medley from Miami University of Ohio who has studied the trees in the ecosystem extensively and many others(see references below).

Wildlife Works has employed unarmed rangers since the beginning of the Phase I project to prevent illegal access to the project area and to monitor the forest, wildlife populations and ecosystem health. Those Rangers have been making daily reports of wildlife sightings which have been captured in a database. The same system is already being implemented in all of the Phase II ranches now under Wildlife Works control. Through the immediate restoration and protection of the land, biodiversity should return in glorious fashion, and this transition will be documented using geotagged data collected by Wildlife Works conservation biologists and Rangers.

Our team, lead by Rob Dodson, also played a significant role in assisting the Kenya Wildlife Service (KWS) with the recent publication of the Tsavo Conservation Area Management Plan. The TCAMP is a far reaching analysis of the Tsavo ecosystem including the role of the private ranches in the Kasigau Corridor. A copy has been provided to the validator.



Wildlife Observations in Rukinga 200-2001 - Study conducted by Wildlife Works and Earthwatch

Historically, the other group ranches in the Phase II area were also full of wildlife, but the bush meat trade has greatly reduced the wildlife populations outside of the protected national parks. This was also true on Rukinga prior to the arrival of Wildlife Works, but a report we produced in 2001 with data collected by Dr. Barbara McKnight and her Earthwatch researchers demonstrated dramatic recovery of populations on Rukinga between 1999 and 2001, the first two years that we were working with the community around Rukinga, after opening the ecofactory, and preventing illegal bush meat access to Rukinga. Annex 5 – Wildlife Distribution in Rukinga Sanctuary is summarized in the chart above.

As they stand now, the conglomeration of group ranches cannot serve as a viable or sellable wildlife sanctuary, as much of the game has been poached for bush meat or scared away by humans. Heavy overgrazing in most group ranches and dependence on Somali cattle grazing rights has caused the historical wildlife diversity migrate elsewhere. However, with over 100 wildlife rangers going into the new Phase II areas by end July, 2011, it is hoped that this will change. The Carbon projects in the Group ranches should give the shareholders (for the first

time) the financial freedom to explore other revenue generating projects other than that of cattle ranching. The data collection and analysis of these changes will be vital to the continual reassessment of feasible projects, such as ecotourism, in the project area.

References for this section: Patterson, B.D., 2007. Annual Accomplishment Report for 2007 – Lions of Tsavo – copy provided to Validator.

Patterson, Bruce D. (2004). The Lions of Tsavo : Exploring the Legacy of Africa's Notorious Man-Eaters. McGraw-Hill

Patterson, B.D., S.M. Kasiki, E. Selempo & R.W. Kays. 2004. Livestock predation by lions (Panthera leo) and other carnivores on ranches neighboring Tsavo National Parks, Kenya. Biological Conservation 119 (4):507-516

Patterson, B.D., R.W. Kays, S.M. Kasiki & V.M. Sebestyen. 2006. Developmental effects of climate on the mane of the lion (Panthera leo). Journal of Mammalogy 87(2):193-200.

Medley, Kim. Mt. Kasigau Biodiversity Report. Miami University of Ohio – copy provided to Validator

McKnight, Dr. Barbara. Tsavo Elephant Research 2001-2009. Earthwatch, - Sample report from 2006-7 provided to Validator

Tsavo Conservation Area Management Plan – Kenya Wildlife Service 2009

Kenya Trees, Shrubs and Lianas. 1994. Henk Beentje. National Museums of Kenya, Nairobi.

G1.8. High Conservation Values Evaluation

Kasigau Corridor (Phase II) clearly qualifies as an area of High Conservation Value (HCV) under the following qualifying attributes;

8.1 b – The project area and the National Parks on either side of the project area are home to five species of mammal that are considered endangered, vulnerable or threatened under the IUCN guidelines: African elephant, cheetah, lion, African hunting dog, and a globally significant population of Grevy's zebra. Many of these species are present in the Phase II ranches in lower populations than on Rukinga or in the National Parks. It is the hope that within 2 years (as proved at Rukinga) some if not all the ranches will see these mammals return to the project area in regularly higher numbers, and we will be monitoring that progression.

8.1 d – Kasigau Corridor is an important corridor for migration and dispersal of large mammals, and supports a significant concentration of African elephants with as many as 1500 using the corridor either as a dispersal and feeding area or to move between the two National Parks seasonally.

8.2 – The area is home to a complete dryland ecosystem, including all of the species that would be found in this ecosystem, except for rhino, as they were all hunted out long ago. However, rhino have been reintroduced into the National Park on a trial basis, but have not yet dispersed out of the safety of Kenya Wildlife Service protection. It is possible that rhino could also eventually disperse into the project area with the increased community support and security that the Kasigau Corridor REDD Project provides.

8.3, 8.4, 8.5, 8.6 – Mount Kasigau – Mount Kasigau, which falls within the project area is an

area of High Conservation Value, based on a number of criteria;

- it is home to several endemic species, and a rare and threatened cloud forest
- it provides critical hydrological services to five villages located at the base of the mountain
- it provides fuelwood, building materials, traditional medicines for the local community
- it has strong cultural value to the local community

Please see attached reports: *Mt. Kasigau Biodiversity Report* by Kim Medley of Miami University of Ohio, and *Mt. Kasigau Area Biodiversity Survey Report*, 2006, by our own Rob Dodson for details on this HCV area.

G2. Baseline Projections

G2.1 – Most Likely Land Use

Unlike many REDD projects, it was not difficult to identify the baseline scenario for this project, which is rapid deforestation due to unplanned slash and burn agricultural expansion by subsistence immigrants at the frontier of human expansion, as all the conditions of the baseline were in place before the arrival of Wildlife Works. There is little need for speculation as to what would happen in the absence of our project if we ceased to protect the project area and stopped presenting alternative livelihoods for the community: the mosaic pattern of deforestation would certainly expand into the project area.



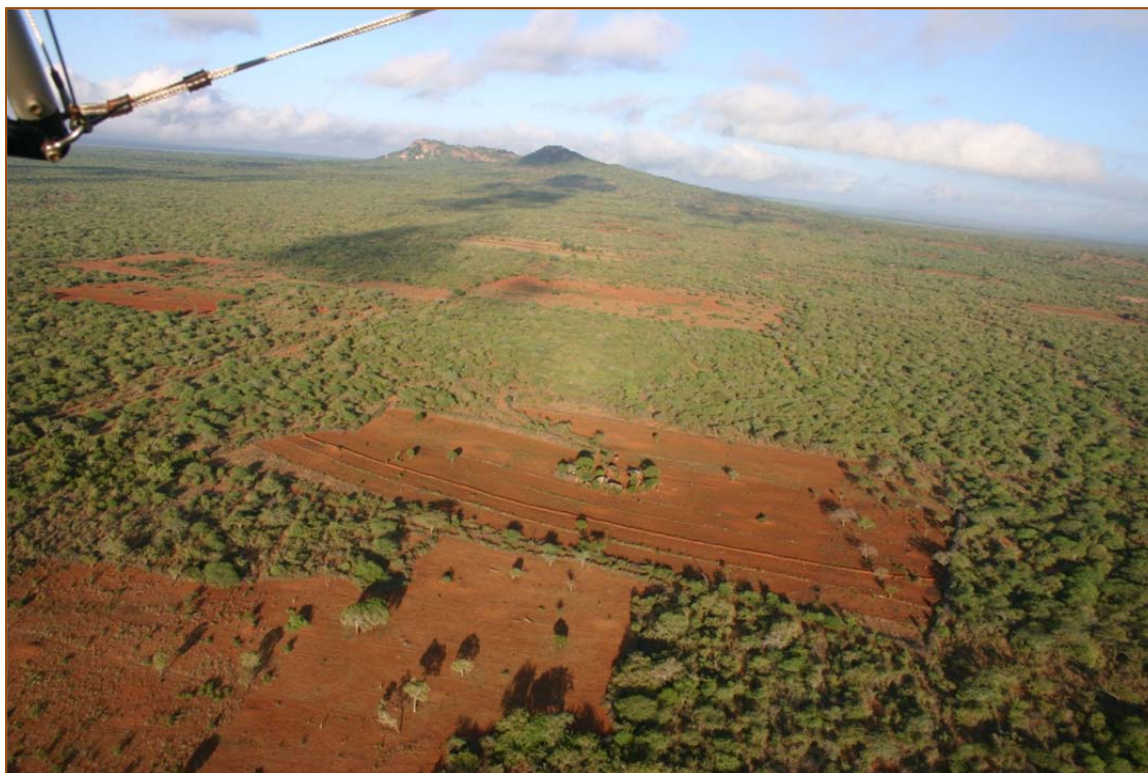
Typical deforested area in the Kasigau Corridor reference area view from the ground

The project area has previously been used for sporadic grazing of cattle, and within Taita Ranch, a small ecotourism lodge. Both activities failed due to lack of funds, and cattle ranching is difficult due to a fragile ecosystem and lack of water, which has led the current shareholders to a situation of financial crisis and unsustainability. The heavy losses from the most recent drought have now crippled their activities completely.

Aggressive cutting of trees for the production of charcoal is also another source of land use in the area where a few benefit from the income to the detriment of the actual land owners. This is particularly a problem in Mgeno Ranch, a significant portion of which is being abused.

Financial Data for the ranches – please note that the financial data for the ranches that we are in partnership with is confidential, but was provided for the Validators.

Aforestation of plantation species and agricultural activities cannot profitably be carried out in this sort of area due to a lack of water and a fragile ecosystem. We therefore believe that we have demonstrated, through our efforts to attempt many different economic activities, and by the fact that all the group ranches in the area have substantial annual and carry forward operating losses, that there are no credible alternative economic uses for this land that could compete with the project financially, or provide financial sustainability that would otherwise protect it from slash and burn use by the community.



Deforested area in the Kasigau Corridor reference area view from the air

G2.2 – Additionality

Protecting this 169,741ha piece of dryland forest comes at a significant cost. There are no significant sources of income from the land to offset protection costs. Therefore, this project could not be contemplated in the absence of carbon funding. Without protection, both physical, and that created through partnerships with the communities to create economic alternatives, it is clear the land in the project area would be cleared aggressively for subsistence agriculture, as the Group Ranches continued to fail or are sold for agricultural plots.

The local agents of deforestation in the project area are Taita people who have traditionally farmed the fertile cloud forested hills of the Eastern Arc Mountains: Kasigau, Sagalla and the Taita Hills. As their population exceeded the carrying capacity of the land on the hills, they moved down into the dryland Acacia-Commiphora forest that dominates the lower elevations of the district. However here their traditional farming practices were not effective, due to extremely low average rainfall. After colonizing all the land with permanent water sources, they began to clear any available unprotected land. The larger blocks of remaining land in the area apart from communally owned land protected by local administrations, were privately held

"group ranches" designated as cattle carrying areas for the communities of the hills back in the 1970s. However, due to the remoteness of these areas and the lack of permanent water sources, they have never been developed as cattle ranches, and remained natural forest over the years, until the mid-1990s when rainfall patterns initiated a population boom in the area. This was further facilitated by the improvement of the main Mombasa highway and a local arterial road that runs along the northeast edge of the Kasigau Corridor project area.

The other agents of deforestation in our project area are Duruma originally from over 100km away in Coast province, a very poor tribe that has historically opportunistically and illegally sought farm land that was unprotected throughout Kenya. These people were first introduced to the district in the early 1990s, brought in by a corrupt politician who promised them land (not owned by him) in return for votes...once they realized they could find unprotected land in the district, more families came.

Both these populations began aggressively converting land in the late 1990s just prior to our arrival to the area. Shortly after Mike Korchinsky funded the first ranch, called Rukinga, and Wildlife Works began to protect the land in 2005, the immigration slowed, and in fact some families returned to the Coast.

The population pressure on the Phase II ranches is largely due to an expanding local Taita population, those still coming down from the Taita Hills, and the population of Voi Town, which is expanding as the town transitions into a commercial center.

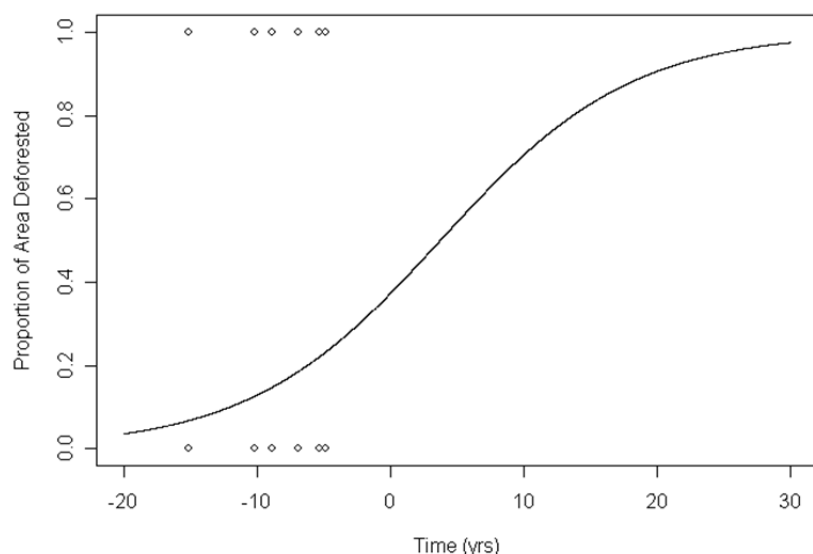
G2.3 – Carbon Stock Changes

The carbon stock change analysis approach used in this project is one based on actual historical deforestation of the project area, that was quantified using the approach described in VCS methodology *VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0*, which uses historical remote sensing imagery and a grid based classification approach to determine historical deforestation rate in the project area.

This is the process developed by our own VP Carbon Development Jeremy Freund, who has many years of remote sensing experience in the field of natural resource science.

The loss of carbon in the baseline for above and belowground biomass trees, shrubs and grasses was assumed to be 100% of the starting inventory for the deforested area, as allowed under UNIPCC, as the likely scenario in the post deforestation baseline is annual crops.

Therefore, the GHG emission reductions under the project scenario for above and belowground trees, shrubs and grasses in any given year is determined by the Cumulative Deforestation Model derived from the historical logistic deforestation curve shown below;



Cumulative Deforestation Model derived from historical imagery from the reference area

The results of this analysis are presented in a VCS Net Emissions Reductions (NERs) spreadsheet provided as a supporting document to the Validators.

For soil carbon, we must use a different model, as unlike with forest carbon, complete soil carbon loss does not occur in the baseline scenario. We again followed the VCS methodology VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests V1-0 for soil carbon, which dictates a decay curve which eventually settles on a mean loss value for soil carbon lost through clearing of agricultural land. We measured soil carbon in a number of proxy sites immediately adjacent to the project area, on farm land with identical soil, rainfall and climate, that in all cases had been forest less than 20 years before. The sampling methodology was identical to that used for the soil carbon estimates within the project area: 1m pits dug in two lifts, 0-30cms and 31-100cms and samples from each layer were thoroughly mixed, bagged and sent to an independent soil testing lab for bulk density and soil organic matter (SOM) analysis. The results obtained are included in the supporting file Kasigau Corridor Phase II 1m Soil Analysis.xlsx.

This analysis yielded a mean difference in soil carbon between the “with-project” and “without project” of 222 tonnes GHG per ha converted to farm land under annual crops, or a 49% reduction in soil carbon value on conversion.

Summarizing for all pools the GHG loss in Baseline is;

Pool	Total GHG	Loss in Baseline over 30 years
Aboveground and Belowground forest biomass (trees,shrubs,grasses)	15,944,631	14,534,964
Soils	75,311,455.22	33,913,804
Total	91,256,086.22	48,448,768
Annual loss over 30 years (m.t. GHG) – GROSS NERs		1,614,959

G2.4 – How Would the Baseline Affect Communities

In this arid ecosystem, it is hard to imagine that deforestation would lead to significant further deterioration of climate, in terms of even lower rainfall and/or increased mean temperature, but soil erosion, soil carbon and fertility losses would certainly increase. What is more, we have demonstrated over the past ten years that the direct employment of community members, who make up 98% of our Kenyan staff, of over 150, has had a direct benefit to the economic wellbeing of the community. In addition we have brought many other income-generating, ecofriendly activities to the project area, such as ecotourism, we have built schools, trained local people in better dryland farming techniques and provided resources to health clinics. We also plan to bring other benefits with the additional financing that the carbon project will provide.

G2.5 – How Would the Baseline Affect Biodiversity

It is much more clear how the baseline, or without-project scenario, would affect biodiversity. When Wildlife Works arrived at the project area, most of the wildlife had been poached out for bush meat. This fauna has returned to Rukinga over the past ten years, and we now have a vibrant, balanced ecosystem once again. In the Baseline scenario, there would likely be no wildlife whatsoever in the project area outside of the National Parks. Furthermore, our general conservation influence on the community has led to community based conservation initiatives in community trust lands, and community supported de-snaring activities in the National Parks themselves, as well as non-violent means of dealing with wildlife conflict. We do still catch bush meat poachers regularly, who are commercial hunters often from outside the project area, coming to harvest bush meat for transport back to the cities. (Gruesome photos of desnaring and antipoaching activities available on request). The Dryland Acacia-Commiphora forests grow very slowly, and it is likely that the conditions to recreate a forest like this do not exist, given the ever increasing temperatures and unpredictable rainfall in the area, so once lost under the baseline, the ecosystem may never recover.

G3. Project Design and Goals

G3.1 - Major Climate, Community and Biodiversity Objectives

The Kasigau Corridor REDD Project aims to leverage the financial support of the global carbon marketplace to;

- Prevent the emission of over 49,000,000 tonnes of CO₂e over the 30 year crediting period of the project by preventing any further deforestation of the project area and surrounding project area.
- Add financial sustainability to the expansion of the world class conservation project that has been protecting biodiversity, avoiding deforestation on Rukinga Sanctuary and providing substantial community development benefits in the project area, so that we may continue through the project crediting period and hopefully well beyond to protect the area's magnificent biodiversity.
- Prevent the loss of spectacular biodiversity and protect the area as a wildlife corridor for important indigenous species such as African elephant (*Loxodonta africana*), Cheetah (*Acinonyx jubatus*), Grevy's zebra (*Equus grevyi*), African hunting dog (*Lycaon pictus*), Lion (*Panther leo*) and 50 other large mammal species both by direct protection of our Rangers within the project area and through our influence, in the project area
- Expand the influence of Wildlife Works into the surrounding Dryland Forests within the Kasigau Corridor that are under similar threat to Rukinga and that are community owned, and not currently in a position to make the investments that Wildlife Works has made in biodiversity protection by co-venturing with those community landowners in Phase II of the Kasigau Corridor project
- Manage the protection of over 400,000 acres of Dryland Forest in the Kasigau Corridor to maximize biodiversity values, and provide substantial co-benefits to community members who in some cases have never received any financial income from their forested lands
- Invest the proceeds of the carbon project back into alternative livelihood creation for people in the surrounding areas so that pressure on the forest is removed
- to ensure long term community support for the conservation of the Forests and wildlife through educational outreach in issues such as alternatives to slash and burn etc.
- Expand our organic greenhouse to implement community based nurseries to provide agricultural and fuelwood growing alternatives that remove the need of the local people to deforest the Land and surrounding areas.
- Identify, educate and implement community woodlots in the community lands this should avoid deforestation and enrich areas in the project area.
- Jojoba – initializing a campaign to introduce jojoba as a non conflict cash crop into the existing largely agricultural communities.
- Education and awareness programs through women's groups, schools and existing community forums such as Marungu Hills Environment Association
- As biodiversity returns identifying, researching, construction and marketing of Kasigau Corridor ecotourism projects.
- Expand our innovative Ecocharcoal project to provide a viable cost effective substitute to firewood and lump wood based bush charcoal to meet the fuel consumption needs in the local communities surrounding the Kasigau Corridor REDD project.

G3.2 - Major Project Activities

Wildlife Works has employed a hands-on approach since the very beginning of its presence in Kenya. The company employs over 150 local people in a range of activities that we will continue, and in some cases significantly expand, with carbon financing. Wildlife Works' approach to disbursing REDD funds into the community in the future is as follows;

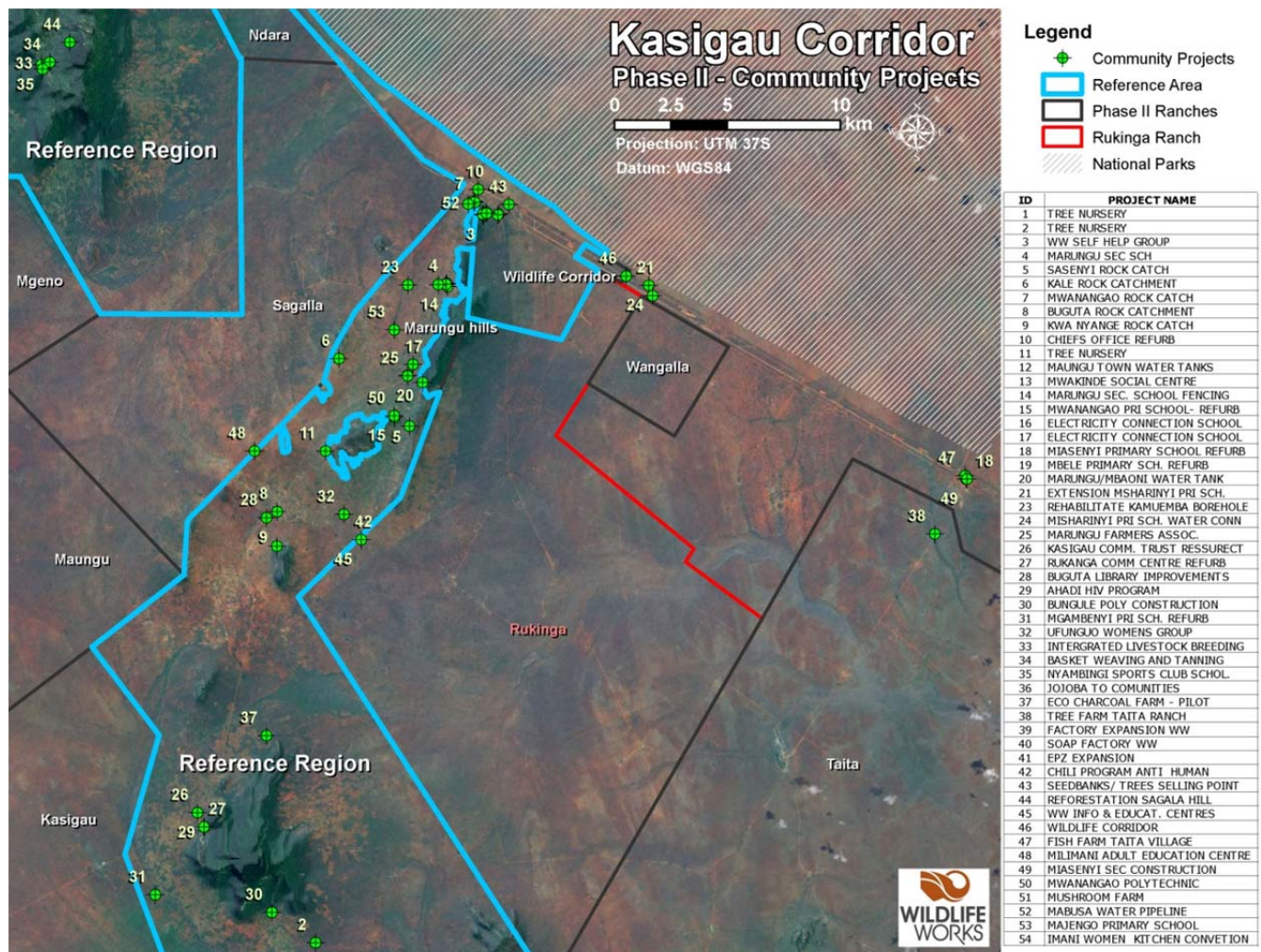
1. We are establishing a trust fund, called the Wildlife Works REDD Project Trust Fund (WWRPTF), through which the REDD funds will be disbursed transparently to community projects.
2. WWRPTF will make disbursement decisions through five committees, one in each of five administrative Locations that border the REDD project; Kasigau, Marungu, Mwatate, Sagalla and Mwachabo.
3. Each committee will be chaired by Wildlife Works, and will have 7 members nominated by their respective communities, as representatives of the cultural breadth within the community (e.g. women's groups, educational groups, youth groups, government agencies, etc).
4. Each committee will have its own bank account established by the Wildlife Works REDD Project Trust Fund and Wildlife Works will retain check writing authority over those accounts, but full annual accounts will be provided to the Committee and through the Committee to the communities they represent.
5. In the case of the two Locations immediately adjacent to Phase I of the Kasigau Corridor REDD project, *Kasigau* and *Marungu* Locations, those committees are already in formation, and will include respectively representation from the Kasigau Development Trust (KDT) which is the successor Community Based Organization (CBO) to the Kasigau Conservation Trust, and the Marungu Hill Conservancy Association (MHCA) which are two independent local conservation CBOs that WWC helped establish within the aforementioned two main communities adjacent to Phase I of the REDD project. WWC is working closely with these CBOs to develop the strategy for disbursement of the community project portion of the carbon revenues. The involvement of the CBOs is taking three main forms;
 - I. They are represented on their respective locational committee of the Wildlife Works REDD Project Trust Fund (WWRPTF)
 - II. They are a funding recipient for community forest wardens and other direct project funding approved by the WWRPTF as described in more detail below.
 - III. They act as a catalyst to stimulate other members and CBOs within the community to develop proposed projects for funding under the WWRPTF.

The five Locations and the communities they represent are listed below;

1. Marungu Location
 - a. Maungu
 - b. Itinyi
 - c. Buguta
 - d. Kale I

- e. Kale II
- f. Sasenyi
2. Kasigau Location
3. Mwatate Location
4. Mwachabo Location
5. Sagalla Location

For the sake of brevity, major proposed early project activity locations are shown in the map below. A complete list of communities involved with / affected by the Phase II project is also presented below. Project budgets, GPS locations and official project status - which is coupled with the community list - has been provided to the validators:



Phase II Community Projects to be implemented using carbon proceeds

Community	UTMX	UTMY
Maungu Town	472260.4982	9606756.2491
Itinyi	470796.6237	9602582.4379
Marungu	469420.7876	9599079.3476
Kale	467113.6163	9597618.8447
Buguta	463102.525	9592327.1674
Mkamenyi	465346.1961	9596433.509

Sasenyi	467950.5535	9592676.7623
Kisimenyi	460984.8541	9587964.656
Kiteghe	461406.8654	9581692.0341
Rukanga	460033.6751	9578628.153
Jora	460676.6139	9575183.2711
Bungule	463089.6188	9574746.7077
Makwasinyi	464027.5024	9578757.9975

Kilibasi	494699.7174	9559958.3219
Mackinnon Rd.	503155.3486	9588731.9732
Melikubwa	507600.3575	9586549.1564
Miasenyi	493841.9966	9594169.1716
Taita Village	481508.1994	9601427.5889
Voi	451882.0055	9625539.7757
Kasarani	451850.2555	9623396.6464
Mnaonyi	451548.6299	9622841.0203
Gimba	450532.6278	9619475.5136
Mngarisonyi	450627.878	9618681.7620
Talio Juu	453024.7992	9611773.6357
Marapu	449913.8196	9616435.3516
Raghasi	449847.343	9614301.3736
Crashinyi	450305.1282	9612769.8189
Talio Nyika	451184.3183	9611642.8570
Talio Dip	452717.0108	9606611.7278
Mazola	453436.8797	9607331.5967
Kwa Mazola	456966.2631	9608238.6823
Kajire	456652.0698	9611066.4223
Mwambiti	458530.1161	9613001.3926
Kishamba Nyika	458434.8659	9615107.4802
Mrasi	457768.1146	9616885.4837
Kizumanzi	453664.7092	9615236.4195
Mghange Juu	453762.9734	9615606.7998
Kishamba Juu / Kishamba Kaya	454080.4422	9615795.7694
Mwambiti Juu	454617.1158	9615667.2701
Kirumbi	455713.1394	9619537.3670
Mvoro gwasagalla	452021.5028	9617282.8426
Kanyanga	453386.7555	9615097.3799
Mlondo	453598.4226	9614594.6705
Kwen - Mwakisiro	453545.5058	9614414.7535
Ngolia	454323.3824	9614171.3364
Mangula	453556.0892	9614208.3781
Morongo	453624.881	9614007.2944
Teri	453466.1307	9613541.6268
Kwen - Njalo	453714.8395	9613176.5010
Kwen - Tole	453884.1732	9612911.9172
Dambi	453175.0884	9612504.4580

Shoroni	453255.3268	9614027.8478
Zongowani	445796.0632	9613952.0150
Mghange Nyika	457844.8177	9613576.7262
Mwaktau	403382.0766	9623210.9214
Wundanyi	429509.5802	9623663.2036
Bura Station	423176.0182	9613820.5740
Tait a Hills Saltlick Lodge	416755.5816	9611767.5299
Bura Mission	423391.3448	9618022.2924
Mgange Nyika	423585.5739	9624016.0434
Mgange Dawida	423989.7509	9622303.103
Werugha	426218.1945	9625862.6434
Mwanda Kishamba	420465.8734	9624126.9510
Mwanda Njawuli	418648.3944	9624099.6888
Mwatate	430809.3669	9612494.108
Chawia	427731.5645	9617997.8134
Lushangonyi	427305.8234	9621722.0665
Mariwenyi	442687.2566	9617988.1013
Mwatunge	432877.81	9613046.9977
Wesu	428084.9919	9624315.4379
Figini Mbale	431104.7763	9625993.1299
Wasinyi	428130.3311	9622750.1106
Landi	438759.5614	9615418.7555
Dembwa	429128.7088	9618633.4494
Wusi	428030.6858	9618752.5122
Josa	429436.6137	9621946.0270
Kungu	427739.3227	9622276.2392
Mgambonyi	426541.162	9630288.9457
Chaka Reli	440528.8073	9616396.2288
Mzuanenyi	437787.1266	9614683.4617
Ziwa La Ngombe	436305.457	9613969.0853
Shelemba	440075.2755	9620102.8057
Msau	433563.325	9622806.0860
Kighombo	439352.9415	9626023.7556
Mwachawaza	431412.806	9620727.3739

List of communities affected by the Kasigau Corridor REDD Project – Phase II

Wildlife Works Sustainable Development Initiatives

Wildlife Works has implemented a wide range of sustainable development initiatives in the project area over the past ten years, and is committing to continue with a new range of innovative co-benefits for the communities that are in the project area upon receipt of funding for Phase II of the carbon project. These initiatives collectively form the basis of our carbon offset leakage avoidance strategy, and an implementation schedule for these Project Activities, with timelines and budgets was shared with the Validator.

Organic Greenhouse

We established an organic greenhouse to grow citrus trees, which we sell at a discount to local farmers, so they may plant a tree for shade that can also earn them income. We use the funds from the citrus sales to fund the growth and distribution of free agroforestry species, such as Neem and Moringa oliefera to local farmers, to meet their medicinal, nutrition and fuelwood needs. With the financing from the Carbon project we will initiate a number of new Project Activities in this area;

In Phase I we expanded our core Greenhouse at Rukinga HQ to add a second Shade house and to double our capacity adding two additional greenhouse workers from the local community. A full budget for this activity was provided to the Validator.



Left: Organic Tree Nursery Shade House / Right: Sylvester gathering saplings for outplanting

We will establish (as part of our Phase II project objectives) at least 10 new nurseries, each with a capacity of 40,000 seedlings per year, in the villages surrounding Kasigau Wildlife corridor. Each nursery will use the same template and budget as the current shade house pictured above, and each nursery will employ an additional 5 members of the local community, for a total of 50 additional employees. Each nursery will be responsible for working with their immediate community to plan and implement a cash crop of Jojoba seedlings, fuelwood and construction pole strategy for that community, using the same combination of tree species currently being grown in our own greenhouse. Once again, for the foreseeable future the nurseries will provide agroforestry species and native hardwood seedlings for free, while selling cash crop trees and Jojoba to contribute to the budget. We will provide training in organic agroforestry and our organic project team leader, Joseph Mwanganda will manage these new nurseries.

Phase II Nurseries are being sited and discussed now and will be in the communities of Maungu, Marungu, Sasenyi, Mukamenyi and Kisamenyi (please see community map). It is hoped that as carbon funds are released, all 5 nurseries will be completed by the end of 2011. Their positions must be carefully planned as all land in these communities has already been subdivided into legally held (deeded) family plots. Long term tenure must be sought through

the Land Office and Community officers so that the construction and investment of these nurseries are free from any potential land tenure conflict. The nurseries also need relatively easy access to water to ensure that the seedlings can be managed until they are strong enough to be planted out into family-owned agricultural plots.

The Marungu Hill Conservancy Association, a local CBO, approached Wildlife Works and asked that their Community Group be a part of the REDD Project. The Communities they represent are the immediate neighbors to Rukinga and Sagalla, and are an essential part of the success and sustainability of the project, so we agreed to explore closer working relationship with this CBO.

Planning for Phase II nurseries will begin immediately on successful Validation of this phase of the project, and will extend our influence in job creation, and resource delivery much farther than Phase I, reaching literally tens of thousands more local people.

Financial Aid to Marungu Hill Conservancy Association

In Phase II we have decided to provide limited direct financial support for the Marungu Hill Conservancy Association described above, so that they can provide support and advice to the community on environmental issues.

Jjoba propagation & extension into Community – a viable Jjoba and essential oil industry

In partnership with Kenya Agricultural Productivity Project (KAPP), Natural Aromatics Ltd, Rukinga Wildlife Sanctuary, Kenya Forestry Research Institute (KEFRI), and the Ministry of Agriculture a 2 year trial period exploring the use of Jjoba as an ideal cash crop in arid and semi-arid lands (ASAL) was completed in 2010. Wilson M Thangana , the project leader, had begun the project to research Jjoba from best propagation, to finished value added essential oil.

Jjoba (*Simmondsia chinensis*) is a highly valued shrub that grows in the arid and semi-arid areas. About 80% of Kenya is ASAL and experiences frequent crop failures when annual crops are grown. The research team Joseph, Lenjo and Cosmos here at Rukinga have for the last two years been experimenting with getting the best most superior propagules for enhancing productivity and reducing generation time to less than 3 years. Ideal conditions have been recorded and proven, and now the most superior Jjoba plant is ready for propagation.



On the left: Joseph Mwanganda, agricultural consultant reviewing progress, and on the right: Dr. Wilson Thagana and Cosmos

The Jojoba plant is a non-conflict plant, that thrives in dry conditions and will survive drought once established, and the plan is to develop an outgrower model where jojoba will be planted together with companion crops of herbs such as Cymbopogon species (Citronella and Lemon Grass) and Chamomile (also drought resistant) which produce valuable essential oils that can provide a livelihood for the Farmers until the Jojoba crop reaches maturity. Citronella oil has the added value that it is known to repel blood sucking insects such as mosquitoes, ticks and fleas which are vectors of diseases such as Rift Valley Fever and Malaria.

Superior rooted cuttings (rather than seed that produces up to 60% male to female ratio) from the Jojoba here at Rukinga are now superior to the original germplasm (Thagana et al 2004). These Rukinga plants can now be propagated through rooted cuttings and within 8 weeks only be sold to the farming communities. The communities will benefit massively, as it provides them with a high-end cash crop, that wildlife and insects do not destroy, that is drought resistant, and can assist in the reduction of soil erosion.

Through research trials carried out historically, the ideal ratio for Jojoba plantations is one male plant to between 6 to 10 female plants. On an acre of very poor land, a farmer can plant (as instructed) 260 female plants with between 26 to 30 males – the bull count. Each female plant produces 5 kgs of seed twice a year. So one acre will provide the local farmer with 2,600 kgs of saleable seed. The price for this is 100 KSh / kg . This represents an income potential of 260,000 Kshs – ten times the amount of money that the farmers are currently garnering (or not, if the rains fail) for an acre of maize. Today one acre of land in this area produces 900 kgs of maize twice a year – market value of 15 KSh / kg or 27,000 KSh / yr.

We plan to use the nurseries already in the project to assist in providing advice and assisting to act as distribution points and seed collection locations as the crops are harvested. At all times, the project manager, Joseph, will travel to individual local farms and communities to provide assistance and advice. In time, nursery employees may learn the management needs of the plants and the needs for the local out growers.

During Phase II, we will develop a full business plan for how to create a self sustaining venture and increase value to the community. The lifespan of a Jojoba bush is 50 years, and the

harvest from the plants increases in quantity and improves in quality over time. From research with the best plants, it is observed that they will produce seeds in the first year. However, because of the immaturity of the bush and the weight of the harvest, it is typically better to abort. Year 2 to 5 will produce 1 kg biannually, Year 5 to 10 will produce 3 kgs, Year 10 to 50 a steady harvest of 5kg, twice a year. Jojoba is therefore a long term investment, and more importantly to the local producers, an economically improving harvest.

At the same time a plan will be made to improve value addition in the Jojoba industry in Kenya. At the moment, technologies for value addition, processing, packaging jojoba and essences are poorly developed in Kenya and investors are only interested in the raw products for processing in their own countries. The stakeholders in the Agricultural Product value chain (APVC) in Jojoba and essences industry comprise producers, transporters, processors, marketers (wholesalers and retailers) and consumers. The producers are the large and small scale farmers who will benefit and learn about the Jojoba industry through this project. They will be trained on the best ways of managing Jojoba and the ideal needs of the plant at all time. They will have the superior propagules which will provide them with clean planting material even after this project is completed.

Transport constraints for the small scale farmers will be greatly reduced and made easier as the collection points will be the nurseries in their community. The idea would be to bring them back to Rukinga for processing. The purchase of one central oil press will be made initially at the cost of 700,000 to 1,500,000 kshs, and as the project expands more presses could be introduced into the communities. The ratio of seed to oil is also very good with 1 kg of Jojoba seed producing 400 ml of high quality oil. The current retail value of 1 L of Jojoba oil in Nairobi is 6,000 KSh; and it is this high value market that needs to be tapped and exploited by the communities here. The majority of Kenyan farmers are women (Natural Aromatics, 2002). For this reason they will benefit more in this project and it is an extremely good way to strengthen their status within the community. Gathering the first three stakeholders in the APVC within the immediate project area as a cohesive team already adds value and helps to address some of the initial constraints identified in the research and exploit opportunities in these three areas. At all times, our aim is to improve the lot of the local population by reducing poverty and creating employment in these resource poor communities. The bi-product of the oil press is known as the Jojoba cake and this is also high in protein and on further processing can be used as livestock feed, during drought, and will be invaluable in improving the livestock's ability to survive.

Initially, we will explore the Kenyan market which is growing and will certainly be able to absorb the initial jojoba oil and essences production. As the production volume increases, exporting should become an option. There is a market for Jojoba in Kenya and the world over (Milthorpe, 1998; KSA-Jojoba, 2003; Sen Gupta, 2003). In the International markets, one kg of seeds sells at \$5 compared to 100 KSh in Kenya (roughly \$1.50). During this final Phase of the project activity, a plan will be made to develop not only the oils and essences in their raw form but to produce health products, soaps, shower gels, shampoos, conditioners, massage oils, exfoliating scrubs, cosmetics and perfumes. The idea behind the growing of Jojoba with herbal essences of Lemongrass, Citronella, Chamomile, Cinnamon, Vetivier Grass, Boswellia neglecta would be for the local communities to produce a complete package for the Essence industry that can be utilized here at source to produce high end products as well as health products and more affordable cosmetic products for the local communities. Jojoba is a liquid

wax and has the traits of both oil and wax which makes it a highly versatile product and extremely (as it resembles the natural sebum of the skin) penetrating product (Natural Source, 2010).

This project is therefore ideal for this area. Phase III of the Jojoba project would be to expand the ideas into Kenya as a whole. The research, and knowledge gained from our project, could easily be released to other communities in ASAL areas. There are currently extremely successful Jojoba industries in India, Israel and Brazil, and under the marketing umbrella of Wildlife Works, the products could potentially reach international consumers.

Mushroom Farms from Elephant Dung

We will continue a project activity through which we provide relatively small amounts of elephant dung from the Rukinga Sanctuary to a local women's group called the Imanyi Women's Group periodically, at their request, so that they can use the dung as a growing medium for their commercial mushroom farm. The farm is housed in a small shed within the women's group compound, and provides a good income to the group with no negative impact on biodiversity or land use.

Reforestation of Mt. Kasigau

We will restart a 3 year reforestation project on the slopes of Mt. Kasigau, working closely with the Kasigau Development Trust (KDT) to plant 20,000 indigenous hardwood trees over the next three years in one of the project area's HCV areas, to replace trees taken out for charcoal or construction over the past years. We will be using the nursery built at Makwasinyi and Sasenyi (see above) as the base for propagating the seedlings of the indigenous trees in the first year, until Phase II of this project, at which point we plan to add an additional 4 nurseries on the South and East sides of Mt. Kasigau.



Aforestation on the slopes of Mt. Kasigau. Mr. Joseph Mwanganda pictured here observing progress.

We will be providing financial rewards to community members who outplant those trees and protect them for two full years (see budget below). We are confident that this project will be highly effective in restoring the local montane habitat and conserving endemic species in this

region. Its model will hopefully be emulated in other parts of the country, so as to stop the loss of forest in Kenya. We have involved the community in all facets of the project, from the formulation of this proposal, monitoring and implementation. This has ensured that the community will take responsibility for the management of the project, and will see it through in the absence of Wildlife Works, thus ensuring sustainability.

Kasigau Tree Planting Rewards

Item	No. of Trees	Unit Cost	Amount (Ksh)	Amount (USD)
1st year planting tree seedlings	36,000	20.00	720,000.00	9,600.00
2nd year for every surviving tree	36,000	5.00	180,000.00	2,400.00
3rd year for every surviving tree	36,000	5.00	180,000.00	2,400.00
TOTAL			1,080,000.00	14,400.00

Summary Annual Budget Kasigau Full Budget over 3 yrs

Year One		
ITEMS	AMOUNT (KSH)	AMOUNT (USD)
Species and Habitat Monitoring	163,100.00	2174.67
Nurseries Equipment	619,881.00	8265.08
Trees Planting	720,000.00	9600.00
Training	61,380.00	818.40
Pegging Nurseries(for 3 days)	10,200.00	136.00
Digging of Holes and manure application (4 months)	30,400.00	405.33
Planting(Period of one month)	30,400.00	405.33
Counting (Monitoring) trees	38,000.00	506.67
Follow up and Spot Checks	34,800.00	464.00
Total	1,708,161.00	22,775.48

Year Two		
ITEMS	AMOUNT (KSH)	AMOUNT (USD)
Species and Habitat Monitoring	56,000.00	746.67
Tree Surviving	180,000.00	2,400.00
Counting (Monitoring) trees	38,000.00	506.67
Follow up and Spot Checks	34,800.00	464.00
Total	308,800.00	4,117.33

Year Three		
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ITEMS	AMOUNT (KSH)	AMOUNT (USD)
Species and Habitat Monitoring	56,000.00	746.67
Trees Surviving	180,000.00	2,400.00
Counting (Monitoring) trees	38,000.00	506.67
Follow up and Spot Checks	34,800.00	464.00
Total	308,800.00	4,117.33

Grand Total	2,325,761.00	31,010.15
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Indigenous tree species to be planted:

<i>Mkwachu</i>	<i>Mshogoreka</i>	<i>Acacia melifera</i>
<i>Tamarindus indica</i>	<i>Terminalia brownii</i>	<i>Gum arabica</i>
<i>Moringa</i>	<i>Iti</i>	<i>Acacia arabica</i>
<i>Moringa oleifera</i>	<i>Acacia tortilis</i>	<i>Mwasina</i>
<i>Kirumbutu</i>	<i>Chariso</i>	<i>Kigelia africana</i>
<i>Melia Volkensii</i>	<i>Boscia coriacea</i>	<i>Umbrella Thorn</i>
<i>Mchemeri</i>	<i>Mzwana</i>	<i>Acacia abyssinica</i>
<i>Acacia nilotica (Egyptian Thorn)</i>	<i>Berchemia discolor</i>	<i>Mshigha</i>
<i>Mghunga</i>	<i>Mbokoi</i>	<i>Lannea schweinfurthii</i>
<i>Acacia Robusta</i>	<i>Melita Oblata</i>	<i>Mhina</i>
<i>Kiburabura (swa)</i>	<i>Mwarara(swa)</i>	<i>Lawsonia inermis</i>
<i>Prunus africana</i>	<i>Acacia brevispica (Wait a bit)</i>	<i>Mlamba</i>
	<i>Kikwata</i>	<i>Adansonia digitata</i>

Wildlife Works REDD Forest and Biodiversity monitoring

There are a number of specific Project Activities in this area that we will be completing according to the project implementation schedule provided to the Validator;

We will continue daily ranger patrols to monitor the health and vitality of the project area – we have been performing daily patrols on Rukinga for many years, and our rangers are extremely skilled at identifying potential threats to the biodiversity of the project area. We have already made the financial commitment to hire 57 rangers (upping the total to 76) who were trained and deployed to ensure that there is an immediate presence on the Phase II group ranches.



Wildlife Works rangers in uniform on daily patrol duties

With Phase II carbon finance, we plan to add several new permanent ranger stations around the project area, giving us a presence at all the points furthest from our Rukinga Headquarters, and in each new station, we will add a full new section of 8-12 Wildlife Works rangers, recruited and trained from the local community, along with a new team leader promoted from within our existing force. This is primarily to prevent incursions of illegal cattle, and to render the patrolling of far boundaries easier, in addition to developing closer working relationships with the communities furthest from Rukinga.

In anticipation of Phase II financing, we invested significantly in modernizing our patrol fleet, primarily to reduce the carbon emissions from our patrol vehicles, to reduce the cost of operation and maintenance, and perhaps most importantly, to ensure a reliable fleet to support constant ranger patrol support. We purchased 2 new landcruiser pickups for patrol work. We will retire the oldest patrol vehicle which is a 1980 Toyota Land Cruiser – HJ45 Diesel.

We also plan to improve our ability to monitor the HCV species in the project area by adding a dedicated Ranger Patrol, the HCV ranger team, which will be responsible for constant tracking and monitoring of HCV species, unlike the general ranger teams that patrol various geographic sectors about the project area. This dedicated team will be recruited from existing patrols based on tracking ability and knowledge of biodiversity; the 4 members of the patrol will be backfilled in the geographic ranger teams by hiring new rangers from within the community.

Additionally, to improve our monitoring of HCV species, we plan to establish a GIS center of excellence in Rukinga using the Camp Kenya facilities at Camp Tsavo, for which we have hired one full time Kenyan biodiversity conservation specialist, Patrick Kabatha, who we will provide with a small four wheel drive car and provide with a GIS computer station. Patrick and his assistant will be responsible for liaising closely with the HCV Ranger Team, with the ecotourism partner in the project area, and with all Wildlife Works ranger patrols to maintain daily sighting logs of the HCV species in addition to those other species of ecotourism value, such as Elephant, Buffalo, Giraffe and the Common Zebra. All species presence sightings are being recorded on the Wildlife Works standard daily ranger patrol sheets and with Phase II carbon proceeds, GPS enabled cameras and handhelds will be purchased to spatially enable all HCV sightings, and all data will be input into a database. They will also be responsible for maintaining a local copy of the Kasigau Corridor REDD project GIS database.

Community Wildlife Scouts

Wildlife Works has implemented a program of Community Wildlife Scouts, whereby we provide funding, training and logistics support to organized groups of Community Wildlife Scouts operating outside the project area but within the reference area to monitor and deter illegal activity such as charcoal burning and bush meat poaching, working closely under the supervision of our Wildlife Works ranger force. This extends our monitoring capability beyond the boundaries of the project area. One example of such a community ranger group is the Kasigau Conservation Trust:

Kasigau Development Trust

In the last 30 years, the human settlement and population growth around the Kasigau Hills and the hunting of wild animals in the area have both risen proportionately and dramatically. The area has also recently witnessed the introduction of commercial poaching, where animals are poached on a large scale and their meat sold for profit, as opposed to “for the pot” poaching that might be labeled as ‘traditional’. The emergence of charcoal burning and mining activities in the area has attracted a large itinerant population of casual labor. These people feed themselves and subsidize their income by laying snares and poaching wild animals. The people of Kasigau realized that the threat to the wildlife was increasing and so they formed the Kasigau Development Trust (KDT) in 2011. At the beginning of 2004 they received funding to build and equip an office; a base from which future conservation projects can be implemented and monitored, and had originally formed the now defunct Kasigau Conservation Trust. However, Chief Kizaka of the Kasigau community and Wildlife Works have facilitated the legal process that is necessary to get this new CBO registered and up and running, and we expect it to have a legal status by the end of April. This will then be the trust through which we will channel the Kasigau Location community portion of the carbon revenue.

Using carbon funding, the Kasigau Development Trust can expand its activities in partnership with Wildlife Works, using ideas and methods put forward by members of the Kasigau community to create a team of community scouts, which will enable the community to protect the wildlife that remains on the mountain as an asset for future generation. The Wildlife Works rangers will train and work with six community scouts 2 days in a month and the scouts will work another 6 days on their own every month, for a total of 8 days a month. This proposed project will run for three years. The Kasigau community felt that while they could patrol on their own, they would be far more effective if they were accompanied by experienced outsiders as well.

Kasigau Development Trust (KDT) will co-ordinate the community scouts, and the co-ordinator will write reports detailing the daily findings and progress for each month. The primary methods for achieving this will involve patrols on foot removing set snares using pliers and bolt cutters. The team leader will report to the authorities and/or Kenya Wildlife Service any cases of habitat destruction and any injured animals and also co-ordinate the rescue of trapped animals and document human activities that could be detrimental to the environment.

The team will set out in the early morning by vehicle and be expected to contribute 5-8 hours each day to desnaring for a period of 5 days. Five days of the project time shall be dedicated to sensitizing the community on environmental issues, the need to co-exist and value wildlife. The team will visit the five villages in the Kasigau area and hold workshops using the

established Participatory Rural Appraisal (PRA) approach. Priority will be given to women's groups and youth.

6 Kasigau community scouts will be picked to work with the Wildlife Works rangers, most likely one from each village. The Kasigau Development Trust (KDT) office will help in the selection and co-ordination of the scouts. The Community Scouts will work a total of 8 days in a month. Two days will be with the Wildlife Works rangers and 6 days on their own. The use of bicycles will enable the rangers to move from their homes to their base. The coordinator will work on the project for 10 days each month. On 8 days he will work with the scouts in the field and for 2 days he will compile a monthly report. He will be based at the Kasigau Development Trust (KDT) office. This will be to enable the Kasigau Development Trust (KDT) office to coordinate the rangers and compile reports to Wildlife Works and the biodiversity monitoring center.

REDD Carbon Inventory Monitoring

We will begin annual monitoring of our carbon inventory by revisiting 20% of our permanent fixed plots each year to resample the trees, shrubs and grasses, to look for degradation or growth in existing stocks. In addition, we plan to acquire remotely sensed imagery to monitor potential large-scale deforestation or boundary changes for the project. Also in this category, in 2011 was an investment in a gyrocopter, flown by Rob Dodson, to perform aerial monitoring of the project area. We will be investing in external on-site audits to verify the project carbon inventory every five years.

Ecotourism

Wildlife Works located an ecotourism provider who operates a safari camp in the center of the Rukinga Sanctuary. This center provides employment for safari guides and other service jobs, and a market for local produce. Without REDD Project providing funding for our continued protection of the biodiversity in the project area, this business would inevitably collapse.

The primary ecotourism, Camp Kenya, bring groups of young people to the camp, mostly from the UK, and these young people stay at the camp, but spend their days in the communities of the project area implementing service projects, thus presenting a significant benefit to the communities within Wildlife Works' sphere of influence.

We then negotiated for a second player, EcoTraining, to come to Rukinga. They are a South African safari guide training company, and they have agreed to allow us to put local youth into their program on a space-available basis to be trained as Safari Guides at a very



high quality level. As a Project Activity, we plan to provide funding for two local youth per year to complete their program, to be trained as professional safari guides.

We also intend to explore a second high end ecotourism retreat on Rukinga, to bring yet more jobs and income to the Project. This will need to be self-funded by outside investment partners, as it represents a significant capital expenditure.

Taita Ranch Ecotourism

On February 4th 2010, Wildlife Works agreed to enter into an agreement with the Directors of Taita Ranch, to explore ecotourism possibilities within their ranch, commencing April 1st 2010. This agreement represents an exclusive option to investigate and engage in ecotourism practices within the 88,000 acres of Taita Ranch. For an ecotourism option to be successful within Taita, the huge number of Somali-owned cattle on the ranch that have been competing with the wildlife for grazing, and negatively impacting the biodiversity of the ranch, must be addressed.

In order to solve this issue of external grazing contracts, Wildlife works agreed to pay a monthly fee adequate to afford Taita Ranch to no longer renew any cattle leases on the land for the duration of the agreement. This will leave the approximately 500 head of cattle, belonging to Taita ranch shareholders, intact and free to graze, but would reduce the number significantly from the excess of 3,000 head of cattle (and the large amount of people tending them), that have been currently grazing on the ranch. By doing this we expect much of the wildlife that was present on the ranch in previous times to be given a chance to return and flourish, in a more stable environment than before. Negative effects of overgrazing on the ranches megafauna, are also expected to be relieved by this agreement, and through careful monitoring and protection of the biodiversity, we are expecting significant improvements.

With such an agreement now in place, along with increased revenue opportunities for the ranch, should any eco-tourism practices commence, we feel this is a very valuable example of possibilities in other areas within the Kasigau Corridor. By protecting such areas, stakeholders will be afforded the opportunity to explore future business ventures in a more eco-sensitive fashion.

Taita Ranch will serve as an experiment, and hopefully a future example of what is possible through biodiversity conservation. The large ranch borders Tsavo East National Park as well as Rukinga Ranch. It is a natural environment for wildlife to re-habituate or migrate through, given favorable conditions.

Many other naturally beautiful, elevated areas exist within the project area, that would lend themselves to small, exclusive, low impact, eco-lodges. With such an extensive area, careful and sensitive planning, and environmental impact studies, would ensure no "overcrowding" as is sadly evident in some of the Kenya's more popular national parks and reserves.

Kasigau Rangelands Trust and Eco lodge

An investor has already secured a 15,000 acre wildlife conservancy, The Kasigau Rangelands Trust, in the Kasigau Corridor area, on Kasigau Ranch, within the REDD project area. An

ecotourism lodge is in the final stages of construction, indicating some of the future prospects of the area. James Omondi and David Ogiga (Finch Travel) are in partnership with the shareholders of Kasigau Ranch in this trust. The shareholders of Kasigau Ranch are from the immediate communities around Mt. Kasigau. They therefore have a vested interest in its success. The shareholders hail from the villages of Rukanga, Jora, Bungule, Kiteghe and Makwasinyi (see community map). The idea of the trust is that it will exist as a legal and long term entity, extending far beyond the life of the REDD project. James has secured a lease with KRT to set aside 15,000 acres (with expansion to 22,000 acres) of the Ranch as a wildlife conservancy. It is a no-go zone for any cattle or livestock and this has been enforced now for over 6 months. The funding for the project was initially sought in 2003 from the EU and TTF; funding was initially approved, but the 2007 election troubles halted it completely. James and David had to travel to Slovakia to release the funds. Their current plan is to open a small and simple eco lodge with a maximum of 12 guest rooms. Their market, through Finch Travel, has included successful privately guided clients, who are conservationists and wish to learn about and see more than the "big five", as is typical in East African safaris. Cultural community education visits, emphasis on conservation and sustainability within the wildlife areas are a wonderful ethos for this area. James and David are extremely happy with knowledge that the Carbon funding will go a long way to helping to preserve the Kasigau Corridor, and hope to become strong partners in the project. They employ 3 community scouts in the conservancy who are recording a "ten fold increase in wildlife after only six months and a definite improvement in the flora and fauna."

Saghasika Wildlife Conservancy Trust and Eco lodge on Zagitisa Hill

In 2005, Sagalla Ranch, Mgeno Ranch and Maungu Ranch bonded together in partnership to form of an MoU on the collaborative development and management of their ranches and natural resources. The ranches that are party to the MoU vowed to pursue joint conservancy-related activities for sustainability and socioeconomic development. From this MoU, the Saghasika Wildlife Conservancy Trust was formed, and signed on 22 September ,2006. Each ranch pledged to donate 5,000 acres to the trust and assign this 15,000 acres of land as a Wildlife Conservancy Area. Having created the trust an area on Zagitisa hill was identified as a potentially beautiful sight for a wildlife tourism project, and investors were to be sought. Carbon funding would aid in getting this project off the ground and Wildlife Works could invest time in designing and building a wildlife ecolodge on this site. The ranch shareholders themselves have invested significant time and energy into this project, and Wildlife Works feels it would be prudent to fully support it with carbon proceeds.

Kasigau Corridor and Kasigau Wildlife Forum Tourism development

Wildlife Works firmly believes that eco-tourism should not be narrowed to lodges alone. Other possibilities within the project area are being explored, including: Walking Safari's, horseback safaris, camel safaris and fly-in camping, to name but a few, have potential in the project area. Specific resources remain essentially untapped, such as the historical and cultural aspects of ecotourism. There are several significant historical sites dating back to World War I, with areas of fortification, including old breastwork and battle sites that are still clearly visible in the Mount Kasigau area.

70% of all Kenya's tourists visit the coast and 35% of them visit Diani Beach on the South coast. The option to explore linking the Kasigau Corridor to both the Shimba Hills National

Reserve, and the South Coast becomes obvious and very attractive, given the proximity of these areas, and the potential tourist draw. Furthermore, the possibility of forming a Kasigau Wildlife Forum is also being explored. Such important issues, for example, like combined marketing, feasibility studies for new projects and improved game driving and tourism structure can be addressed through such a forum.

School Construction and Bursary Scheme

When Wildlife Works arrived in this area, there were almost no schoolrooms, no books and no desks. None of the infrastructure needed for a decent education existed. We began with a school building program, and over the years we have partnered with the community and various donors, to build 18 classrooms throughout the district. We also build desks; our original Kenyan manager, Alice Ndiga launched a school bursary program, which she administers, that has sent dozens of local children through private high school, and several on to University.



Old Kale School – no floor, no desks, one mud room New School block built by Wildlife Works

Upon receipt of carbon funds, we plan on two specific Project Activities in this scheme, as outlined in the Project Implementation Schedule provided to the Validator;

- Provide direct funding to send 20 new students through four-year secondary school programs and four or five a year on to three or four year College/University, should they qualify – this is an annual commitment of \$8000 in the first four years of Secondary School fees and between \$10000 and \$20000 a year in college/university fees.
- Establish a Wildlife Works School Construction and Maintenance fund. We will hire a dedicated staff person to manage the fund with project management skills and the ability to write grant proposals, and provide \$30,000 per year in Wildlife Works funding above and beyond the compensation of the fund manager to seed school construction and maintenance projects in the project area. The Fund Manager will work closely with the local District Education Officer, and the existing school boards in the area to determine which projects should receive funding each year.

Note: the aforementioned represent minimum levels of financial commitment to Project Activities; funding levels will be revisited as project financing becomes more clear, based on available carbon proceeds per annum.

Group Ranch Office Renovations / Construction

For each of the ranches engaged in Phase II, we have committed to providing them help in renovating their Ranch Headquarter buildings. We have already completed these renovations in Kasigau, Maungu and Taita ranches. Rehabilitation included investment in solar energy and lights, completely modifying building structures, restoring a safe and livable environment, providing radio communications and base stations, rangers posts for the accommodation of 20 WWC Rangers, rain catchment and water tank repairs. Roof leaks and other safety concerns were repaired. Included in these projects was the renovation and decoration of a carbon office. These Carbon offices will be open to the public and shareholders, and will serve as important points of communication between the WWC and the community. They will serve as centers, featuring large maps and copies of the carbon easement agreements, thus allowing any stakeholder or community member who has questions/comments with an easily accessible point of contact. Upon receipt of further funds, Maungu and Kambanga ranch headquarters will be completed as well.

Wildlife Works Eco-Charcoal Production Facility for the Kasigau Corridor REDD Project

The Kasigau Corridor REDD project has now created an economic incentive for the landowners and communities within the corridor to protect their forest. Wildlife Works is now working with the landowners and local communities to implement forest management plans that exclude the destructive use of forest resources for fuel wood or charcoal, and as a result, the supply of “free” wood for local charcoal use will be greatly reduced.

Wildlife Works has an obligation to investigate a substitute for firewood and lump wood based bush charcoal to meet the fuel consumption needs of the local communities surrounding the Kasigau Corridor REDD project. Given this obligation, we set out to explore the rural bush charcoal issue in the entirety of its value chain to determine the most economically viable alternative “eco” or low carbon impact solution to this enormous problem that plagues much of rural Africa.

After surveying hundreds of people at all elements of the value chain, we determined that low impact community based charcoal production can indeed offer a sound alternative to ecologically damaging practices, such as hardwood extraction for lumpwood charcoal from primary forest destruction which is often accompanied by bush meat (hunting of wildlife species).

The following outlines the steps associated with establishing an environmentally sound charcoal production and distribution facility as an alternative to deforestation and poaching activities. The goals of this study were a) to determine how best to implement eco charcoal production in Kenya to offer a significant alternative to illegal practices that are destructive to the remaining critical habitat; and b) determining the cost of implementing such a project. The project involved three elements;

1. Value Chain Analysis by survey of that portion of the Kenyan charcoal market that originates in the Kasigau area;
2. Exploration of the various options for substituting eco charcoal for bush charcoal in that market, including assessing the plausibility and logistics of eco charcoal manufacturing

in southeastern Kenya. This includes cost profile for financial sustainability and competitiveness with bush charcoal.

3. Analysis of the emerging carbon market to determine the eligibility for carbon offsets in either CDM or the voluntary market for the production processes evaluated.

Value Chain Analysis

(Copies of the surveys responses and aggregated responses are available to the validator upon request).

- Who are the players at each level of the Bush charcoal value chain?
- What would the necessary economics be to get them to switch to eco charcoal?
- What technical hurdles exist in making that substitution a reality?

Bush charcoal producers

Are these truly independent contractors, what are their economic realities, and what, if any, are their aspirations – how receptive are they to a change in role, both culturally and economically. Facts needed:

- What is the average monthly income of a bush charcoal producer?
- How many days in the month are they working to achieve that income?
- How much charcoal do they produce and at what quality every month?
- How many months of the year do they operate?
- How many times have they been forced to move in the past five years?
- How much money have they paid in fines and or time spent in jail in the past year?
- What is their home tribe and where are their immediate families located?
- Have they ever been attacked in the bush by wildlife? Has anyone they work with? What was the result?

Bush Charcoal distributors

Can we avoid criminalizing side-of-the-road point of sale (POS), and engage those entrepreneurs and take advantage of their existing position in the distribution process by substitution of eco charcoal produced by Wildlife Works into their POS.

- How much do these distributors pay to the producers for a bag of charcoal and how much does that bag typically weigh?
- How much do they charge to truckers, etc. per bag at what weight ?
- What is the price range per bag based on the quality of the charcoal?
- How many bags do they sell per month?
- Could they sell more if they had a supply?
- How many months of the year do they operate?
- How much have they paid in fines/bribes in the last year?
- Would they be willing to accept a more reliable eco charcoal substitute and, if so, at what cost per bag at what weight?

Village Fuelwood and Charcoal Buyers

This is the most price sensitive market for bush charcoal, those people in the local community who are dependent on ready access to an inexpensive fuel source for their daily energy needs – this is reported to be as high as 80% of the energy consumption in many African countries, so introducing a carbon neutral or carbon negative substitute for the currently highly emission positive lump-wood charcoal model could potentially have a massive impact on African emissions. This phase included an analysis of bush charcoal price/volume usage sensitivity to explore whether the current access to low-cost bush charcoal has created an environment of wasteful energy use and an unnecessary expectation of fuel volume requirements, and to look at whether market functional needs can be met at static total financial outflows, assuming higher price and higher efficiency alternative “green” charcoal solutions. Also explored at this stage was whether a fuel substitute (e.g. LPG, kerosene) is feasible and if so, what are the technologies required, and what are the capital and ongoing economic implications, and also what are the offset implications of Wildlife Works Carbon LLC subsidizing the launch of a substitute. For instance, carbon neutral charcoal is possible if only the annual increment of biomass is being used to produce the annual charcoal needs. However, kerosene or LPG will themselves not be carbon neutral, but might be significantly more efficient fuels to result in the same net emissions reductions over firewood or lumpwood charcoal per functional unit of energy (meal cooked)?.

- How much Charcoal does the average family use per month?
- What is the average monthly household expenditure on fuel wood or charcoal?
- Would they use a fuel alternative if it were of comparable quality and
- the same price +/- 10%
- less expensive by 20% or less
- less expensive by > 20%
- more expensive by 20% or less
- more expensive by > 20%
- Under what conditions (e.g. equal price, lower price, ready availability etc.) would they accept a fuel substitute of different quality, e.g. LPG, Kerosene?
- Under what conditions (e.g. free equipment, subsidized cost equipment, purchase loan program) would they accept a fuel efficient stove and of what type, e.g. charcoal burning, wood burning, LPG, Kerosene?

Regional Fuelwood and Charcoal Buyers

Both commercial and residential users living in regional urban centers, currently being supplied by the illegal charcoal trade, would be examined next to determine how price sensitive they are and how their expectation of competitive pricing has changed in the past five years. Their future needs would also be examined. In other words, will they accept some reduction in supply to achieve the same basic energy needs, and will they accept some increase in cost, and if so, how much and over what period of time? This phase would include an analysis of bush charcoal price/volume usage sensitivity to explore whether the current access to low-cost bush charcoal has created an environment of wasteful energy use and an unnecessary expectation of fuel volume requirements, and to look at whether market functional needs can be met at static or lower total financial outflows, assuming higher price and higher efficiency alternative green charcoal solutions.

Urban Charcoal distribution cartels

These are the individuals or businesses that control access to the charcoal resource once it reaches a major urban center – can they be convinced that an eco charcoal alternative can provide a viable substitute for their distribution network, and if so at what price and energy content / efficiency parameters.

Eco Charcoal Production Exploration

Bush Charcoal

Estimates of bush charcoal efficiency have been made in the past in the literature at 11% but we believe that experienced bush charcoal producers can obtain as high as 20%. This is based on anecdotal evidence from interviewing many experienced charcoal producers in the Kasigau Corridor.

Plantation charcoal

We began experimenting with metal drum kilns inexpensively produced for us in the local economy. They are designed to our specifications, along with a manual briquette machine, also designed by Wildlife Works and engineered in Central Kenya at a commercial engineering company. We set out to answer the following questions;

- What is the best case energy efficiency and best of class production equipment for plantation charcoal using native species adapted to the semi-arid southeastern Kenyan climate and soil? – e.g. *Acacia nilotica*, using best in class appropriate technology.
- Using just primary annual biomass increment, how much land under plantations at what planting density would be required to produce enough charcoal to meet;
 - Local community charcoal needs?
 - Immediate Regional market charcoal needs, (e.g. Voi area)?
 - Sub-national market demand, (e.g. Mombasa region)?
- What are the cost side economics of each level of production volume required to meet the above three-tiered market demand?

Agricultural waste/Sisal based charcoal or Biochar

We set about to explore the potential for locally produced agricultural wastes that are currently being burned as waste to be converted in to charcoal to meet local fuel needs;

- What opportunities exist for either charcoal or Biochar, using the agricultural waste from the local sisal plantations. Matthew Owen's (mentioned previously) company conducted some tests on many agricultural residues including sisal, and we were able to obtain access to his results.
- What is the cost of the resource, e.g. free for the taking, or share of recovered value?
- What is the maximum available volume per month/year of the resource, and how much charcoal can that be converted into?

Carbon Market Opportunity

In addition to their intrinsic value as a charcoal substitute can any of the above production processes generate emissions reductions that are eligible for funding under CDM or the Voluntary Carbon Standard (VCS)?

EcoCharcoal Project Report, Conclusions and Next Steps

Wildlife Works advanced funding for this critically important project activity, enabling work to begin prior to validation and verification and receipt of carbon funds from Phase II. The results of the three phases of work were analyzed and conclusions developed about the best way forward for the production of EcoCharcoal in the Kasigau corridor.

A full budget for implementation of the project recommendations was produced and are included in a supporting document called “Wildlife Works EcoCharcoal Project Activity Design Document” which was provided to the Validators.

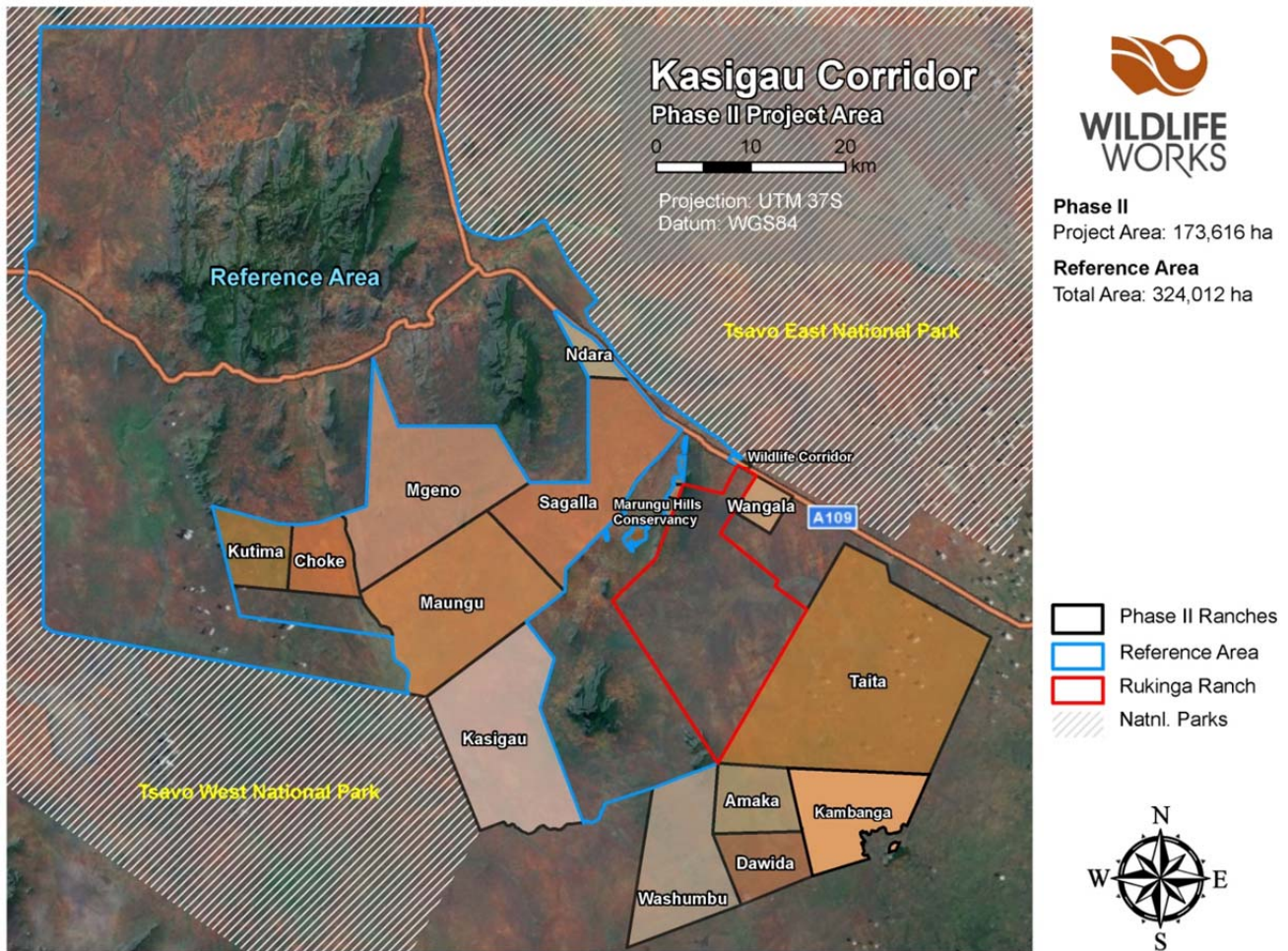
Wildlife Works/Tsavo Soap Factory

We helped one of our management team to establish an independent Organic Handmade Soap Factory on the Rukinga HQ premises, to demonstrate a higher value use of the jojoba oil being produced in our Dryland Farming Scheme. The soaps are extremely popular, but production is currently limited. With the carbon funding, we will expand the operations of this factory to produce a wider range of soaps and to better market our products.

Wildlife Works REDD Project Product Sales and Marketing

Another Project Activity funded by carbon will be to hire a full time dedicated individual responsible for the sales and marketing of all products produced by our project activities (e.g. fashion apparel from our ecofactory, soaps from our soap factory, jojoba oil, etc.) This individual would market regionally and nationally, attending any relevant craft fairs and trade shows. They would also be responsible for liaising with Wildlife Works Inc., USA personnel regarding the international sale of apparel and other products, and additionally would be a resource for local community crafts to be marketed at trade fairs, that would otherwise be out of the reach of local communities within the project area.

G3.3 – Location of Project Activities



The project area for the Kasigau Corridor REDD project Phase II is illustrated in the map above and in Annex 1; The corresponding group ranch identities are shown above. Remaining Dryland Forested areas within the scope of the project include;

Phase I:
Rukinga Ranch

Phase II:
Taita Ranch
Kambanga Ranch
Kasigau Ranch
Maungu Ranch
Mgeno Ranch
Sagalla Ranch
Ndara Ranch
Amaka Ranch
Dawida Ranch
Washumbu Ranch
Choke Ranch

Kutima Ranch
Wangala Ranch
Marungu Hills
Conservation Area
Wildlife Corridor Link

Phase III:
Any other ranches that do not qualify for REDD, but may potentially qualify under new Avoided Grassland conversion methods being developed under VCS by Wildlife Works, which we believe

are necessary to ensure the proper conservation management of the area.

The communities impacted by Phase II of the project will be those of Phase I plus the Southern population of Mt Kasigau, and the populations of Kilibasi in Kwale District, Teri Ranch, Mwatate and the populations of McKinnon Road along the Mombasa highway.

(See community map for a complete list of affected communities)

G3.4 – Time Frame and Project Accounting

The project began in 2010 and has no planned end date; the carbon project is assumed to provide adequate funding. The project crediting period was selected at 30 years, greater than the 20 year minimum allowed under the VCS REDD standard, but which provides a balance of financial return and permanence of GHG reductions. Deforestation threat to this area is intense today, but may pass in 30 years.

Phase I forest lands have been protected by Wildlife Works since 2005, but on a loss-making basis. When the VCSA rendered REDD projects eligible for VCU (credit) generation in November, 2008, Wildlife Works sought financing to initiate such a REDD project for the Phase I Rukinga Project. After securing financing through a joint venture called Wildlife Works Carbon LLC, this project was launched. All documentation relating to this sequence of events was made available to the validator.

We gleaned from section 5.2.1 (Project Start Date) of VCS 2007.1 that: “AFOLU projects starting on or after 1 January, 2002 are not required to complete validation within a specific timeframe. The earliest project crediting period start date under the VCS 2007.1 shall be 1 January 2002 for AFOLU projects.”

Wildlife Works has elected a project start date for Phase II of January 1, 2010, with a project crediting period of 30 years. Project crediting end date is therefore December 31st, 2039. Throughout the project crediting period, there will be periodic verifications performed by an accredited CCB certifying organization. These verifications will ensure that the carbon remaining in the Project is in line with the amounts expected at the start of the project, or greater as the case may be under re-growth. These verifications will be performed subsequent to initial validation and at least every five years thereafter.

We have provided the validator with a project activity implementation schedule which outlines all the project activities, along with start and end dates and investments required both in terms of capital expense and operating expense.

G3.5 – Project Risks and Mitigation Measures

Major risks that could have impact project are:

- Change in legislation – government expropriating the land through compulsory purchase for development scheme; as the Government of Kenya is very supportive of our project, and has no recent history of expropriation of private conservation lands, this risk is very low. We will continue to seek international press for our project, as keeping it in the spotlight promotes awareness, and reminds the Government of the value it is adding to the country of Kenya.
- Income - risk carbon market revenues do not eventuate - or are less than adequate to -sustain the project financially; financial sustainability was modeled at extremely conservative carbon offset sale values, and we have a very popular project with high

potential value in the marketplace. The likelihood of financial insolvency is therefore deemed to be very low.

- Crop failure - substantial and repeated crop failure in surrounding communities could lead to increased poaching and use of forests for financial benefit; this is quite likely, and virtually all of our alternative economic development efforts are aimed at mitigating this risk.
- Invasion of cattle grazers due to famine in adjacent communities, or lack of grazing elsewhere - Any influx of cattle only affects the quantity of grass in the project area and leads to no significant change in carbon stock. Again, this is possible especially as Somalis have used land in this area to feed and water their cattle over the years, sometimes with permission and sometimes without. However, given increasing aridity in the area, we believe Somali cattle herders will be forced to look elsewhere for rangelands. We will be using carbon funding to increase ranger patrolling to better protect the project area from illegal incursion.
- Drought – drought is an increasing reality in this area of Kenya. We anticipate that climate change will worsen this problem throughout the project crediting period. Drought inherently introduces two additional risks:
 - Wildlife – drought places severe stress on wildlife in the project area. However, many of the species living in this ecosystem are extraordinarily drought-adapted, and have little problem surviving in extended periods without rain. For those that aren't, we plan to continue to provide emergency water sources at all the ranches in the project area, just as we have done in the past on Rukinga for Phase I. This issue is dealt with in much more detail in Section GL1.2 below.
 - Cash crops – drought will render the survival of cash crops, such as Jojoba and citrus trees more difficult. However, these high value cash crops will be planted sparingly and actually require much less water than a comparable maize field, and are able to survive higher temperatures, provided they receive some water. Farmers will be in a position to provide this to preserve the financial value of the crop under project funding.
- Fire – grass fires are common in the region due to intense heat and dry conditions. Naturally occurring fires are actually extremely rare; Our strategy is to continue educating the local population, especially the youth, about the dangers of burning fallows to improve grazing for their animals. Fires tend to burn the grasses and shrubs, but move very quickly, and typically don't kill the trees which have become grass-fire tolerant over the years.

G3.6. Maintenance of High Conservation Values

Wildlife Works' entire REDD+ project is designed to maintain the high conservation values of the project area. We operate permanent ranger patrols to prevent illegal physical encroachment into the forest, and we have implemented extensive community outreach to ensure their support. Specifically, the following project activities, as described in G3.2 above,

are designed to maintain the HCV flora and fauna in the project area;

- Improve our ability to monitor HCV species in the project ranches by adding a dedicated Ranger Patrol, the HCV Ranger Team;
- Improve monitoring of HCV species by establishing a GIS center of excellence at Rukinga;
- 3 year reforestation and monitoring project on the slopes of Mt. Kasigau (see supporting document "Mt. Kasigau Reforestation Plan" submitted to validator).

G3.7. Measures Taken to Enhance CCB Benefits Beyond Project Lifetime

The Kasigau Corridor REDD project is a component of a comprehensive conservation project being executed by Wildlife Works since 1998, and it is our intention to utilize carbon funding provided by the REDD project to make necessary investments in job creation and income generation activities to sustain financial stability into the foreseeable future. The project has executed carbon right agreements in the project area; As a result, landowners are encouraged to consider carbon values. It is our intention to get these CRAs registered as full easements against the title deed of the land, although there is no perfected mechanism under Kenyan law. Our approach to transfer knowledge and our assistance in creating conservation institutions within the community speak to the efforts to ensure the CCB benefits extend indefinitely into the future.

It is Wildlife Works' intention to create a lasting culture of job creation and financial health in the project's sphere of influence. To that end, every job created thus far, and every job slated for creation in the future upon receipt of carbon funding is designed to last not only throughout the project crediting period, but in fact well beyond. Carbon revenues will change the face of these communities, and Wildlife Works has worked to raise awareness about the link between forest / wildlife protection and the availability of sustainable employment. This document outlines a clear project work plan, which is in turn described in more detail in the Project Implementation Report (PIR), where we have made detailed job creation information available to the public. For virtually each and every project activity, as one of the measures of success, we will be tracking the number of jobs created as a direct result of that activity. Employment information will be reported in each PIR and Project Monitoring Plan (PMP) throughout the lifetime of the project. The types of job created by the Kasigau Corridor REDD project activities, whenever possible, are full-time, permanent positions, designed to last well beyond the crediting period.

G3.8. Stakeholder Involvement

Wildlife Works has over ten years of a close working relationship with the communities in the project area. EcoFactory project was initiated, we sought permission from the local community and local authorities; although we were a private business operating our conservation project on private land, and were told in those early meetings by the local administration that we did not need their permission, we have made every effort to seek approval from local stakeholders at every step of the project. We understand well the critical nature of local community support and buy-in for any conservation or development project, and we wish to be a trusted partner within the community. Wildlife Works believes that we have achieved that and more. To

document each and every meeting we have had with the communities in the project area over the past ten years would be impossible, but there have been literally thousands, on a wide range of subjects from project initiation to school needs, to conservation of community lands, to establishment of a local environment clean up day and a community waste handling facility.

Specifically, as it relates to the Phase II carbon, we have documented every step of the project, and copies of all meeting minutes were provided to the validator. We initiated the process of gaining Free and Prior Informed Consent (FPIC) with the Phase II stakeholders. Some of the Phase I Rukinga shareholders are also shareholders in other group ranches in the area, and they requested that we consider them the REDD project, so we contacted the directors of these surrounding ranches first. We then held a number of training sessions within the community to inform the local community ranch shareholders of the achievable benefits of carbon. A copy of this presentation was provided for the validator. These sessions were held during 2009. For example;

- *Taita and Amaka Ranch Board of Directors – April 2 2009, location Taita Ranch HQ*
- *Kasigau, Maungu, Mgeno, Washumbu, Kambanga Boards of Directors – Group meeting, Voi, April 2009*

Phase II, after a negotiation process between Wildlife Works Carbon LLC and the Directors of the respective ranches, carbon Easement agreements were signed between Wildlife Works Carbon LLC and 13 other community owned group ranches. To guarantee complete transparency in the negotiations and ensure that all shareholders were clearly informed and remained supportive of the carbon easement agreement, an Extraordinary Annual General Meeting (AGM) was held for each of the individual ranches. A presentation was made by Wildlife Works Carbon LLC to all shareholders. This presentation was made in three languages (English, Swahili and Taita) with an audio visual projector and was adapted to plain language, accessible to the rural audience. Once this presentation was completed, Wildlife Works left the shareholders to cast their vote. A majority vote was required. All 13 ranches voted unanimously, or near unanimously to become partners in the REDD Phase II Project and allow WWC to develop their carbon assets, and to sell their carbon on the international markets. (Copies of the presentations, and the minutes taken at these extraordinary AGMs are kept on file and will be made available to the validator).

We have always had an open door policy at Wildlife Works, and members of the community interested in learning more, or with questions, suggestions and/or grievances can drop by or offices us at any time. We have initiated a formal community contact process outlined in section G3.10 below, and will track any suggestions made and the resolution within the project implementation plan moving forward. We have also implemented a community liaison team, slated to constantly travel around the project area, which will hold community meetings, or "barazas", to sensitize the community to the project's goals, and to give them a chance for providing feedback. Laurian Lenjo, office, personnel and community relations manager, who himself is from the local community is responsible for this process, and he works closely with Lara Cowan to organize and conduct these meetings. A list of meetings held and attendees is always made, and is available to the validator for review.

G3.9. Publicization of Public Comment Period

The project PDD was posted on the CCBA website (<http://www.climate-standards.org>), and was held open to comments from the public between the dates of March 17th – April 17th.

As many local community members either don't have access to the Internet or are not fluent in English, Wildlife Works provided an impartial commenting service. Flyers and posters were distributed at the following locations:

1. Chiefs and Sub- Chiefs offices
2. Public meetings (Swahili: "barazas")
3. Schools
4. Newsletter Outlets (e.g. Voi town, Maungu Town, etc.)

Flyers contained information informing the public that they could make comments on the PHASE II REDD project through the CCBA website. Should they not have access to the internet, or needed translation services, they were advised to either come to Wildlife Works head office to use the internet service, or alternatively, write hard copies of their comments and to bring them to Wildlife works for posting, and if necessary, translation.

Translation was carried out by our community relations officer Laurian Lenjo, agricultural officer Joseph Mwanganda, and also by office assistant Catherine Mwalugha. Translators were instructed to transcribe exactly what the community member wrote or spoke. They were encouraged to speak their mind about any subject they wished. Additionally, the Wildlife Works office at Rukinga HQ was made open and available for community members to visit and submit comments. The majority of comments arrived to us handwritten and were transcribed verbatim to a digital document and submitted to the CCBA during the comment period.

The hours for the Wildlife Works headquarters were 8:30 am to 4:45 pm Monday through Friday for the duration of the public comment period.

G3.10. Conflict Resolution

Our Conflict Resolution Process has been formalized in a document called the "*Wildlife Works Community Conflict Process*" which has been provided to the validators. Any comments that are raised which require adjustment of the document will be addressed promptly, and for the life of the project, we aim to continue our open door policy with members of the community. All comments and conflicts will be documented for the life of the project, together with their resolution, which will typically involve mediation by the local administrative chief. We are familiar with this process throughout interaction with community for ten years, and we are committed to providing written responses within 30 days.

G3.11. Project Financial Support

Wildlife Works is responsible for project implementation and support with funding coming from successful sale of credits from Phase I of the Project. Both look-back historic financials to the project start, and forecasts that include the carbon revenues are available. This information is commercially sensitive and will be shared with the validator at the site visit. All costs

associated with carbon inventory and project design documents have been met by Wildlife Works.

We have also made available a detailed spreadsheet of the first two years cash flow for the project, indicating there will be a large surplus of funds at the end of year 2, and showing the steady state finances for a full year of the project from 2012 and onwards. The revenues in the cash flow are based on actual transactions to sell pre-certified carbon credits that closed in November 2009 and September 2010. There is therefore little uncertainty about the cash flow for this period.

This cash flow matches the project activity implementation schedule, also provided to the validator, referenced in Section G3.4 above, and to support this cash flow document, we have made available the following documents, which demonstrate our knowledge of the capital expenditure costs needed to accomplish the various project activities we have committed to in the implementation schedule;

1. *Factory Addition Cell 2 Cost* - EcoFactory Expansion Costing for Dye and Screen Print House.
2. *Wildlife Works Shade House Costing* – Provides cost of building an additional shade house at Rukinga and also the cost of each of the 10 community nurseries we will build in the community villages.
3. *Bungule Guard Post Costing* – provides the cost of adding a new ranger station to monitor the southeastern boundary of the project area.
4. *Typical Classroom Budget* – budget indicating that our \$30K / yr school construction maintenance budget will be adequate to build 3 new classroom each year if so desired by the community.

G4. Management Capacity and Best Practices

G4.1. Project Proponent

Wildlife Works Carbon LLC is the project proponent. Specific responsibility within Wildlife Works lies with Mike Korchinsky, the President of Wildlife Works Carbon. In addition Wildlife Works hired a VP Carbon Development, who is a Geospatial and Carbon Accounting expert, Jeremy Freund to perform the detailed preparation of the carbon accounting and of this project design document.

Funding for the project is provided by Wildlife Works Carbon LLC, and in-country employment for the carbon project is provided by Wildlife Works Sanctuary Ltd, a Kenyan Limited Liability Company, majority owned by Mike Korchinsky.

Other key job descriptions related to our Project Activities are;

Kenyan Site Manager – Rob Dodson

General Description:

Overall manager of Wildlife Works operations in Kenya.

Role Specific Responsibilities:

The Site Manager is responsible for overseeing the management of the EPZ sewing factory, Rukinga Wildlife Sanctuary, the 13 Community Ranches, the Greenhouse/Jojoba Projects and all Community Development Initiatives. This is an extremely important role within our enterprise, as this is the most senior position responsible for all day-to-day operations.

Functional Responsibilities:

Managing the Ranger force responsible for the protection of The project area.

Overseeing the management and welfare of all Wildlife Works staff.

Managing the running of Wildlife Works EPZ Eco-factory.

Managing the Tsavo Soap Company.

Managing the Organic greenhouse and Jojoba Projects.

Collaborating with the community on development projects.

Financial Responsibility for all Kenya country operations.

Job Skill Requirements:

This role requires excellent interpersonal and communication skills, man-management skills and a fluency in both English and Kiswahili. It also requires extensive knowledge of;

- wildlife management including all aspects of managing a large African wildlife sanctuary from road and water point maintenance to biodiversity monitoring and interventions
- human wildlife conflict resolution
- office management, personnel and administration
- accounting
- marketing

- apparel production process
- all round knowledge of construction methods and mechanical engineering

Job Reporting:

Reports to Mike Korchinsky, Wildlife Works CEO

Head Ranger – Eric Sagwe

General Description:

The Wildlife Works Head Ranger is in charge of the rangers that patrol the project area, including Rukinga Wildlife Sanctuary and also the day and night watchmen that guard the Wildlife Works headquarters compound.

Role Specific Responsibilities:

The Head Ranger organizes patrol schedules and placements for the rangers throughout the 5 ranches so that the Rangers' presence is an effective deterrent to wildlife poaching activities and human-wildlife conflict problems. It is his responsibility to maintain discipline amongst the rangers and watchmen, to ensure that they are presentable and professional whilst carrying out their duties.

Functional Responsibilities:

Managing the Wildlife Works rangers and watchmen teams.

Maintaining discipline amongst the security staff.

Planning patrols and camp staffing requirements.

Tracking/finding poachers or other wrongdoers and arresting them.

Maintaining The Phase I and II project areas as a natural environment in which wildlife will thrive.

Job Skill Requirements:

The Head Ranger must possess exceptional interpersonal skills in order to get the most out of his staff, he must command respect and also lead by example. He must be a competent driver both on and off the road and have a good working knowledge of vehicle mechanics. The role requires an excellent knowledge of biodiversity and ecosystem, especially large mammal behavior, seasonal wildlife movements and threats to this natural environment. The head ranger must be able to foster and maintain a good relationship with the communities that border the project area and also with the district administration and Kenya Wildlife Service (KWS). Role must be fluent in English and Swahili, both written and oral, and have adequate knowledge of the languages and cultures of the people that live around the project area.

Job Reporting:

Reports to Rob Dodson, Rukinga Site Manager.

Sewing Factory Supervisor – Daniel Munyao

General Description:

This is a full time role at Wildlife Works, EPZ Ltd. and is an extremely important role within our enterprise, as this is the senior position responsible for all day-to-day operations of the EPZ EcoFactory, where Wildlife Works and other apparel products are produced.

Role Specific Responsibilities:

This role has responsibility for all aspects of day to day management of the sewing factory, including training and supervising all factory workers, assisting in the development of new apparel styles, the sampling of customer orders, the management of production orders from fabric ordering through cutting, sewing, send-out for dye and print if required and finally finishing and packing in the factory. This role is also responsible for ensuring an environment conducive to high productivity in the factory while maintaining a pleasant and aspirational workplace for all sewing factory employees.

Functional Responsibilities:

Factory Raw Material Purchasing
Factory Inventory Management
Customer Sampling and Development
Factory Production
Factory Workforce Training
Factory Workforce Safety
Factory Asset Protection

Job Skill Requirements:

Role requires specific experience in all aspects of day to day management of the Wildlife Works EcoFactory including knowledge of how all types of garments are constructed, how to set up production lines to produce many different types of garments or other sewn products, how to lay and cut fabric, and how to operate a sewing machine etc. Role also requires strong interpersonal and people management skills to keep the sewing factory employees trained, motivated and enthusiastic about their work to ensure high productivity and low turnover. Role must be fluent in English and Swahili, both written and oral, and have adequate mathematical skills to maintain inventory, schedule production, etc.

Job Reporting:

Reports to Rob Dodson, Rukinga Site Manager

Office Manager/Personnel and Community Relations – Laurian Lenjo

General Description:

This is a full time position at Wildlife Works, EPZ Ltd and is very much a multi-functional role. The Office Manager is primarily responsible for administration and personnel matters, but also plays an important role in community relations with cultural interactions.

Role Specific Responsibilities:

The Office Manager is responsible for the day-to-day management of the Wildlife Works office, answering telephones and messages and relaying information between the different company departments. The Office Manager keeps the companies files in order and up to date and deals with personnel grievances, general enquiries, job applications, sickness claims and other matters. The Office Manager also oversees the stores and workshops and is responsible for purchasing and stock control and maintaining the rangers patrol report database. This role also involves liaising with our community partners during project implementation and conflict resolution.

Functional Responsibilities:

Maintaining all companies files and records and general administration.
Managing the office, dealing with visitors and handling office correspondence.
Dealing with personnel matters.
Overseeing directly the stores, workshop and housekeeping departments.

Job Skill Requirements:

This role requires excellent interpersonal skills and fluency in English, Kiswahili and Kitaita. It requires a good knowledge of computer word processing, email and accounts packages and good letter writing and telephone skills. In order to fulfill the community relation's role, this person must be a well-respected member of the community and must have excellent knowledge of the ecosystem and the companies place in it alongside the community.

Job Reporting:

Reports to Rob Dodson, Rukinga Site Manager

Greenhouse, Nurseries and Jojoba Project Manager

General Description:

The Greenhouse, Nurseries and Jojoba Project Manager is in charge of propagating indigenous and agro-forestry tree and plant species that fall under the Wildlife Works Organic Project.

Role Specific Responsibilities:

The primary responsibility of a watchman is to look after the property of the company so that it things don't go missing or are not broken and to either apprehend or report people who they suspect of wrongdoing.

Functional Responsibilities:

To oversee the propagation of root stock, grafted and budded seedlings.
Write proposals and run specific projects that enhance the overall project.
Keep stock of seedlings and greenhouse equipment.
Market the fruit seedlings to bring in revenue for the project.
Train and monitor the other greenhouse staffs' performance.
Keep abreast of new methods and developments in organic propagation.

Job Skill Requirements:

The Organic Project Manager must have an extensive knowledge of organic greenhouse practices including organic fertilization and pest control, budding and grafting techniques. The manager should have good written and spoken English and Kiswahili skills and be able to keep accurate accounts of his operations. They should be able to distribute the greenhouse products and be able to work with and educate communities on best planting practices and then advise on irrigation and fertilization techniques.

Job Reporting:

Reports to Rob Dodson, Rukinga Site Manager.

Company Accountant – Paschal Mulonzya

General Description:

This is a full time role at Wildlife Works, EPZ Ltd. The company Accountant is responsible for keeping the companies accounts up to date.

Role Specific Responsibilities:

This role has responsibility for all aspects of the day-to-day management of the companies accounts and payroll. The accountant keeps accurate records of the income and expenditure of the company and is responsible for reporting this to the management and the authorities as required. The Company Accountant files the annual returns and ensures company compliance with all Government of Kenya taxes, payments and reporting schedules. He is also responsible for obtaining the licenses that the company requires in order to operate legally.

Functional Responsibilities:

Keeping company balance sheets accurate and up to date.

Renewing licenses as required.

Reporting accounts to company management and directors.

Submitting returns to Government departments as required by law.

Payment of statutory Government taxes and levies

Maintaining the company payroll sheets.

Company asset stocktaking and protection.

Invoicing and receipting creditors and debtors.

Collaborating with auditors as required.

Job Skill Requirements:

This role requires an education and qualification in accountancy and a good working knowledge of current practices and laws. The Company Accountant must be fully conversant with both ledger and computer based accountancy methods and office packages and must be able to invoice and receive payments and converse with clients and suppliers by mail, email and on the telephone. The Accountant must possess excellent written and spoken English and Kiswahili.

Job Reporting:

Reports to Rob Dodson, Rukinga Site Manager

G4.2. Technical and Management Expertise

Wildlife Works is managed by Mike Korchinsky, a serial entrepreneur, with significant large company management expertise. Mike is supported by Colin Wiel who is a successful entrepreneur in his own right and the founder of the San Francisco chapter of the Keiretsu Forum, a world class angel investor forum.

Key personnel in this project include Mike Korchinsky, who has been a large scale land owner of conservation lands for almost 15 years, in Africa and Canada, and who had a very successful business



career prior to being the founder of Wildlife Works. He has experience managing multi-million dollar projects all over the world, some of those projects had as many as 5,000 team members, and he has had to operate with profit and loss responsibility for all of those projects in addition to the experience of being a member of a US Public company executive team. Mike founded Wildlife Works in 1997, and it has come to be respected by many of the leading conservation groups in the world as a model for community based conservation. Mike and his team on the ground in Kenya have successfully steered Rukinga Ranch through many challenges over the years, to create the vibrant biodiversity sanctuary that it is today.

VP African Field Ops - Rob Dodson

Rob has more than 15 years of experience in managing various aspects of development projects in Africa, from building schools, tourism resorts and production facilities to managing over 100 staff and interfacing directly with hundreds of community members on a regular basis. He speaks Swahili fluently and has gained the respect of administration officials at all levels of local and regional government in Kenya. In fact, Rob is so well respected he was recently elected Chairman of the Board of the brand new Secondary School, the first of its kind in the community. For the last 8 years, Rob has been responsible directly for all aspects of land management of the 74,490 acre Rukinga Ranch, the entire project area, plus additional lands totaling another 5,000 acres that Wildlife Works manages for conservation for the owners of those lands. He has extensive knowledge of local and regional biodiversity, is an honorary warden with the Kenya Wildlife Service, has a great appreciation for the needs of local peoples, having lived among them in the small rural village of Maungu for over 10 years, and has the experience of managing ecotourism both within the project area, and before joining Wildlife Works, in the world famous Maasai Mara. He is a world class auto mechanic, critical to being able to keep a fleet of aging patrol vehicles in operation, and he is a qualified and highly experienced microlight pilot, an invaluable skill for aerial survey and monitoring of the project area and Zone.



VP Carbon Development – Jeremy Freund

With over 15 years experience in the fields of satellite remote sensing and applied geography, Jeremy brings broad technical skills to the Wildlife Works Carbon team. Possessing a B.S. in Aerospace Engineering from the University of Colorado at Boulder, Jeremy specialized in satellite image processing with several years experience working for prime US government contractors. He received his Masters in Geography from the University of California, Santa Barbara, where he developed a crop monitoring/ famine early warning system for the country of Kenya. He has spent several years working in applied natural resource science with emphasis on GIS/remote sensing for ecosystem services monitoring and forestry applications. As the technical lead for Wildlife Work Carbon, Jeremy's primary responsibilities involve management of AFOLU carbon accounting and project certification / verification. Jeremy is also responsible for training of the Kenyan staff in GPS/GIS and mapping technologies, overseeing all the necessary information and database management at Wildlife Works Rukinga HQ.



Other key Management Roles to ensure successful continuation of all Project Activities include the following;

Company Accountant – Paschal Mulonzya

Paschal is a qualified accountant having received a Bachelor's and Masters Degree in Commerce, Accounting Option, from Rani Durgavati Vishwavidyalaya University in India. He has been working in Kenya as Chief Accountant for a number of firms prior to joining Wildlife Works in 2005. Paschal is a Kenyan citizen, from the Kamba tribe, his home located to the northwest of the project area. He is responsible for all bookkeeping and accounting task with Wildlife Works including interfacing with the external auditors who produce our audited financials annually. It was not possible for us to find someone with his skill set in the local community.



Sewing Factory Manager – Daniel Munyao

Daniel is a Kenyan citizen, and like Paschal is a Kamba, and he is an experienced sewing factory supervisor having held positions at several large factories in Nairobi and Mombasa prior to joining Wildlife Works in October 2002. He began his career in 1982 as a machinist and worked his way up through the management ranks. His wide experience of all aspects of apparel production, together with his personal attributes of being an excellent team player, a positive reinforcement style manager, and needing little or no supervision on a day to day basis, make him an invaluable resource for us in managing our sewing factory in the bush.



Office Manager, Community Relations and Personnel - Lenjo Laurian

Lenjo is of Taita origin from the immediate community and was one of our first employees hired as a storekeeper and assistant to the then Site Manager Alice Ndiga in January 2001, and he was trained into the position he now holds – his skills include people management, cultural knowledge of local community norms, basic administration computer skills such as Word and Excel, excellent verbal and written communication skills with fluency in English, Swahili and Taita and excellent conflict resolution



Greenhouse, Nurseries and Jojoba Project Manager - Joseph Mwanganda

Joseph is a consultant to Wildlife Works, in addition to his role as Agricultural Extension Officer for the District Agricultural Office of the Kenyan Government. He is a Taita from the project area. Joseph has a wide range of Agricultural skills and experience, and has assisted us in setting up our own Organic Greenhouse, as well as trial nurseries within the villages of the project area. He will play a key role in the extension of nurseries proposed as a project activity, as well as in the expansion of the Dryland Farming/Jojoba Project also proposed as a project activity.



Head Wildlife Ranger - Eric Sagwe



Eric is a wonderful product of our policy to hire locally and to promote from within. Eric grew up less than 1 mile from our project headquarters, and was originally hired as a young man with no formal training to be a wildlife ranger in the sanctuary, when his father passed away unexpectedly. At that time the Head Ranger was a Kenyan, Ekiru Mirimuk from a different region of Kenya, who had been brought in at the start of our project because he had specific knowledge and experience with managing a ranger force in the Kenyan bush, to patrol and to perform anti-poaching and other activities. When Ekiru retired, Eric was promoted to Head Ranger. His skills include motivation and leadership by example, tracking, patrol design and supervision, wildlife recognition and bush awareness and conflict management.

Carbon Operations Manager – Jamie Hendriksen

Jamie is in charge of the new projects and developments that are needed to ensure that the Project is feasible for its 20 year life span. His duties include supporting Rob Dodson and oversee the design, budget, construction and management of the expansion plans to all the new ranches within the project area. Jamie has had over 11 years experience in running high end Tourist Lodges throughout Africa. He is skilled mechanically, trained in technical design, and has an uncanny ability to get a job done quickly and professionally. He is fluent in Swahili and has had great experience operating in Wildlife Sanctuaries, in often high conflict areas. He is a skilled communicator, negotiator, great team player and possesses a wonderful diffusing personality which commands Jamie much respect from his peers and employees alike.



Carbon Office Manager – Lara Cowan



Lara (Kenyan born) has, with her partner Jamie, run high end Tourism Camps for over 11 years. Her training in Business Management support her skills to complete tasks according to plan and in budget. She is also trained in accounting and is highly computer literate. She is artistic and has experience in working with Women's Groups in designing and overseeing the manufacturing and beading of products and selling them in the local craft fairs and lodges. She enjoys interior design and the challenge of new projects. Her skills will be used to support Rob

Dodson with project administration and assist Jamie, as well as overseeing the Community project activities and their management and development.

G4.3. Capacity Building

Wildlife Works has always provided training for its employees in Kenya, starting from the early days when we built a factory and taught local women how to sew from first principles. We have trained local wildlife rangers, factory workers and supervisors, organic greenhouse workers, personnel managers, and most recently we have taught many local residents in how to perform a forest inventory. We have provided the validator with training programs for Wildlife Works rangers, factory workers and greenhouse workers.

G4.4. Community Employment Opportunities

Wildlife Works has already employed over 150 members of the local community. We only employ one ex-patriot for the entire project and a handful of technical specialists who are Kenyans from outside the community, as the skills were difficult to find locally. We intend to continue this policy of local employment first.

G4.5. Employment Laws

Wildlife Works has been operating within all local and national employment laws for almost ten years in the country of Kenya. Like any business, Wildlife Works is subject to periodic audit by the Government Employment Officer. We have always passed these inspections, whether it be from local officials or International agencies such as Verite.

The laws that are relevant to this project are:

EMPLOYMENT LAWS.

- **Export Processing Zone's Act (Cap. 547)**
As an Export Processing Zone Company we are exempted from the standard Labour Laws of Kenya, and instead must conform to those laws that have been deemed applicable to (General Provisions of the Employment Act (Cap 226-229) or amended for EPZs as covered by the Export Processing Zone's Act (Cap. 547).
- **National Health Insurance Fund**
N.H.I.F was established on 12th July 1966 by an act of parliament Cap 255 of the Laws of Kenya, and become a state corporation on 15th February 1999 through an act of Parliament no.9 of 1998. The objective of its establishment is to enable majority of Kenyans to access healthcare services at supplemented costs. Contribution to the fund are compulsory for all persons whose income is Ksh.1000/= and above. We physically go to the NHIF offices in Voi monthly to submit our monthly payroll and have the NHIF amount calculated by them, we pay and they give us a receipt. We are also subject to random checks with the NHIF inspector visiting our facility without notice and inspecting our books. We have never been found in violation of this act.
- **The National Social Security Fund act ,Cap 258**, is a government fund established by the National Social Security Fund Act,1965 ,For the benefit of the Members. It is a compulsory savings scheme into which the employer pays a statutory contribution for every employee who is a member. We physically go to the NSSF offices in Voi monthly to submit our monthly payroll on a NSSF form, and we pay the monthly dues. We are subject to strict audit checks by the NSSF inspector who visits our facility every two months and on passing the audit provides us with an official letter indicating we are in compliance. We have never been found in violation of this act.
- **Pay As you Earn (P.A.Y.E)**
Section 37 of the Income Tax act.

The “Pay As You EARN” method of deducting income tax from salaries and wages applies to weekly wages, monthly salaries, annual salaries, bonuses, commissions and directors fees (Whether the director is resident or non-resident). We are required to go to the bank (Kenya Commercial Bank = KCB) on a monthly bases to pay the tax withheld from our employees wages and salaries; the bank takes one folio from our KRA receipt book, and stamps the other two folios, one of which we then take to the KRA office in Voi and provide it to them.

- **The Factories and Other Places of Work Act**

The Factories Act (Cap. 514) deals with the health, safety and welfare of an employee who works in a factory or other place of work. We have never been audited by this department in the Government as it is very small and covers the whole country, however we have good reason to believe we are in full compliance with this act as a result of a third party audit of our factory and operations performed by the independent NGO Verite, from the USA.

- **The Work Injury Benefits Act (Cap. 236)** provides for methods through which an employee who is injured when on duty may be compensated by the employer. We are required to maintain private insurance to cover our responsibility under this act.

- **Regulation of Wages and Conditions of Employment Act (Cap. 229)**

This act sets the conditions of work and the minimum wage guidelines. The EPZ Act supersedes this act with regard to minimum wage and in fact the EPZ minimum wage guidelines are slightly higher than the National Employment Act guidelines.

- **Labour Relations Act, 2007 (Acts No. 14)**

This is the new version of the old Trade Unions Act and the Trade Disputes Act, revised to harmonize the old Trade Acts with Kenya’s recent ratification of many of the elements of the ILO Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87). We are required to provide our workers with the freedom of association. We are required to honor a dispute process as laid out in the act. We currently have no collective bargaining agreement in place nor are we required to do so. To the best of our knowledge none of our employees belong to any Trade Unions, and it is our belief that our employees do not at this time feel that the benefits of membership outweigh the costs of dues which are born solely by them under the Act. We have never had a dispute with any employee that resulted in any collective action, lock out etc. and we have no disputes at all at this time, and we believe that we are in full compliance with this Act. To ensure that employees are aware of their rights under the Act, we have added the following language to all employment contracts issued by Wildlife Works;

“Wildlife Works, EPZ Ltd. acknowledges the importance of the recently enacted Labour Relations Act 2007, and therefore we wish to inform you that you are entitled to Freedom of Association, and specifically to join the Kenya Textile Workers Union(KTWU) should you so choose. Should you choose to join the

KTWU, all membership dues and agency fees for the Union will be payable directly by you.”

G4.6. Employee Safety

Wildlife Works Is committed to worker safety and has a very strong track record of safety. In the field of wildlife management it is impossible to remove all risks, as our rangers patrol every day in a bush that is now full of large wild animals. We are proud to say that the training and supervision we provide to them, together with guidance on how to avoid conflict with armed poachers, or marauding elephants, has lead to a clean record. There have been zero on-the-job fatalities, or even serious injuries, in over ten years. We self-insure our own medical plan; employees and their families are fully covered for any illness or injury they incur, be it on the job or not.

Hazards associated with jobs performed are as follows;

Hazard	Mitigation
<u>Sewing Factory Employees</u>	All risks are identified in training manual provided to validator along with how to avoid risk.
Needle sticking fingers	Finger guards are provided, sharps bin is provided for safe disposal of needles that are replaced
Inhalation of fibers	Face masks are provided
Fire	Fire exits clearly marked, no smoking in factory, fire fighting stations in factory, three doors out of facility

<u>Greenhouse Employees</u>	All risks are identified in training manual provided to validator along with how to avoid risk.
Exposure to Chemicals	Only non-toxic chemical free organic materials used in Greenhouse therefore no toxic or caustic chemical exposure. Rubber gloves and protective eyegear provided if needed.
Inhalation Hazard	Only non-toxic chemical free organic materials used in Greenhouse therefore no toxic or caustic chemical exposure. Masks provided during spraying of organic pesticides.
Temperature Extremes	Frequent breaks and availability of water during hot conditions. Shade cloth covering of work area.
Slip, Trip and Fall	Ensure work are clear of all slip or trip hazards before work begins.
Lifting	Use proper lifting techniques, always get help for lifting heavy objects.
Cuts	Wear gloves, keep tools sharp and always be aware of the proximity of fingers to blades when making cuts.
Electric Shock	There is no electricity at all at the Organic Greenhouse.
Pinching and Crushing Points	Wear gloves, keep tools sharp and always be aware of the

	proximity of fingers to blades when making cuts.
Inclement/Adverse Weather	Organic Greenhouse located adjacent to Ranger station so employees can retreat indoors in adverse weather.
Snakes, animals	Keep greenhouse floor clear of organic debris for clear visibility, always be aware of the possibility for snakes, spiders, scorpions to be present, and do not approach or touch if seen.

<u>Wildlife Works Rangers</u>	All risks are identified in Ranger training manual provided to Validator along with how to avoid risk.
Elephants, Lions, Buffaloes, Snakes etc.	Training is given in how to approach, identify and stay a safe distance from potentially dangerous animals. First Aid training is provided in cuts, limb fractures, snake bites, dehydration and other possible health risks. Team design of 6 minimizes risk.
Poachers	Training is given in how to track, and peacefully apprehend poachers if possible and how to avoid confrontation with armed and aggressive poachers. Team design of 6 minimizes risk.
Sun Exposure, thorns etc.	Rangers all provided with uniforms with long sleeves and long trousers and brimmed hats and boots. Lots of drinking water available at Ranger posts.

<u>Wildlife Works / Tsavo Soap Factory</u>	All risks are identified in Soap Factory Safety training manual provided to Validator along with how to avoid risk.
Lye	Comprehensive instructions are given on how to mix lye safely, and goggles and gloves are provided for employees.
Oils, Gas heating	Vegetable oils are only heated to 50-55° C, so are only hand warm. Gas stove is simple self igniting LPG camp stove.

G4.7. Financial Health of the Implementing Organizations

Wildlife Works, Carbon LLC. is a Delaware registered Limited Liability Corporation in good standing, majority owned by Wildlife Works, Inc. and Mike Korchinsky.

Wildlife Works, Inc. is a US registered corporation and, as such, is governed by the corporation laws of California which ensure that, at all times, the company remain financially solvent and able to meet its liabilities.

The company is owned by independent shareholders of good standing and has a Board of Directors (4 at present but likely to increase in number). It is sufficiently capitalized through its Joint Venture with Wildlife Works Carbon LLC to ensure completion of the project.

Please see Section G3.11 for further details on project finance.

G5. Legal Status and Property Rights

G5.1. Local Laws and Regulations

It is our belief that Wildlife Works meets all local, national and international laws related to this project. The laws that are relevant to this project are:

EMPLOYMENT LAWS

- **Export Processing Zone's Act (Cap. 547)**
As an Export Processing Zone Company we are exempted from the standard Labour Laws of Kenya, and instead must conform to those laws that have been deemed applicable to (General Provisions of the Employment Act (Cap 226-229) or amended for EPZs as covered by the Export Processing Zone's Act (Cap. 547).
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- **Pay As you Earn (P.A.Y.E)**
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The "Pay As You EARN" method of deducting income tax from salaries and wages applies to weekly wages, Monthly salaries, annual salaries, bonuses, commissions, Directors fees (Whether the director is resident or non-resident). Monthly we are required to go to the bank (Kenya Commercial Bank = KCB) to pay the tax withheld from our employees wages and salaries, the bank takes one

folio from our KRA receipt book, and stamps the other two folios, one of which we then take to the KRA office in Voi and give it to them.

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"Wildlife Works, EPZ Ltd. acknowledges the importance of the recently enacted Labour Relations Act 2007, and therefore we wish to inform you that you are entitled to Freedom of Association, and specifically to join the Kenya Textile Workers Union(KTWU) should you so choose. Should you choose to join the KTWU, all membership dues and agency fees for the Union will be payable directly by you."

CORPORATE LAWS

- **Companies Act, (Law of Kenya Cap. 486)**
We must remain a company in good standing, and are required to maintain our Corporate records with The Registrar of Companies in Nairobi annually.
- **Bankruptcy Act (Cap. 53)**
Let's hope this never applies to us.

LAND and ENVIRONMENT LAWS.

- **Environmental Management and Coordination Act (Act 8, 1999)**
We were required to undergo an environmental audit by the National Environmental Management Authority. We passed.
- **Registration of Titles Act:**
The terms of the Title Deed by which Rukinga Ranching Company Ltd is the owner of Rukinga Ranch are governed by this Act.

LOCAL DISTRICT LAWS

- County Council of Taita-Taveta County rates are paid at the rate determined under the local bylaws of our district.

It has been confirmed that:

- The project is in compliance with all national laws and license requirements relating to conservation projects in Kenya; and
- There is no law mandating that the land is a conservation area. It is noted that no category of land use relating to conservation exists under Kenyan law. The current land use category for the project area and other privately owned conservation projects is classified as agriculture.

G5.2. Documentation of Legal Approval

Wildlife Works warrants that all actions and documentation for the project establishment as a carbon sequestration project have and will be met. When Phase I of this project was launched, we put out a joint press release with the Kenya Forest Service, who indicated strong support for our project. Should the KFS develop requirements as they progress to develop a National strategy for REDD, we will be well positioned to continue to receive the approvals necessary for our project. Please see Annex 6 – *KFS press release*.

G5.3. Free, Prior, and Informed Consent

Having been successfully validated for Phase I of the REDD project under the CCB and VCS standards, Wildlife Works is positioned to be proactive about obtaining Free Prior and Informed consent (FPIC) from the Shareholders of the community group ranches included in Phase II of the REDD Project. Each ranch was required by Wildlife Works Carbon LLC to hold a special or extraordinary general meeting (EGM) of shareholders, with written notices being sent out in advance, explaining the nature of the carbon project, and inviting the shareholders to attend or vote by proxy either for or against a resolution to enter into the conservation easements with

Wildlife Works Carbon LLC, as well as to participate in the REDD project. All 13 Ranches voted overwhelmingly in favor of participation.

G5.4. Involuntary Relocations

Nobody currently or historically lives on the project area; the project does not involve the relocation of any people.

G5.5. Illegal Activities

The illegal activities that may be conducted from time to time in the project area include bush meat snaring or torch and horn poaching of wild animals; chopping of hardwood trees for charcoal production and occasionally for building poles.

Wildlife Works has a long and successful track record of monitoring the project area, catching poachers and charcoal burners before they can do significant damage to the ecosystem, and dealing with the offenders using non-violent methods, all the while working closely with Kenyan government authorities. Neither the project, nor members of the community related to the project, benefit in any way from these illegal activities.

G5.6. Carbon Rights

Please see G5.3 above. At present, it is not common practice to register a carbon easement against title in Kenya, although the Environment Act did envisage such a concept, but not explicitly. Wildlife Works has committed written approval from the landowners that should such a possibility exist they would cooperate fully with Wildlife Works in ensuring the successful registration.

CLIMATE SECTION

CL1. Net Positive Climate Impacts

CL1.1. Net Change in Carbon Stocks

For a detailed description of loss of carbon stocks due to slash and burn agriculture in the Baseline scenario see G2, above. Wildlife Works has been committed to the protection of this Dryland Forest and the wildlife that calls it home, and with the addition of the carbon finance, we intend to continue our effective protection and expand our activities within the community.

Pool	Total GHG	Loss in Baseline over 30 years
Aboveground and Belowground forest biomass (trees, shrubs, grasses)	15,944,631	14,534,964
Soils	75,311,455.22	33,913,804
Total	91,256,086.22	48,448,768
Annual loss over 30 years (m.t. GHG) – GROSS NERs		1,614,959

CL1.2. Net Change in non CO2 emissions

There are no significant (>5%) other GHG emissions estimated in either the with- or without-project scenarios. In the with-project scenario, a small amount of emissions result from the burning of diesel in patrol vehicles, however in the without-project scenario, this would be more than offset by the emission from the agricultural practices which would follow conversion of the forest, in which there would exist fertilizer, and annual emissions from burning of the agricultural waste.

CL1.3. Other non CO2 emissions from Project Activities

In the with-project scenario, a small amount of emissions result from the burning of diesel in patrol vehicles, however in the without-project scenario, this would be more than offset in our opinion by the emission from the agricultural practices which would follow conversion of the forest, in which there would be fertilizer, and annual emissions from burning of the agricultural waste.

As a result of comments from the CCB Auditors during Phase I, we are electing to provide a full carbon footprint analysis of the with-project scenario (See table below).

Wildlife Works Kasigau Corridor REDD Project Carbon Footprint

<u>Kenyan Power Generation</u>		
	%	kg CO2e per kWh*
Fossil fuels	60%	0.86
Non Fossil Fuels (Hydroelectric, Geothermal)	40%	0
Average		0.52
* from US DOE statistics - no Kenyan stats available		
<u>Kenyan Water Supply</u>		
We are 100% gravity fed from Mzima Springs Pipeline	0	0
Footprint of pumping on site for our purposes included in electric power and generator fuel use footprint		
<u>EcoFactory</u>	<u>Units of consumption/yr</u>	<u>m.t. CO2e/year</u>
Power use (kWh)	9600	4.97
Organic Cotton Products(est. 100,000 units / year)	100000	102
6kg per 12oz garment during total lifecycle		
Estimated 75% post consumer purchase		
Therefore 25% crop to retail = 1.5kg		
Organic Cotton footprint 68% conventional		
(Sustainable Cotton Project) = 1.02kg		
Carnegie Mellon Economic Lifecycle Analysis	\$500,000	344
Tier 3 GHG Footprint for Cut and Sew Mfg.		
Carnegie Mellon University Green Design Institute. (2009) <u>Economic Input-Output Life Cycle Assessment (EIO-LCA) US 1997 (491) model</u> [Internet], Available from: < http://www.eiolca.net/ > [Accessed 31 Oct, 2009]		
Note this includes 114 mt for power generation which we have accounted for primary consumption elsewhere.		
Also includes 14 m.t. for non cellulosic materials (e.g. synthetics which we do not use) in addition to 5.9 m.t for organic cotton which we do use.		

While we believe there are many flaws in the Carnegie Mellon example as it relates to our project, (e.g. organic cotton use, very low power generation at primary business activities as demonstrated by actual power usage used in this table, etc.) we choose that method for calculating the factory footprint over the sustainable cotton project method above, as it yields a more conservative result. We have provided the validator the full Carnegie Mellon analysis spreadsheet.

	Units of consumption / yr	m.t. CO2e / year
<u>Wildlife Sanctuary</u>		

Ranger Support Petrol/Diesel use (Ltrs/year)	15000	40.04
(note we use some petrol and more diesel so to be conservative we will assume 100% diesel as petrol has lower CO2e 2.7 kg/ltr diesel vs 2.3 petrol)		
CO2e lbs per gallon diesel (US EPA/UNIPCC 2006)	22.2	
CO2e kgs per ltr diesel (US EPA/UNIPCC 2006)	2.7	
<u>Organic Greenhouse and Jojoba Project</u>		
Organic Fertilizer for 7 Greenhouses proposed	21000	0.1456
3000 fruit tree seedlings per year use 200kgs manure*		
500 jojoba bushes on our experimental 10 acres use 200kgs manure per year. If we assume jojoba outplanting on 1000 acres that gives 100x manure use	20000	2.08
We use no fertilizer on the indigenous tree seedlings		
.104 kgs CO2e per kg manure (UNIPCC 2006 at 1.5% Carbon conversion to methane)		
*Note that we make compost tea in sealed container, we do not apply manure directly to crops, so our footprint would be lower		
Also note that the CCB methodology only requires calculation of GHG footprint for use of synthetic fertilizers of which we use none.		
<u>Eco tourism</u>		
Guest house electricity(kWh)	2912	1.51
Water Pump House Electricity (kWh)	2389	1.24
Camp Water Pump Diesel included in Ranger Fuel use		
<u>Misc</u>		
Management Housing Electricity (kWh)	8681	4.50
Management Airline Flights	10	25
2500kgs CO2 e per round trip SFO to Nairobi		
<u>Total</u>		423.49
Percent of Project GHG emissions reductions		0.25%

Positive emissions reductions associated with the trees we will be planting will offset the GHG emissions from other project activities. Table 4.9 of the *UNIPCC 2006 Good Practice Guidance for LULUCF* gives a net annual biomass increment for natural forests in tropical dryland forest types <= 20 years old as 2.4 tonnes d.m. / ha / yr.

The density of Rukinga's forest was estimated at 6,000,000 trees covering 30,166 hectares. There are therefore approximately 200 trees per hectare, and the Phase II ecosystem is assumed similar to that of Rukinga, due to its proximity to Phase I (the Phase II ranches surround Rukinga on all sides). Applying this density to the reforestation project on Mt. Kasigau, the 20,000 trees we will plant in the first three years of the project activities represent 100 hectares of forest area, which equates to 2400 tonnes d.m per year. Using the variable 0.47 for the carbon fraction (Table 4.3 of the UNIPCC 2006 Good Practice Guidance for LULUCF – Tropical and Subtropical Forests), and 44/12 to convert to CO₂e, this yields 4,136 m.t. Co₂e per year sequestered by the indigenous trees to be planted under the Mt. Kasigau Reforestation project. This is approximately 10x the emissions calculated in the table above for the entire carbon footprint from project related activities. Adding the sequestration benefits of planting out 20000 jojoba bushes and the 20,000 fruit trees, whose fertilizer use was calculated above in negative emissions, the substantial net-positive benefit of the project becomes abundantly clear. We still plan to retire some of our own credits to officially offset the project's carbon footprint.

CL1.4. Net Climate Impact

We estimate this project would avoid an estimated 36MM tonnes of CO₂e over the thirty year life of the project, and therefore has an overwhelmingly positive climate impact. In CL2.3 below, we have laid out an aggressive leakage mitigation strategy with our project activities, and as a result, deemed it unnecessary to deduct for leakage, as in fact our leakage strategy will result in more net positive climate impacts. We will not claim these positive impacts in the with-project scenario. Please refer to CL1.3 above.

CL1.5. Avoid Double Counting

Kenya, at the present time, has no nationally instated emissions cap, and it is likely that as a poor country with very low historic emissions, it will not be subject to one in the near future. Wildlife Works is in close contact with the Kenya Forest Service, the focal point for REDD within the Kenyan Government, and we expect no issues with double counting even when and if Kenya formalizes an emissions regime on a national basis, and in fact we are in the process of having the Kasigau Corridor REDD Project designated as an official "Demonstration Project" for Kenya under the UN- REDD program.

CL 2. Offsite Climate Impacts

CL2.1. Types of Leakage

The obvious categories of leakage for the Phase II project are;

- Activity shifting
 - farm land for the increasing local population and/or immigrant populations that would have migrated here.
 - fuelwood for the local community that might have been using the project area to harvest fuelwood when it was a free resource
 - grazing for local cattle
- Market effects – as none of the tree species in the project area are commercial in nature, and as the fuelwood use was for local household consumption, this type of leakage is not relevant to the project

- Increased investment in the project area –as a result of our presence here, there has been an increase in the investment made by other NGOs in the area, all of which will have a positive effect on leakage, such as;
 - o increased investment in schools, which will in turn increase the likelihood of further education and non-subsistence agricultural jobs for future generations,
 - o increased investment in water resources, with a pipeline being provided from the main Mzima Springs pipeline down through some of the villages in the project area, and with successful boreholes providing access to fresh water, we believe that agricultural productivity will improve and that pressure on new agricultural land will reduce over time.

Activity shifting presents an interesting issue in the context of private land, where the baseline activity of clearing of private land for farming represents illegal activity even under local laws, and where there are no "indigenous peoples rights" issues, because the owners of the private ranch lands and those people clearing forest to farm are from the same ethnic group. That said, Wildlife Works feels that we have implemented an excellent leakage strategy, as evidenced by our ability to shut down aggressive deforestation since project initiation.

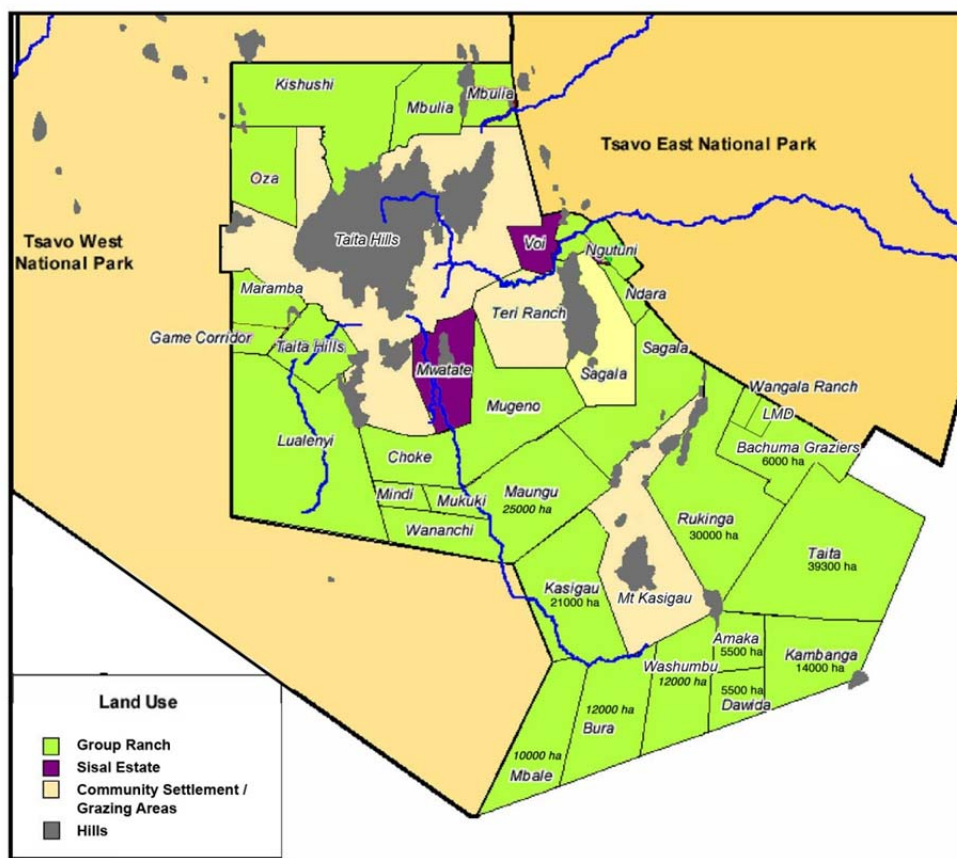
To understand leakage, it is essential to first understand principal reasons for deforestation:

The local agents of deforestation in the project area are Taita people who have traditionally farmed the fertile cloud forested hills of the Eastern Arc Mountains: Kasigau, Sagalla and the Taita Hills. As their population exceeded the carrying capacity of the land on the hills, they moved down into the dryland Acacia-Commiphora forest that dominates the lower elevations of the district. However here their traditional farming practices were not effective, due to extremely low average rainfall. After colonizing all the land with permanent water sources, they began to clear any available unprotected land. The larger blocks of remaining land in the area apart from communally owned land protected by local administrations, were privately held "group ranches" designated as cattle carrying areas for the communities of the hills back in the 1970s. However, due to the remoteness of these areas and the lack of permanent water sources, they have never been developed as cattle ranches, and remained natural forest over the years, until the mid-1990s when rainfall patterns initiated a population boom in the area. This was further facilitated by the improvement of the main Mombasa highway and a local arterial road that runs along the northeast edge of the Kasigau Corridor project area.

The secondary agents of deforestation in our project area are Duruma from over one hundred kilometers away in Coast province, a very poor tribe that has historically opportunistically and illegally sought farm land that was unprotected throughout Kenya. These people were first introduced to the district in the early 1990s, brought in by a corrupt politician who promised them land (not owned by him) in return for votes...once they realized they could find unprotected land in the district, more and more families arrived.

Both these populations began aggressively converting land in the mid to late 1990s just prior to our arrival in the area. As soon as Wildlife Works made it impossible to take free land, the immigration stopped, and in fact many families returned to the Coast.

It is hard to say where there is a possibility of activity shifting leakage as Wildlife Works is now protecting in Phase I and II of this project ALL the remaining large tracts of dryland forest in the reference area. The remnant patches of forest in the reference area outside the project area will be monitored for leakage according to the VCS methodology VM0009 Methodology for



Avoided Mosaic Deforestation of Tropical Forests V1-0. We do not consider the clearing of agricultural land within the community trust lands (see cream colored areas of the map) to be *activity shifting* as a result of our project, as those lands have long been designated by the Government of Kenya for development as farmland, and in fact the government is strongly encouraging the local community to clear and farm that land, and is in the process of a subdivision scheme to grant title deeds to

individual community members to facilitate that process. That said, many of our mitigation activities are aimed at the farmers in the community trust lands to allow them to reduce the negative climate impacts of the increased farming in that belt.

CL2.2. Mitigation of Leakage

Leakage under VCS must address both local and immigrant deforestation agents, unless there is a national REDD plan in place, in which case only local agents need be addressed. There is a provision for taking a 10% buffer in the case where a national program is in development. Kenya is in the process of developing a national REDD strategy, so we would be well within the VCS rules to adopt a 10% leakage strictly following the buffering approach. However, as our actual efforts in Kenya over the past ten years have been focused directly on removing the local communities' need for more disastrously poor agricultural land, and physically protecting the forest from immigrant agents trying their luck at finding unprotected land to farm for income, we believe we would be doing ourselves a disservice to take the 10% factor.

Our activity shifting leakage strategy therefore has the following components;

1. Farm land

- The local population's need for farm land was addressed by the establishment of a land cooperative on 5,000 acres of what was still at that time Rukinga Ranch. This Sasenyi Valley land cooperative on land, that had been cleared of forest prior to our arrival, gave the community area to expand without having to clear more forest. They were able to receive legal title for their farms, a first for this area of Kenya.
- Exclusion of the broader community, both local and immigrant, from the project area. The Ranches are private property, so have every right to exclude local and immigrant populations from the project area - unlike most REDD projects, Wildlife Works employs our own rangers to protect the forest from illegal incursions, deforestation and even damage to biodiversity, and we have a 10 year track record of physically protecting the land from all potential deforestation agents. Our success, where many other projects have failed in this regard, stems from our providing economic alternatives to the community, thereby prevent the need to clear more forest for agriculture, which creates a partnering relationship with the community and allows our rangers to be effective even unarmed. As a result, they can draw heavily on support from the influential members of the local community. We believe that our presence in daily protection of the forest has significantly reduced, if not completely eliminated, the threat of immigrant populations from non-forested areas of the Coast province in Kenya coming to the area in search of unprotected land for slash and burn agriculture. Therefore, in addition to stopping the deforestation of the project area, this measure has reduced the population pressure that would have been seen under the Baseline / without-project scenario.
- Providing economic alternatives to the slash and burn agricultural practices that have devastated so much of sub-saharan Africa.
 - a) We built a factory on the edge of our project area and trained the local women how to sew, and have employed many local people over the years producing organic cotton fashion which we sell locally and internationally - the pact with the community is that if they value the jobs they must stop clearing the forest and killing biodiversity or we won't be able to sell our products and their jobs will go away – this factory uses a small amount of electricity generated from the National Grid, which in Kenya is 40% hydroelectric. We believe the emissions created by this power use are more than offset by the reduction in emissions gained from our greenhouse and tree nurseries and replanting schemes below.
 - b) We established an organic greenhouse and nursery program to grow a variety of trees to provide fuelwood, cash crops and medicinal / agroforestry species to the community. Increasing their agricultural productivity on the existing land they already farm is the best way to stop them looking for more or different land to farm. We plan to expand this activity to sponsor nurseries in each of the main villages surrounding our project once the carbon funds begin to flow into the project. We already initiated a reforestation activity of native hardwoods grown in our nursery and outplanted into previously deforested areas of the community lands. We are claiming no additional carbon emissions credits for this activity. It an element of our leakage strategy.
 - c) We have been working with the Kenyan Agricultural Research Institute (KARI)

to explore the potential of growing jojoba as a dryland cash crop that can withstand drought and poor agricultural practices and still generate a cash crop on a high value per hectare basis, again to improve food security by increasing agricultural productivity on existing ag lands to reduce conversion pressure.

- Exclusion of deforestation agents from the obvious Phase I project area leakage belt. We have entered into carbon agreements with the neighboring community land owners in Phase II to execute this component of the strategy and have begun protection of their forests as of the Phase II project start date.

2. Fuelwood

- We are establishing 10 organic greenhouse extensions within the project area to produce fuelwood and other agroforestry species for the local community so they can become self-sufficient in fuelwood without having to degrade any of the project area.
- We are initiating an extensive project to explore the large scale production of carbon neutral charcoal (EcoCharcoal) to meet the fuel needs of the broader community, as described previously in the project activities section.
- A study carried out by Matthew Owen of the University of North Carolina, "*Adaptation to Rural Domestic Fuelwood Scarcity in Embu District, Kenya*" found that when fuelwood is an abundant and free resource, it is used at a level far above necessity, and that when it becomes a constrained resource, consumption can drop by as much as 50% without loss of function to the community. This suggests that the amount of wood being harvested for fuelwood from the Phase II prior to our arrival may be replaced with far less fuelwood grown in woodlots and community farms.
- The without project scenario undoubtedly would have seen the project area cleared completely for farm land. The wood resources the community might have been using from the project area would have been transient at best.

3. Grazing for local cattle

- This issue has been treated at great length in Section CM2.2 below, but as cattle are only grazers, and as grasses play such an insignificant role in our carbon pools there is little to no climate impact from this leakage activity.

CL2.3. Unmitigated Negative Offsite Climate Impacts

As previously described, Wildlife Works strongly believes that our project has, and will continue to, create additional positive climate benefits within the community, and that there are no sources of unmitigated negative offsite climate impacts, provided that we fulfill the mitigation strategies identified above.

CL2.4. Unmitigated Negative Offsite / Non CO₂ Climate Impacts

See Section CL1.1 for a complete analysis of GHG emissions, both CO₂ and non-CO₂. Non-CO₂ gases account for far less than 5% of emissions, and are easily offset by mitigation activities described in CL1.1.

CL3. Climate Impact Monitoring

CL3.1. Carbon Pools to be Monitored

The purpose of our monitoring plan is to ensure;

- That the project has protected the dryland forest within the project area from any unplanned GHG emissions during the project crediting period, and;
- that no identifiable leakage has occurred that can be attributed to this project.

Emissions reductions calculations were based on two models, the first being the current carbon inventory of the project area land, which was conducted using a fixed permanent plot methodology, accepted by all as a more accurate method for forest carbon inventory than remote sensing, and the second being the use of satellite imagery for 15 years prior to the beginning of the project, clearly and empirically demonstrating the deforestation rate in the project area.

For the first model, it is our intention to carry out annual resampling of 20% of the total number of permanent plots originally created for the forest inventory, on the anniversary of the initial inventory, to ensure minimum seasonal variability in carbon stocks, which in this part of Kenya can be considerable. We plan to remeasure Diameter at Breast Height (dbh), height, and status of all the trees originally included in the inventory for each plot. The annual resampling will be rotated so that every five years we have performed a complete resampling of the forest. We will also fund the external auditors of our project to revisit our permanent sample plots on a 5 year timetable.

We have no specific plan for monitoring of the soil carbon pool, as we make the assumption that loss of soil carbon during the project within the project area would follow unplanned deforestation in the project area. Therefore, as long as we are monitoring the aboveground biomass pools, we will be able to calculate the net climate impact of deforestation on the belowground and soil carbon pools, which are in turn directly dependent on the monitoring of above-ground forest biomass.

For the second model, we will continue to use satellite imagery to monitor the presence or absence of further deforestation in the reference area and the leakage belt. Because the type of deforestation occurring in this ecosystem involves total removal of tree cover for slash and burn agriculture, it is simple to observe landcover change with remotely sensed imagery. We will acquire affordable high-resolution imagery to support this monitoring.

CL3.2. Commitment to Monitoring Plan

Wildlife Works has developed and put into place a Project Monitoring Plan (PMP) to demonstrate the climate benefits of the project activities associated with the Kasigau Corridor REDD Project – Phase II. This plan, accompanied by the Project Implementation Report (PIR) has been made available to the validator and submitted to the CCBA. We will also

communicate the plan to local community groups for dissemination to the wider community, as has been our approach for all communication throughout the project lifetime.

COMMUNITY SECTION

CM1. Net Positive Community Impacts

CM1.1. Estimate Impacts on Communities

From the start of this project, Wildlife Works has focused on methods bring benefit to the local communities from the conservation of natural resources, both forest and biodiversity. The measures of success within the community are both traditional. (e.g. number of employees, funds invested in the community, socio-economic improvement within the communities), and non –traditional, (e.g. presence or absence of significant poaching by local community members, presence or absence of land pressure on the boundaries of the project area). We have every reason to report that by all measures, traditional or non-traditional, our project has had huge net-positive impacts on the community. Wildlife Works is not a typical NGO; we are a conservation business, and therefore do not have the skills, nor the impartiality to test this contention ourselves, but we have had numerous groups pass through Rukinga over the years to observe our model, and numerous surveys have been conducted. Annex 7 contains the most comprehensive study to date, conducted in August 2007, by an independent student researcher from the Netherlands, Marit Rietveld, and another study is currently in progress for a Swiss PhD dissertation.

CM1.2. Demonstrate no Negative Impacts on High Conservation Values

There are no negative impacts by Wildlife Works project on HCV flora and fauna. On the contrary, we believe we have demonstrated net-positive impact on endangered species habitat and wildlife populations. Furthermore, in regards to the community and the HCV species of Mt. Kasigau, which is certainly the most important HCV area, we have an effective plan, provided to the validator (the Mt. Kasigau Reforestation Plan) to reforest the slopes of Mt. Kasigau. We will work closely with community groups, who will receive financial rewards for planting and sustaining 20,000 trees over a 3 year period. We are confident that this plan, which includes de-snaring and biodiversity monitoring by a community based organization, the Kasigau Development Trust (KDT), will result in a significant improvement to the HCV species of Mt. Kasigau. Details are described in the "Kasigau Biodiversity Monitoring Plan", and "Kasigau Biodiversity Survey Report", also provided to the validator.

CM2. Offsite Stakeholder Impacts

CM2.1. Identify any Potential Negative Impacts on Offsite Stakeholders

We believe strongly that there are no net negative impacts on offsite stakeholders whatsoever, as there was no legal harvest of resources from the project area as the tree species are non-commercial and only used in the local area by communities within the project area. On the contrary we believe that Wildlife Works has had a very positive impact on offsite stakeholders, both certainly regionally where we have encouraged the set aside of more threatened land for conservation, nationally where we are recognized within Kenya as an innovative approach to

balancing the needs of communities with the needs of wildlife, and internationally as ours is a conservation project that has elevated the idea of community based sustainable conservation to a new level on the global stage, and has been copied by many of the large conservation organizations, as evidenced by the popularity of the Wildlife Friendly Enterprise network (www.wildlifefriendly.org) of which we were a founding member.

However based on feedback from local communities during Phase I of this Project, a few areas of potential negative impact were identified and need to be addressed. These are;

- A potential increase in human-wildlife conflict as the wildlife populations return to Kasigau Corridor.
- An exclusive dependence on Wildlife Works for livelihood.
- A need for grazing within the community, now that community cattle are excluded from grazing in the 13 ranches.
- A need for alternative livelihood for charcoal burners previously active on the Phase II Ranches.

CM2.2. Plans to Mitigate Negative Impacts on Offsite Stakeholders

1. Potential increase in human-wildlife conflict

While there has certainly been a substantial increase in the amount of biodiversity the project area, we believe that it has not resulted in a negative impact on the community for the following reasons;

- Prior to our arrival, even though the permanent population of wildlife in the area was much lower than today, there was always human-wildlife conflict, as elephants did not have a safe habitat or areas of sanctuary, and were forced into the communities to graze and raid crops. Furthermore, elephants often utilized community water points, and would damage or destroy pipes and taps to access water there.
- Wildlife Works has actively mitigated the potential negative impact of increased wildlife populations in several ways;
 - i. First and foremost, the fact that the project area will become safe habitat for wildlife, and that we protect the natural resources, and that we provide water for the elephants during the dry season, means that the wildlife has less reason to enter communities in the first place.
 - ii. Our Rangers patrol the community boundary during those nights when the likelihood of elephant crop raiding is high, (e.g. when crops are nearing harvest time). They are on-call to assist the community at any other time of year, as needed. They use “thunderflashes” to scare the elephants from the boundary farms, and back into project areas. This positive activity was

acknowledged during the community surveys conducted by Marit Rietveld, an independent Dutch researcher in 2007.

- iii. We have provided the community with literally tens of thousands of free chili pepper bushes, grown in our organic greenhouse that provide the farmers with a cash crop that is repellent to elephants for planting as a barrier at the edge of their farms. These facts are based on research performed by Dr. Loki Osborn of ElePepper in Zambia, and is an effective deterrent provided the farmers maintain the chili pepper bushes.
- iv. We plan to introduce another non-conflict cash crop, Jojoba (see project activities section above), into the communities along our boundary during the first five years of the project. Elephant do not, nor any other animals, have an interest in eating Jojoba, so it is the perfect cash crop for farmers in a potential conflict area.
- v. Many members of the community are benefiting financially from the presence of wildlife in the project area and as carbon funding expands to all the areas, additional jobs will be created through tourism and at Wildlife Works. The income they are receiving will provide an alternative to subsistence-farming of high-conflict crops like maize.

We believe that these mitigation activities have already proven to be successful over the years, and that with additional funding under the carbon program, their effectiveness will only increase. We therefore do not believe that our project will create a net negative impact on human-wildlife conflict.

2. An exclusive dependence on Wildlife Works for livelihood

It is certainly true that Wildlife Works is the only significant employer in the community, but it is hard to construe that as a net negative impact, as we have not displaced any other employers or forms of employment within the community. Furthermore we have only employed 150 people to date, and will probably only ever employ a maximum of 300 from communities of over 100,000. However, we are aware of the issue, and we are constantly looking for ways to bring more jobs into the community. For example, the leasing of Rukinga to Camp Kenya, the ecotourism providers, diversifies the employment base within the community, the expansion of the organic greenhouses to the community, the promotion of the Jojoba farming scheme planned under our Project Activities, all are attempts to spread the employment to areas that reduce the dependence on Wildlife Works. We therefore do not believe that our project will create a net negative impact in over dependence on Wildlife Works for jobs.

3. Need for grazing within the community

Livestock rearing is an unsustainable lifestyle in this dry country, where there is no permanent water source, other than expensive and rare piped water. We believe that the local community understands this, and these are not tribes with a strong cultural attachment to cattle, like the Maasai or Samburu. As a result, the local Taita and

Duruma cattle herds are very small. Furthermore, the lack of grazing has far more to do with the constant presence of large and totally unsustainable herds of Somali cattle, overgrazing all of the community land brought in by local community ranch owners who are desperate for income, but who had no resources to monitor the Somali herds to ensure they did not overstock the ranches and overgraze the resources. If Wildlife Works were not present, it is certain that these large herds of Somali cattle would also invade the Kasigau Corridor project area in the short term, so that the grazing would not be available to the community then either. In order to manage incursions onto the ranches from these illegal Somali cattle, we have implemented a uniform policy against grazing of any cattle in Rukinga. The grass is not unused on Rukinga however, and it is critical to the presence of elephants and other species, which are the very wildlife on whose presence the success of all of our activities depends. In Phase II, we have had to take a more patient approach, as most of the ranch owners want the Somali cattle to leave, but have to wait for carbon funding before they can afford to let go of even the small income they receive from these cattle. We are actively mitigating against the potential negative impacts of loss of grazing in the following ways;

- a. assisting the community to diversify away from cattle as an asset class which has proven to be a liability in times of drought again and again in this dry area;
- b. by bringing carbon revenues to the surrounding community ranch owners, allowing them to wean themselves from the dependence on Somali cattle income, so that they can allow their own lands to heal, and have plenty of grazing for their well managed herds in the future. A small amounts of well-managed grazing of local cattle is perfectly consistent with management of these surrounding ranch lands for REDD carbon revenues, and even for biodiversity and ecotourism, provided sensible zoning is conducted to prevent cattle herds from competing with wildlife for resources, or damaging the tourism experience for international visitors, who come thousands of miles to see wildlife, not cattle;
- c. By assisting the local communities to legally expel the illegal Somali cattle herds that have severely degraded the community lands, using ranger patrols and the courts to legally prohibit the continued exploitation of the local community by these large scale commercial Somali cattle operations.

We believe that these mitigation activities will prove to be successful in the coming years, and that with additional carbon funding, their effectiveness will only increase, and therefore we do not believe that our project will create a net-negative impact in reduction of cattle grazing.

CM2.3. Demonstrate no NET Negative Impacts on other Stakeholder Groups

Please see CM 2.2 above, in which plans for mitigation are laid out, and a case is clearly made that there are no net negative impacts to any stakeholder groups as a result of our project activities.

CM3. Community Impact Monitoring

CM3.1. Develop Plan for Community Monitoring

The Kasigau Corridor REDD project is fairly unique, in that we represent a permanent presence in the community, and therefore receive feedback on a daily basis in the form of our staff's interactions with the communities, our rangers monitoring for presence / absence of illegal activities in the project area, as well as our direct involvement in almost every aspect of community development, from schools, clinics, job creation and community groups. We initiated the process of the independent audit of our community influence conducted by Marit Rietveld in August, 2007, and with adequate financial support from the carbon project, we anticipate being able to develop a streamlined version of her comprehensive report that could be executed by an independent group on a regular basis.

The metrics of importance can be identified from the aforementioned report, but would be expanded based on all project activities to include;

EcoFactory

- Number full time jobs
 - WW employees
 - Total
 - From project area communities
 - Other
 - Total
 - From project area communities
- \$ invested in capital expense
- \$ annual operating expenses
- \$ income generated

Organic Greenhouse Project

- Number full time jobs
 - WW employees
 - Total
 - From project area communities
 - Other
 - Total
 - From project area communities
- # new greenhouse locations implemented
- # trees propagated
 - total all species
 - fruit and agroforestry/fuelwood trees
 - indigenous trees for reforestation projects
- # indigenous trees successfully outplanted in Villages of project area
 - # outplanted by species
- # indigenous trees successfully outplanted on Mt. Kasigau
 - # outplanted by species
 - # surviving to year 2 by species
 - # surviving to year 3 by species

- Volume of elephant dung provided to Emani Women's group
- \$ invested in capital expense
- \$ annual operating expenses
- \$ income generated
 - # seedlings sold (species, qty, customer, date, price)
 - \$ revenue
 - \$ profits

Jojoba/Dryland Farming Project

- Number full time jobs
 - WW employees
 - Total
 - From project area communities
 - Other
 - Total
 - From project area communities
- \$ invested in capital expense
- \$ annual operating expenses
- \$ income generated

Forest and Biodiversity Monitoring

- Number full time jobs
 - WW employees
 - Total
 - From project area communities
 - Other
 - Total
 - From project area communities
- Species Population Statistics;
 - Sightings (date, GPS location, species, #male, #female, #young, seen by)
- HCV Species Population Statistics;
 - Sightings (date, GPS location, species, #male, #female, #young, seen by)
- Number of poaching incidents
 - Number of snares or traps found (GPS location, date, type, Qty)
 - Number of dead animals captured (GPS location, date, species, Qty)
 - Number of poaching arrests made (date, perpetrator name, arresting Ranger, offense)
- Number of cattle grazing incursions
- Number of charcoal, fuelwood or construction material incursions
- Acres deforested in project area and Zone
- Acres reforested in community land
- Dryland Forest Acres protected by Wildlife Works Rangers
 - Covered by WW Carbon Easement
 - Under other form of agreement
- \$ invested in capital expense
- \$ annual operating expenses

Ecotourism in project area and project area

- Number full time jobs
 - WW employees
 - Total
 - From project area communities
 - Other, e.g. Camp Kenya
 - Total
 - From project area communities
 - Number of local youth put through Ecotraining Guide Training (course date, name, age, address, successful completion y/n)
- \$ invested in capital expense
- \$ annual operating expenses

School Construction and Bursary Scheme

- Number bursaries for local children each year
 - paid by WW
 - paid by Kelimu, other
 - Student name, village, age, primary school, secondary school/college/university, results
- \$ invested in school construction and maintenance
 - \$ amount, date, where used, outcome
- # children in each school
 - total
 - average # kids per classroom
 - highest number kids per classroom
- grades of children in national exams and position in district by school
- # children getting places in secondary school from each school

Carbon Project Leakage Mitigation

- Dryland Forest Acres protected by Wildlife Works Rangers
 - Covered by WW Carbon Easement
- Total tonnes CO₂e protected under Kasigau Corridor REDD Project Phase I & II
- Total annual tonnes CO₂e validated and verified under Kasigau Corridor REDD Project Phase I & II
- Total annual tonnes CO₂e sold by REDD project
- \$ invested in documenting and validating/verifying
- \$ paid to community land owners

Project Product Marketing and sales

- Number full time WW employees
 - Total
 - From project area communities
- \$ sales from project area and Zone products (non carbon offset)

Soap Factory Expansion

- Number full time jobs
 - WW employees
 - Total

- From project area communities
 - Other, e.g. Camp Kenya
 - Total
 - From project area communities
- \$ invested in capital expense
- \$ annual operating expenses
- \$ income generated

General Success Metrics

- Average household income – dry and wet season
- % community responding favorably to WW presence
- % community directly and indirectly benefiting from WW presence
- % community understanding link between environmental protection/wildlife and economic progress

CM3.2. Develop Plan for HCV Monitoring

In regard to the community and the HCV species of Mt. Kasigau, which is certainly the most important HCV area as far as they are concerned, we have a clear plan, provided to the validator (the Mt. Kasigau Reforestation Plan) to reforest the slopes of Mt. Kasigau, working closely with community groups, who will receive financial rewards for planting and sustaining 20,000 trees over a 3 year period. We are confident that this plan, which includes de-snaring and biodiversity monitoring by a community based organization, the Kasigau Development Trust (KDT) and supported by Wildlife Works Rangers and management, will result in a significant improvement to the HCV species of Mt. Kasigau. This, as described in the Kasigau Biodiversity Monitoring Plan, and Kasigau Biodiversity Survey Report, is provided to the validator.

CM3.3. Commit to Plan for HCV Monitoring

Wildlife Works commits to reviewing the above plan to create a full detailed monitoring plan within twelve months of validation against CCB standards, and to make that plan available to the public on the internet. We will also communicate the plan to local community groups again for dissemination to the wider community, as has been our approach to all communication throughout the project period.

BIODIVERSITY SECTION

B1. Net Positive Biodiversity Impacts

B1.1. Estimate Impacts on Biodiversity

From the beginning of our project in the project area many years ago, Wildlife Works has focused on how to stop the rampant killing of wildlife in the Kasigau Corridor by bush meat poachers, and protect the habitat for the wildlife to return. When we arrived at the project area over ten years ago, there were very few large mammals remaining. Our rangers used to say they saw nothing larger than a dik dik, a very small antelope the size of a rabbit. After a year of protecting the habitat, the wildlife began to return, beginning with the elephants and as they cleared out the thick shrubs that had grown in their absence, the other species followed. We have been keeping a database of wildlife sightings a report based on data independently collected by a well known researcher in Kenya by the name of Barbara McKnight is included (please see Annex 5). It is obvious by observing the lack of wildlife in community lands and the low sightings on Rukinga in the first year we were there, that under the “without-project” or baseline scenario, there would be practically no wildlife left. Now, after many years of protection, Rukinga is a well balanced ecosystem. Because the area is semi-arid, the density of wildlife will always be relatively low. We would like to be able to financially support more formal repeating of the surveys done by Dr. McKnight, and we will certainly explore that upon receipt of carbon funding.

However, formal scientifically accurate wildlife counts are incredibly difficult anywhere in the world, especially in forest. Usually, biodiversity health is measured simply by presence or absence of species, and by evidence of obvious poaching. An official count of elephant in the Tsavo ecosystem is conducted every other year, by the Kenya Wildlife Service. The project area is included in this count, and in fact Rob Dodson, our project manager is a key participant in the count itself. This inclusion supports the fact that the project area is a key area for elephant in the Tsavo area, and the Kasigau Corridor is a valuable dispersal area for the overall health of the ecosystem.

In addition, Wildlife Works has initiated many activities within the project area to foster broader conservation efforts outside the project area, and there are endemic species of high conservation value on Mt. Kasigau and the Taita Hills. Many of these species, however, persist in small and highly isolated (sub) populations. Consequently, a high proportion are of immediate conservation concern as is reflected by the list of 34 Taita animal and plant species currently categorized as vulnerable, endangered or critically-endangered by IUCN Red List Criteria (Luc Lens et al, 2002). That said, some are benefitting directly from increased conservation awareness such as Klassen's aloe, found at the Southern end of the project area.

B1.2. Demonstrate no HCVs Negatively Impacted

Once again, protecting our HCV species are the core of our activities on the project area, so none will be adversely effected by the project. On the contrary, our primary aim is to protect biodiversity, both flora and fauna alike.

B1.3. Identify Species Used by Project

This is not applicable, as we are a 100% conservation project with no offtake of any kind. Our leakage mitigation reforestation efforts use only slow growing native hardwood species in wildlands, and agroforestry species are used only within the confines of the community, and are selected for their non-invasive characteristics (reference search engine at <http://www.issg.org/database>), and for having been present within the communities already, e.g. Neem, Moringa. Citrus. Detailed species lists of nursery projects follows;

The indigenous tree species to be planted are:

1. Mkwachu	<i>Tamarindus indica</i>
2. Kirumbutu	<i>Melia Volkensii</i>
3. Mchemeri	<i>Acacia nilotica</i> (Egyptian Thorn)
4. <i>Acacia Robusta</i>	
5. Kiburabura (swa)	<i>Prunus africana</i>
6. Mshogoreka	<i>Terminalia brownii</i>
7. Iti	<i>Acacia tortilis</i>
8. Chariso	<i>Boscia coriacea</i>
9. Mzwana	<i>Berchemia discolor</i>
10. Mbokoi	<i>Melita Oblata</i>
11. Mwarara (swa)	<i>Acacia brevispica</i> (Wait a bit)
12. Kikwata	<i>Acacia melifera</i>
13. Gum arabica	<i>Acacia arabica</i>
14. Mwasina	<i>Kigelia africana</i>
15. Umbrella Thorn	<i>Acacia abyssinica</i>
16. Mshigha	<i>Lannea schweinfurthii</i>
17. Mhina	<i>Lawsonia inermis</i>
19. Mlamba	<i>Adansonia digitata</i>

The non-native tree species used in the jojoba project are:

1. *Simmondsia chinensis* Jojoba

Jojoba is being grown for the valuable seeds to provide a cash crop for the local farmers. It is very slow growing, takes approximately 5-8 years to produce seed and the seedlings require a lot of support in the early growth phase, due to the dry climate in the area. Over the years, we have been here, we have seen no examples of Jojoba self-sowing. Jojoba is not eaten by any animals or birds due to the appetite suppression qualities of the seeds, so it carries no threat of natural seed dispersal. There are no native equivalents to Jojoba.

The non-native tree species used in the greenhouse project are:

1. *Morabaini, Neem* *Azadirachta indica*
Neem was introduced to East Africa from India long ago, and is widespread within Kenya, as it has many valuable uses. It has been planted by farmers and communities for a very long time. Its Swahili name means "40 uses", which include

insect repellent, dietary supplement, medicinal tea etc. There are no native equivalents to Neem. Neem is also non-invasive.

2. *Moringa* *Moringa oleifera*

Moringa is considered native to Kenya, but in fact was introduced to East Africa from India a long ago. It is now widespread within Kenya, and has many valuable uses, and as such has been planted by farmers and communities for a very long time. Moringa is non-invasive.

- 3. *chili-pepper* *Capsicum chinense*
- 4. *mango* *Mangifera Indica*
- 5. *orange(pixie, mineola, Washington navel etc.)* *Citrus sinensis* var. grafted onto *Citrus jambhiri* Lush. (rough lemon) rootstock
- 6. *Papaya* *Carica papaya*
- 7. *Passion Fruit* *Passiflora edulis* SIMS

We grow our greenhouse citrus fruit trees on native rough lemon rootstock, using grafting techniques. Rough lemon rootstock is drought resistant, termite resistant and deep rooted. They are then out planted in community farms as a cash crop, or in the case of the chili pepper, as a barrier to elephant crop-raiding as well as a cash crop. The climate in the Kasigau corridor is too dry for any of these species to self-sow in the wild; they all take quite a lot of maintenance in the early going to survive to out planting stage, and therefore they cannot be considered invasive. The citrus species cannot survive drought at all, and must be watered regularly by the farmer, but produces a valuable cash crop to offset water costs. The chili-pepper is quite drought tolerant, but very short lived, with bushes living no more than four years in this area. Both Mango and Citrus can be considered naturalized, as there are records of the first sweet oranges known to the western world being given to Vasco da Gama in 1499 in Milindi at the Kenyan Coast. Mango trees have also been present in East Africa for hundreds of years. None of these species have any recorded entries in the global invasive species database (<http://www.issg.org/database>). Passion Fruit was introduced commercially to Kenya in 1933, but large plantations were devastated several times by easily spread diseases and pests. It became necessary to abandon them in favor of small and isolated plantings, which could be better protected. Papaya has been extensively grown for centuries in Kenya, probably arriving with Portuguese trading ships, and we plant the local varieties of these as well as Mango. There are no native equivalents to these valuable cash crops. While they do introduce potential human-wildlife conflict, it is much easier for the community to defend a fruit tree, than a field of maize.

B1.4. Describe Invasive Species Used by Project

None. Ref: *global invasive species database* (<http://www.issg.org/database>).

B1.5. No GMO Guarantee

We guarantee that no GMOs are used ever in the course of Wildlife Works projects, and

therefore would never be used to generate emissions reductions or removals.

B2 Offsite Biodiversity Impacts

B2.1. Identify Potential Negative Offsite Impacts on Biodiversity

None. As described earlier our project has had significant positive impact on any dimension that could be analyzed where biodiversity is concerned.

B2.2. Document How to Mitigate Potential Negative Offsite Impacts on Biodiversity

Not applicable.

B2.3. Evaluate Potential Negative Offsite Impacts on Biodiversity

Not applicable.

B3 Biodiversity Impact Monitoring

B3.1. Develop Plan for Biodiversity Monitoring

The important role of biodiversity monitoring for Wildlife Works project is well understood and we have our own permanent teams of rangers who patrol on foot daily checking for presence of wildlife and also checking for evidence of illegal activities, such as snaring, wood harvesting, illegal grazing or charcoal production.

The variables that are of importance are;

- Species populations extrapolated from sighting logs
- Evidence of Illegal Activity damaging to biodiversity
 - Charcoal kilns
 - Felled trees for construction
 - Poached animals
 - Poaching arrests
 - Illegal grazing with number of head of cattle
- Instances of Wildlife human conflict e.g.
 - elephant crop raiding
 - livestock predation

B3.2. Develop Plan for HCV Monitoring

The Kasigau Corridor is unlike most REDD projects, as Wildlife Works rangers monitor the wildlife populations in the project area on a daily basis, and maintain a daily log of all wildlife sightings. We can monitor the health of the Phase II ecosystem, and the populations of the endangered species. However, with carbon finance, we propose to expand on the reporting we have been able to do on this important collection of research data, in three ways, outlined above in G3.2 Major Project Activities;

- improve our ability to monitor the HCV species in the project area by adding a dedicated

Ranger Patrol, the HCV Ranger Team – this has been done in the form of the hiring of Patrick Kabatha as HCV Monitoring Specialist.

- improve monitoring of HCV species, by establishing a GIS center of excellence at Rukinga HQ to capture, process and report on wildlife data collected by the project,
- 3 year reforestation and monitoring project on the slopes of HCV Mt. Kasigau (see documents Mt. Kasigau Reforestation Plan, Kasigau Biodiversity Monitoring Plan, and Kasigau Biodiversity Survey Report submitted to validator)

B3.3. Commit to Plan for Biodiversity Monitoring

Wildlife Works commits to expanding on the above to create a full detailed monitoring plan within twelve months of validation against the CCB standards and to make that plan available to the public on the internet. We will also communicate the plan to local community groups for dissemination to the wider community, as has been our approach to all communication throughout the project lifetime.

GOLD LEVEL SECTION

GL1. Climate Change Adaptation Benefits

GL1.1. Identify Likely Climate Change impacts

We believe there is overwhelming evidence in the literature that there will be significant negative climate change and climate variability impacts on the communities in the project area, as they are heavily dependent traditionally on subsistence agriculture in an area which in the best of times was highly marginal for agriculture. In fact almost everyone in the community will tell you that the rains have failed far more frequently in recent years, and even when they have come they are unpredictable which leads to missed opportunities to plant at the right time in the season to ensure a harvest even in good rain seasons. We believe this problem will only increase with increasing likelihood of more severe climate change impacts in the future. The impact of poor food security is not to force people to leave the area though. It just means they keep moving, clearing more land in the hopes that they will find the perfect plot on which the variable and highly localized rains will fall, so in the Baseline scenario, we anticipate even higher deforestation rates in the future. The other impact of failed crops is that it triggers an increase in poaching on bush meat, and even though native wildlife populations are drought specialists, they will already be further stressed by even lower rainfall and higher median temperatures in the future, and populations may be less able to withstand further stress from poaching.

A partial list of publications addressing the impact of Climate Change on Kenya specifically is presented below, as recent as last year and stretching back to 1991:

The Economic Impact of Climate Change on Kenyan Crop Agriculture: A Ricardian Approach
Fredrick K. Karanja University of Nairobi, Jane Kabubo-Mariara University of Nairobi, August 1, 2007

World Bank Policy Research Working Paper No. 4334

CLIMATE CHANGE AND AFRICAN AGRICULTURE

Policy Note No. 12, August 2006, CEEPA

Centre for Environmental Economics and Policy in Africa (CEEPA)

Omenda, T.O., J.G. Kariuki, and P.N. Mbuti, 1998: *Vulnerability and Adaptation to Potential Impacts of Climate Change in Kenya: Summary for Policy Makers.* Kenya Country Study Project, Ministry of Research and Technology, Nairobi, Kenya

Okoth-Ogendo, W.H.O. and Ojwang, J.B. (ed.), A Climate for Development: Climate Change Policy Options for Africa. ACTS press, Nairobi, 1995, p. 264.

Ottichilo, W.K., Kinuthia, J.H., Ratego, P.O. and Nasubo, G., Weathering the storm: Climate Change and Investment in Kenya, ACTS Press, Nairobi, 1991, p. 91.

GL1.2. Identify Risks to Project's CCB Benefits from Climate Change

Climate change in this area of Kenya is very likely to increase average temperatures, to produce more frequent and prolonged drought, and to reduce the productivity of the traditional subsistence crops grown by local farmers who have low variability and diversity of crops, high reliance on subsistence agriculture due to low skills and knowledge of other income generating activities etc.. Lower food productivity if left unmitigated would put increased pressure on poaching of biodiversity. We are working hard to mitigate this risk by providing alternative livelihoods and diversification of income sources to those not dependent on agriculture, such as in our factory, in our Carbon project and by researching drought tolerant cash crops that the local farmers can intercrop with their maize to provide a cash crop even in drought, such as jojoba.

It is also possible that severe prolonged drought could lead to the degradation of natural food sources, such as grazing and forage for the wild animals, although most species in this area are already drought specialists, not requiring to drink water for months or in some cases ever, as they acquire their water for survival through the browse they eat (giraffe, kudu, oryx, gazelles) or through combination of browse and physiological design (gerenuk). The tree species present in the Dryland Forest are also drought specialists, with *Commiphora* spp. having the unique ability to photosynthesize through their bark, so they drop all their leaves during the dry season to prevent loss of water through transpiration. *Acacia* spp. drop 95% of their leaves for the same reason but as they cannot photosynthesize through their bark they must keep 5% of their leaves even during drought to stay alive, although the leaves that remain fold in on themselves at night again to minimize surface area for transpiration.

Predators generally maintain during drought by living off the blood of their prey, and though territorial have large territories and will follow their prey over large distances if necessary.

For those wildlife species that do require water during drought, such as elephant, buffalo, eland, common zebra the fact that we are providing a safe corridor for wildlife to migrate between Tsavo East and Tsavo West National Parks means that we are allowing for wildlife to move hundreds of kilometers to seek food in times of drought. We have also made the management decision to provide water at water points throughout the sanctuary, to make up for the fact that the permanent natural water points in the project area have been monopolized by humans and wildlife is now excluded from use of these water points. The source of our water is the main water pipeline from Mzima Springs, which despite recent dry years is still flowing at record rates, enough to provide for the drinking water needs of the inhabitants of the City of Mombasa with enough left over to keep the Tsavo River as a permanent river.

Availability of graze for those species that require it to eat could be further reduced during prolonged drought by the invasion of illegal cattle grazers, mostly Somali in search of grass for their cattle. This has been experienced from time to time historically on Rukinga, and much more often both legally and illegally in the project area for Phase II, but this is now an illegal act of trespass by tribes from outside the project area, with no support from community or administration and as such with adequate funding for patrolling, we believe we can mitigate this risk. Recent drought has dramatically reduced herd size for the Somali commercial cattlemen, making it more likely that they will be able to find adequate grazing for their herds

elsewhere. There is also the possibility that the geopolitical situation in Somalia that lead to the original use of the project area for fattening Somali cattle being walked from Somalia and Northern Kenya to be shipped from Mombasa to the Gulf will improve, allowing for the export of cattle from Somalia directly to the Gulf, removing the need for large herds to travel south through this part of Kenya.

As this is an Avoided Deforestation project, with no climate benefits being claimed for net carbon stock increase from year to year in the with project scenario, we do not anticipate any negative impacts on the emissions benefits of this Project. Afforestation and reforestation projects would definitely face the risk of lower carbon stock increases if rainfall levels were further reduced as climate change continues, but we do not believe that the levels of unpredictability will have a significant impact on the survival of the mature indigenous Dryland Forest that forms the basis of our Carbon project.

GL1.3. Demonstrate Current or Anticipated Climate Change impacts

The climate change impacts mentioned above are all equally applicable to the project area and project zone (including reference area); please refer to sections GL1.1 and GL 1.2 above.

GL1.4. Demonstrate that Project Activities Will Mitigate Climate Change impacts

Wildlife Works approach in the face of this threat has been since the beginning of our project to search for economic development opportunities that are sustainable and NOT dependent on the dry land forest. Our first initiative was to build a factory and teach the local women how to sew, a radical departure from traditional conservation thinking, but an approach designed to wean the community off the dependence on slash and burn agriculture.

The expansion of our project to include carbon revenues from protection of the Dryland forest under this Project will increase the options for non land based job creation, allowing us to employ more community members in our non-agricultural activities.

In addition we intend to use carbon funding to expand our dryland farming scheme, where we are exploring the use of Jojoba and chili pepper and citrus trees as cash crops that can survive in very arid conditions with little or no watering and are much more productive per hectare than maize or annual crops traditionally grown by the community. As these crops require much less land, they can be realistically irrigated from the pipeline which the government has now extended down into the project area villages in the event that natural rains fail for an extended period, and the income they provide will justify the farmers expense of irrigation. This cannot be said for Maize which is not a valuable enough crop to justify irrigation from the pipeline.

GL2. Exceptional Community Benefits

GL2.1. Demonstrate the project area is in a Low Human Development Country

Kenya is surprisingly just above the threshold for Low Development Countries with an HDI of 5.21 vs. a < 5.0 limit for Low Human Development Countries.

As a result we will not make claim to gold status on this criteria, although in all likelihood we are in a rural area that might qualify under the 50% below the poverty line clause.

GL3. Exceptional Biodiversity Benefits

GL3.1. Demonstrate the project area Includes a site of High Biodiversity Conservation Priority

The project area meets this criteria under the vulnerability criteria for the following reasons;

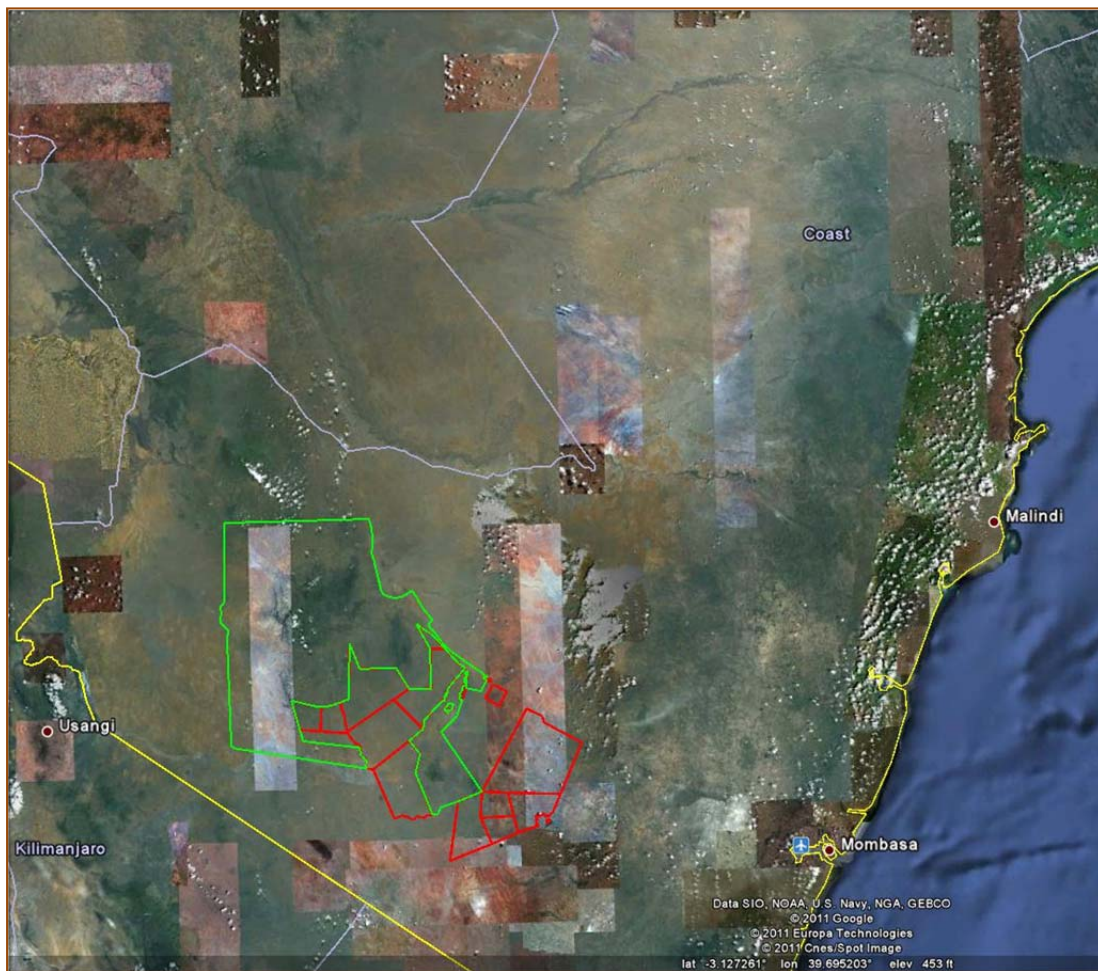
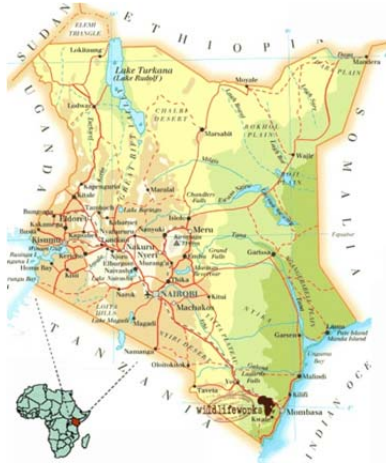
- Taita has a resident population of Grevy's zebra (*Equus grevyi*) which is IUCN Red List – Endangered - in fact the project area may have 3% of the global population estimated at 750 in 2008
- The project area is part of the home range of a pack of African Hunting Dogs (*Lycaon pictus*) - which is IUCN Red List – Endangered, that have been photographed on Rukinga sanctuary, and observed by Rangers in Kasigau Ranch, and at other locations within the project area
- The project area has a significant resident population of both cheetah (*Acinonyx jubatus*) and lion (*Panthera leo*) that are IUCN Red List – Vulnerable and we believe are greater than 30 individuals
- The project area is part of the Eastern Arc Mountain Global Hot Spot as defined by Conservation International, and in the project area outside the project area are several other qualifying species such as;
 - Taita Apalis (*Apalis fuscigularis*) – IUCN Critically Endangered
 - Taita Thrush (*Turdus helleri*) – IUCN Critically Endangered

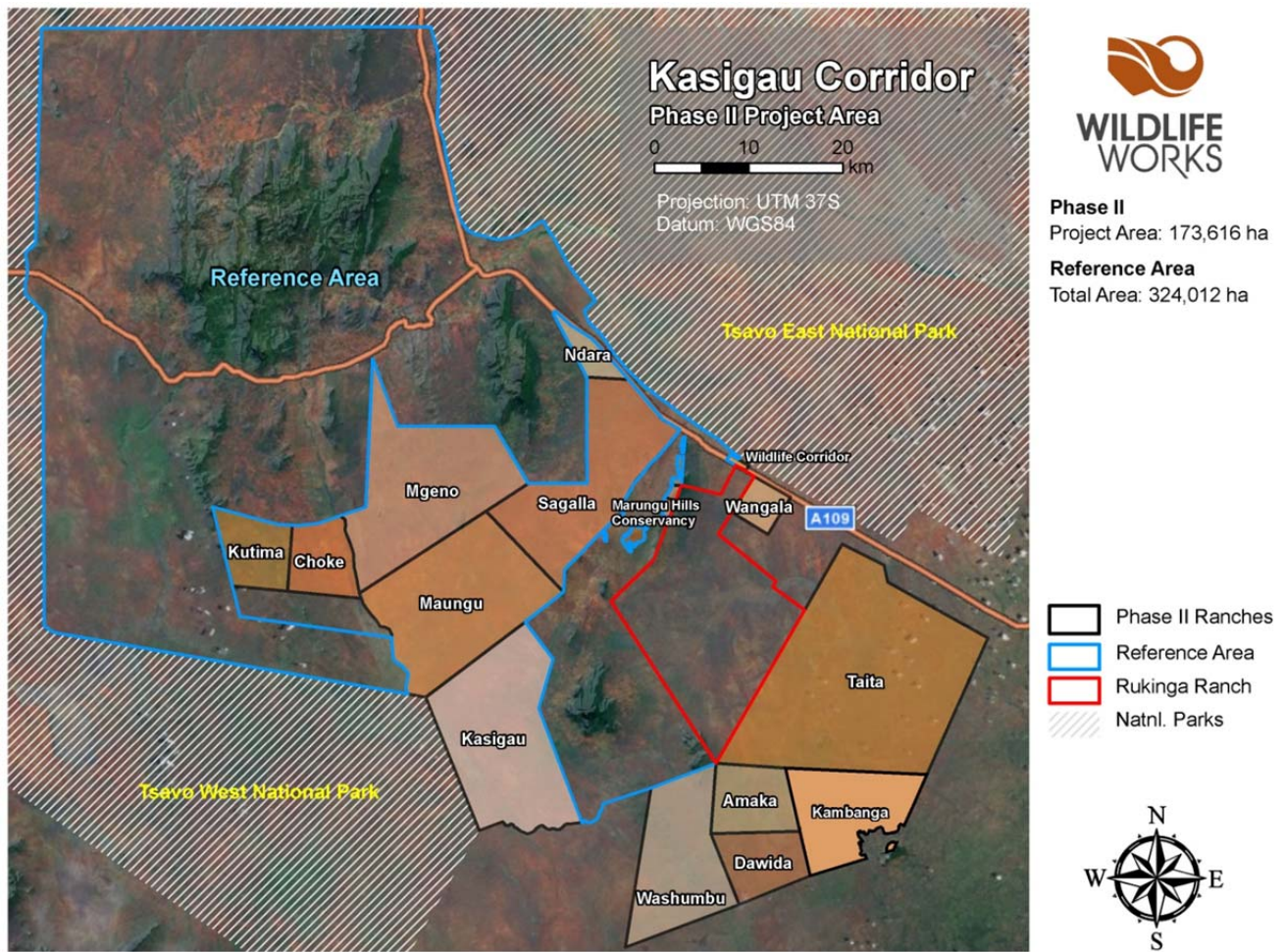
ANNEXES

Annex 1

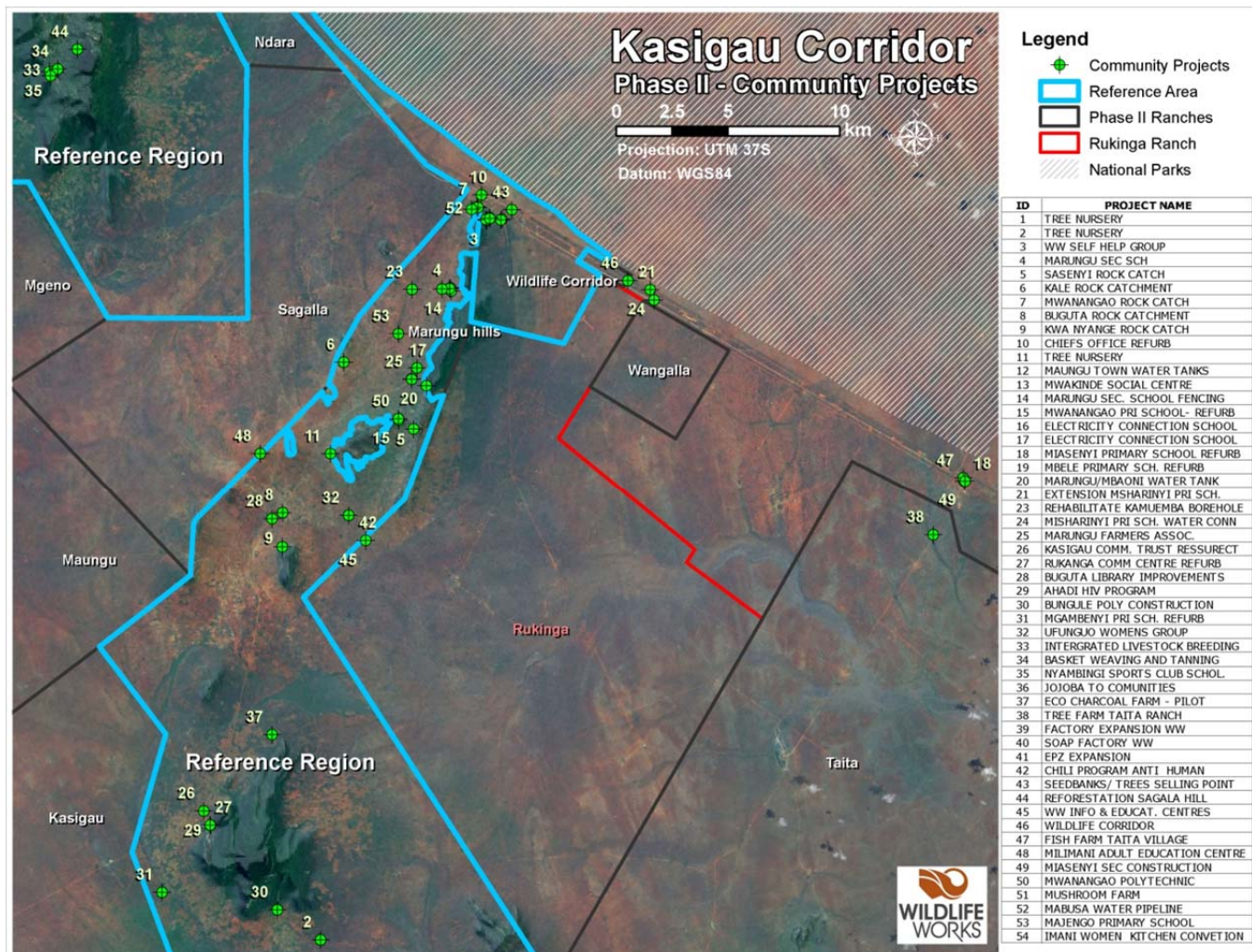
Maps of the project area

Maps of the project area





Project area and ranch boundaries – Kasigau Corridor REDD Project Phase II



Phase II Community Project locations

Plot Sampling Methodology

The Kasigau Corridor Phase II project is 169,741 hectares of varying density Acacia-Commiphora woodland/forest located in the SE of Kenya. Altitudes on the Kasigau corridor range from approximately 450m to 1,000m and the ecosystem encompasses montane forest on the slopes of the higher elevations, through Acacia-Commiphora dryland forest at mid elevations and down to grassland dominated savannah at the lowest elevations. In order to most accurately estimate the biomass of the sanctuary, with reasonable time and expense we divided the sanctuary into seven strata based on ecosystem type.

Plot Center Navigation

Kasigau Corridor
Phase II Carbon Inventory

0 10 20
km

Projection: UTM 37S
Datum: WGS84

Reference Area

Tsavo East National Park

Tsavo West National Park

• Biomass Plots

□ Reference Area

▨ Natl. Parks

Landcover

- dense forest
- grassland / sparse
- high montane forest
- light forest
- low montane forest
- medium forest
- sparse forest

Map labels: Ndara, Migesi, Sagalla, Marungu Hills Conservancy, Wanjoia, A100, Taita, Amaka, Kambaroa, Dawida, Washumbi, Kasigau, Maungu, Choke, Kurlima.

North arrow: N, S, E, W

Phase II Forest Carbon Inventory Plots

For each sample plot, we navigate using cutlines, in a vehicle, until we reached the closest point to those coordinates accessible by vehicle. At that point we made the following determination, to allow for safety in performing the plot sampling work, in a sanctuary with a significant population of dangerous wild animals, such as elephant, buffalo and lion;

- 1) In the event the exact plot center could be reached by vehicle, we drive in and locate that plot center at the exact GPS coordinate.
- 2) In the event that the exact plot center is inaccessible by vehicle and was more than 200m from the nearest track, we take a perpendicular line from the nearest track to the exact plot center and travel 200m along that line to locate the practical or revised plot center. We then bring the vehicle as close as possible to that revised plot center for safety reasons.
- 3) In the event that the exact plot center was inaccessible by vehicle and was between 100m and 200m from the nearest track, we would use the original plot center, and would bring the vehicle as close as possible to that original plot center for safety reason. The exact plot center is then navigated to on foot.
- 4) In the event the original plot center falls within a road, we would relocate the plot center by walking to the edge of the plot anomaly closest to the original plot center, and then walking 100m directly away from the edge of the plot anomaly in the direction created by drawing a line from the original plot center to the closest edge of the plot anomaly. If, while navigating this line, we intersected another plot anomaly, we continue walking in the same direction until we reached the far edge of the new plot anomaly, and then begin counting 100m from the edge to locate the new revised plot center. We believe this methodology is justified due to the vastly disproportionate impact on vegetation by elephant along roads, tracks and around waterholes, and due to the fact that the total area represented by these anomalies is less than 1% of the total project/sanctuary area. The total area of the roads within the project area is then necessarily removed from the total forest carbon inventory.

Plot size, configuration and calculations

All of the plots used to measure tree and shrub biomass had a radius of 17.84m. All trees and shrubs whose center fell within the 17.84m radius were considered to be within the plot. For each tree, the location of its bole, in distance from center of plot and angle from north were noted, the dbh and/or multi trunk dbh recorded using dbh forestry tapes (d-tape), together with the width of the canopy, to facilitate canopy cover calculations, and the height of each tree.

Standing Live Trees

Each sampled tree was recorded. If the tree was single-trunked, dbh was recorded. If the tree had multiple stems each stem is recorded using the following criteria:

If the split occurs below dbh height, each stem is measured just above the *first split* at the smallest diameter noticeable by eye. If there exist multiple splits below dbh height, only the diameters of the stems resulting from the first split are recorded.

If the split occurs below the ground (common for some species in this ecosystem), the tree is considered to be multi-trunk, and each stem is measured at approximately 10cm - 15cm above the ground. Again, if the tree splits again below dbh height, only the stems after the first split are recorded.

Leaning Live Trees

Each leaning live tree was treated exactly the same as if it were a standing live tree (unaltered). Many trees in the Kasigau corridor have been partially knocked over (usually by elephants) and continue to live and sequester carbon.

Standing Dead Trees

Standing dead trees are measured the same way standing and leaning live trees are, but are noted to be dead in the inventory databases.

Lying Dead Trees

Lying dead trees are measured for this project. The diameter at the length of tree assumed to originally be breast height (or if not possible, diameter at a height that yields average diameter for the visible length of the tree) is recorded. Then, decay class is recorded according to IPCC standards (I - IV). Lying dead wood was conservatively excluded from the Phase II project.

Each sampled tree was tagged with a tin number plate so the trees' location can be triangulated using distance from center and angle from north. Plot centers were also monumented using buried iron bar (rebar), to prevent the elephants from moving the monuments, as well as a cap with the Wildlife Works logo imprinted on it. Plot centers can also be relocated using GPS and the tree location data, in the event that the elephants do find and move the monuments. This relocation procedure has been verified and replicated many times in the field.

Shrubs

For dominant shrub species two separate methods are used in the field;

For shrubs/small trees that can become very large (e.g. *Cordia*, *Acacia ruficiens* etc., where the shrub is multi stemmed from the ground, with between 2 and 15 stems), size class (S,M,L) and number of stems is recorded for each shrub. Field crews are trained to distinguish these species, and are adept in quickly determining size class and counting stems. Later, in the biomass calculation, total aboveground biomass is determined from multiplying the number of stems by the stem weight for that class, which was determined in a specialized destructive harvest for which an average (standard) stem weight was determined for each species and each size class.

For *Grewia* sp., and others, where the shrub has many stems, is non-uniform in distribution of biomass per stem, etc., size class is estimated for each shrub in the plot, based on crown height and diameter. Biomass is later determined using destructively harvested data for each of the dominant species in the ecosystem, using average weight per shrub. The table below shows results from destructive harvest data for dominant shrub species.

Shrub Species	Size Class (S/M/L)	Crown Diameter Range	Crown Height Range	Average Stem Diameter (cm)	Standard Weight/Weight/stem (kg)
Cordia sinensis	S				3
Cordia sinensis	M				15
Cordia sinensis	L				33
Grewia sp.	S	<1m	<1m		1.5
Grewia sp.	M	>1m <2m	>1m <2m		4.3
Grewia sp.	L	>2m	>2m		9
Acacia ruficiens	S			5	23
Acacia ruficiens	M			9	43
Acacia ruficiens	L			12	131

Standard stem weights for dominant shrubs in the Phase II ecosystem

Herbaceous materials (grasses)

1m x 1m sample plots were made in four quadrants of the tree sample plot, by measuring 15m from center point N and S, and then measuring 5m out perpendicularly from the tape in both directions. All of the herbaceous material was then harvested and bundled, dried and weighed. This yields an average herbaceous biomass per square meter.

Soils

The method used for soil samples is described in Brown et al 2004. Soil samples were taken from a random selection of test plots both within the project area and in the adjacent deforested agricultural conversion area, to determine whether there was a significant loss of carbon after deforestation due to exposure of the soil to the hot equatorial sun, and to poor agricultural practices typical within the local community.

To sample soil, coordinates were provided to the soil plot sampling teams by our GIS team, at randomly selected forest plot locations, and they sample using the following method, illustrated further in the Standard Operating Procedure Soils provided to the Validator:

Step1 For a plot inside the project area, coordinates are provided to the soil plot sampling teams by our GIS team, at randomly selected forest plot locations. The plot teams use their GPS to find the plot center.

Step 2. A one meter square is marked out on the ground, and digging commences.

Step 3. The soil from the top 30cms is piled together and the larger lumps are smashed with the back of a hoe.

Step 4. Whilst the soil is being dug from the sample pit, the tailings are thoroughly mixed so that the various layers are interspersed.

Step 5. The lower layer taken from 30cm-100cm is then piled on the other side of the pit and it too is mixed thoroughly.

Step 6. A sample is then taken from each of the mixed piles, bagged, and sent to the independent testing lab – CROP NUTRITION SERVICES, Nairobi Kenya.

If outside the project area, the location and name of the farm and any comments are recorded on the bag and in the sampling notes, and Top Soil(0-30) and Sub Soil(31-100) are recorded for the respective samples. Care should be taken not to include any large rocks or roots or other obvious organic matter in the samples; mineral soil only.

Crop Nutrition Services performs standard bulk density and organic matter analysis of the soil samples and returns the results to us in spreadsheets. The Bulk Density method used by the outside laboratory (Crop Nutrition Services) that performed the soil testing for the PD is an official FAO methodology for measuring Bulk Density of disturbed soil samples. A copy of the FAO approved protocol was provided to the Validators.

Field training

Field training was conducted in February, 2009 for the first tree plot sampling team. This team consisted of;

- A local tree expert who was able to identify all the different acacia and commiphora species encountered in the sampling - Joel Mwandiga
- Mike Korchinsky – CEO Wildlife Works
- Rob Dodson – VP African Field Operations
- Mwololo Muasa and Joel Mwandiga two Wildlife Works employees who would be the permanent team leads and data recorders
- Three casuals to assist with carrying equipment into the field and marking the plots
- A driver
- A ranger for security

The Standard Operating Procedures for Biomass and Soils were produced following refinement of the field techniques by this initial team and two other teams have been trained using the procedure and by accompanying our permanent team on their work, to ensure consistency in method.

Annex 3

Biomass Allometric Equations by Species

See the Allometry tab in each of the ranch monitoring files named “Taita carbon model Final.xlsx”, “Amaka carbon model Final.xlsx” etc.

Annex 4

Aggregated Forest Inventory Results

See file “Forest Inventory Phase II Summary-Strata2_v4.xlsx”

Annex 5 Biodiversity Data

Mammals - see file 01 mammals v1.pdf

 Wildlife Works RUKINGA WILDLIFE SANCTUARY MAMMALS			
PRIMATES	LATIN NAME	STATUS	POPULATION (estimated)
Senegal Galago	<i>Galago Senegalensis</i>		Unknown
Vervet Monkey	<i>Cercopithecus aethiops</i>		300
Yellow Baboon	<i>Papio cynocephalus</i>		> 450
Short Tailed Galago	<i>Galago Senegalensis</i>		Unknown
CARNIVORA	LATIN NAME	STATUS	POPULATION (estimated)
Black Backed Jackal	<i>Canis Mesomelas</i>		40
Bat Eared Fox	<i>Otocyon megalotis</i>		50
Zorilla	<i>Ictonyx congica</i>		Unknown
Honey Badger	<i>Mellivora capensis</i>		30
African Civet	<i>Civettictis civetta</i>		40
Small Spotted Genet	<i>Genetta genetta</i>		Unknown
Slender Mongoose	<i>Herpestes sanguinea</i>		Unknown
Bushy Tailed Mongoose	<i>Bdeogale crossicauda</i>		Unknown
Dwarf Mongoose	<i>Helogale parvula</i>		Unknown
White Tailed Mongoose	<i>Ichneumia albicauda</i>		Unknown
Banded Mongoose	<i>Mungos mungo</i>		Unknown
Egyptian Mongoose	<i>Herpestus Ichneumon</i>		Unknown
Striped Hyena	<i>Hyaena hyaena</i>		> 50
Spotted Hyena	<i>Crocuta crocuta</i>		> 60
African Painted Dog	<i>Lycaon Pictus</i>	Endangered	5
Aardwolf	<i>Proteles cristatus</i>		20
Cheetah	<i>Acinonyx jubatus</i>	Endangered	20
Caracal	<i>Felis caracal</i>		20
Serval	<i>Felis serval</i>		Unknown
African Wild Cat	<i>Felis sylvestris</i>		Unknown
Lion	<i>Panthera Leo</i>		> 20
Leopard	<i>Panthera Pardus</i>		> 1
PROBOSCIDA	LATIN NAME	STATUS	POPULATION (estimated)
African Elephant	<i>Loxodonta africana</i>	Endangered	> 250
PERISSODACTYLA	LATIN NAME	STATUS	POPULATION (estimated)
Common Zebra	<i>Equus burchelli</i>		150
Grevy's Zebra	<i>Equus grevyi</i>	Endangered	20
HYRACOIDEA	LATIN NAME	STATUS	POPULATION (estimated)
East African Rock Hyrax	<i>Procavia johnstoni</i>		Unknown
Bush Hyrax	<i>Heterohyrax brucei</i>		Unknown



Wildlife Works

RUKINGA WILDLIFE SANCTUARY MAMMALS (continued...)

TUBULIDENTATA	LATIN NAME	STATUS	POPULATION (estimated)
Aardvark	<i>Orycteropus afer</i>		Unknown
PHOLIDOTA	LATIN NAME	STATUS	
Cape Pangolin	<i>Manis temminckii</i>		Unknown
ARTIODACTYLA	LATIN NAME	STATUS	POPULATION (estimated)
Warthog	<i>Phacochoerus africanus</i>		> 120
Bushpig	<i>Potamochoerus porcus</i>		60
Giraffe	<i>Giraffa camelopardus</i>		80
Hartebeest	<i>Alcelophus buselophus</i>		40
Impala	<i>Aepyceros melampus</i>		300
Grant's Gazelle	<i>Gazella granti petersi</i>		250
Gerenuk	<i>Litocranius walleri</i>		150
African Buffalo	<i>Syncerus caffer</i>		> 200
Common Eland	<i>Taurotragus oryx</i>		60
Lesser Kudu	<i>Tragelaphus imberbis</i>		130
Common Duiker	<i>Sylvicapra grimmia</i>		> 40
Fringe Eared Oryx	<i>Oryx beisa callotis</i>		50
Kirk's Dik Dik	<i>Madoqua kirkii</i>		> 1000
Klipspringer	<i>Oreotragus oreotragus</i>		> 10
Mountain Reedbuck	<i>Redunca fulvarufula</i>		Unknown
Waterbuck	<i>Kobus ellipsiprymous</i>		20
Steinkok	<i>Rhapicercus campestris</i>		Unknown
Oribi	<i>Ourebia Ourebi</i>		Unknown
RODENTIA	LATIN NAME	STATUS	POPULATION (estimated)
Unstriped Ground Squirrel	<i>Xerus rutilus</i>		Unknown
Bush squirrel	<i>Paraxerus Spp.</i>		Unknown
Crested Porcupine	<i>Hystrix Cristata</i>		Unknown
LAGOMORPHA	LATIN NAME	STATUS	POPULATION (estimated)
Cape Hare	<i>Lepus Capensis</i>		Unknown

Birds

See file 02_birds_v1.pdf

Reptiles

See file 03_reptiles_v1.pdf

Amphibians

See file 04_amphibians_v1.pdf

Annex 5 Continued

Wildlife Distribution in Rukinga Wildlife Sanctuary: A Comparison of Wildlife Numbers Since the Arrival of Wildlife Works



Two bull African elephants (*Loxodonta africana*)
on Rukinga Wildlife Sanctuary

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Data collected by Dr. Barbara McKnight

Abstract:

This report will present data accumulated between 2000 and 2001 in an attempt to show that wildlife numbers have increased in Rukinga Wildlife Sanctuary since the arrival of Wildlife Works in 1999. The data presented will outline a comparison of observations from 2000 and 2001. An increase in average number of wildlife observed per day was noted for all species concerned in this report. Data were collected by conducting ground surveys from a vehicle. All data presented were collected by Dr. Barbara McKnight as part of her ongoing Tsavo Elephant Research Project. We suggested a correlation between the changed management of Rukinga Sanctuary and the increased numbers of wildlife. We also suggested that more research needs to be conducted to provide an accurate estimation and comparison of wildlife numbers on Rukinga since 2001.

Introduction:

The purpose of this study was to determine if there had been an increase in wildlife numbers on Rukinga Wildlife Sanctuary since the arrival of Wildlife Works. A total of 27 species were observed during vehicle surveys conducted on Rukinga in 2000 and 2001. This report chose to focus on nine of those 27 species. The species chosen were: lion (*Panthera leo*), cheetah, (*Acinonyx jubatus*), African elephant (*Loxodonta africana*), Cape buffalo (*Syncerus caffer*), fringed-eared oryx (*Oryx beisa callotis*), giraffe (*Giraffa camelopardalis*), serval cat (*Felis serval*), Burchell's zebra (*Equus burchelli*), and Grevy's zebra (*Equus grevyi*). Two factors were considered in choosing which animals should be focused on for the purposes of our report, importance in conservation and species home range. Rukinga is home to several species of concern to the international conservation community, such as, lion (*Panthera leo*), cheetah, (*Acinonyx jubatus*), African elephant (*Loxodonta africana*), and Grevy's zebra (*Equus grevyi*).

Species highlighted in this report were also chosen based on the size of their home range, defined as the territory and range a particular species have the ability to occupy. All species occupy a specific home range, some larger than others. For the purposes of this study, species were chosen whose home range was large enough to account for travel between Tsavo East and West National Parks. An animal's core home range generally centers on two factors, territorial behavior and availability of water. Rainfall data were taken into account when considering why there may have been an increase in wildlife numbers. The ability to find a viable water source is vital for wildlife in the Tsavo ecosystem. Several of the animals on this list, such as Burchell's zebra, Cape buffalo and Giraffe are dependent on frequent drinking and will travel large distances to find water. All of the species highlighted have a large enough core home range to utilize the corridor between the National Parks.

Methods/Results:

A study was conducted from 2000-2001 surveying random transects on Rukinga Wildlife Sanctuary using vehicles. Observations were conducted from 7:15 a.m. until 1:00 p.m. Collected data were compiled and presented as the average number of animals observed per day in proportion with the number of days spent observing. There were 13 more days spent observing in 2001 than 2000 (Table 1). Rainfall data were also collected for 2000 and 2001. There was no significant difference in rainfall recorded between 2000 and 2001. There were 97.1 mm less rain in 2001 than in 2000, 8.1 mm less (on average) per month (Table 2). An increase in average

number of wildlife observed per day was seen from 2000 to 2001 (Fig. 1). There were no surveys conducted on Rukinga in 1999 and there was insufficient data collected in 2002 and 2003 to present definite comparisons to existing data. Since there were no observations conducted in 1999, all data collected will be compared to 2000.

Species	Total # Obs. /yr 2000	Total #Obs./yr2001	Avg # of wildlife Obs. Per day 2000	Avg # of wildlife Obs. Per day 2001
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Table 1: Average number of wildlife obs. per day on Rukinga Wildlife Sanctuary in 2000-2001.

African elephant	264	754		6.8
Giraffe	34	201	0.37	1.8
Cape Buffalo	45	96	.45	.85
Lion	0	12	0	0.12
Serval Cat	0	4	0	.04
Burchell's Zebra	157	555	1.7	5
Grevy's Zebra	2	14		
Cheetah	1	8	0.02	0.12
Fringed -eared Oryx	52	216	0.01	0.07
			0.57	2

Total # of days spent Obs. :
2000-100 days 2001-113 days

Table 2: Rainfall data (in mm) for Rukinga Wildlife Sanctuary 2000-2001.

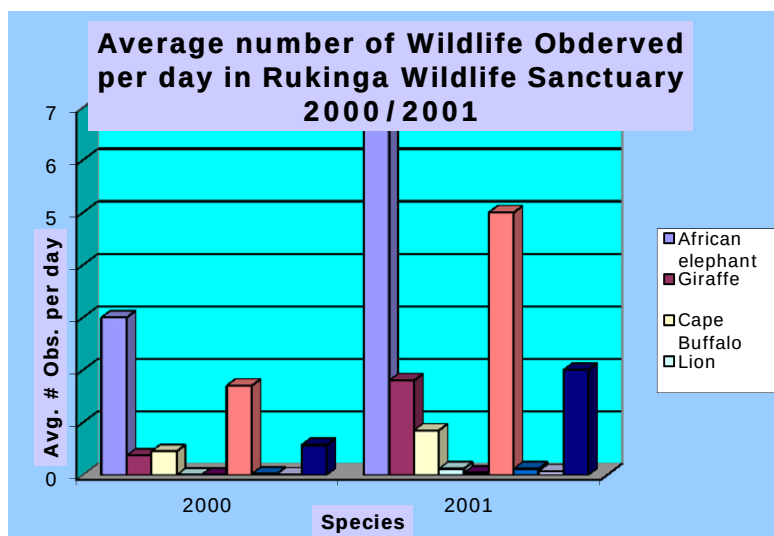
Month:	2000	2001
January	2.0	91.0
February	0.0	0.0
March	22.0	8.2
April	37.0	7.0
May	59.8	57.8
June	25.5	49.0
July	16.0	0.0
August	15.0	0.0
September	34.6	0.0
October	31.0	6.4
November	120.6	6.5
December	31.0	71.5
Total:	394.5	297.4
Average Per month:	32.88	24.78

Discussion:

We conducted a study to ascertain whether or not there had been an increase in wildlife numbers in Rukinga Sanctuary since the arrival of Wildlife Works. Our data did show an increase in the average number of wildlife observed per day in proportion with the number of days spent observing. Informal observations show that there has been a marked increase of wildlife movement on Rukinga. Ariel surveys show about 200 plus elephants on Rukinga at the moment. Dr Mcknight ended her studies on Rukinga at the end of 2001, We propose that a continuation of her studies be conducted so that any further increases in wildlife numbers can be quantified.

There are several factors that may contribute to the increased numbers of wildlife on Rukinga. There seems to be a balanced predator/ prey dynamic on Rukinga, which may be partly due to the increased numbers of ungulates. The sanctuary has become a more suitable environment for prey animals, because of the elimination of cattle ranching, and the improved grazing conditions, thus, creating a viable food source for predators, which would explain the increased numbers of predators being observed as well. It was also determined that the amount of rainfall on the sanctuary has not played a significant role in the increased wildlife numbers on Rukinga. We are suggesting that the observed increase is therefore, due to the improved conditions on Rukinga since the arrival of Wildlife Works.

Wildlife numbers on Rukinga Wildlife Sanctuary are clearly on the rise. There are several possible explanations for this observed increase. Animals generally attempt to avoid contact with humans and since the arrival of Wildlife Works there has been a dramatic decrease in human presence and human wildlife conflict on Rukinga. Less human traffic makes Rukinga a significantly more suitable environment for the movement of wildlife coming from Tsavo National Park and the surrounding areas. The decrease in human presence also means that activities such as poaching/snaring and cattle ranching, which are detrimental to the local wildlife and habitat, are non-existent. Deforestation, snaring and habitat destruction due to charcoal burning has been eliminated entirely on Rukinga since 1999. These changes clearly demonstrate that the arrival of Wildlife Works has dramatically improved Rukinga as a viable habitat for wildlife. Therefore, we propose that wildlife numbers have increased since 1999 and that more studies need to be conducted to provide sufficient data to prove this theory.



Annex 6

Press Release with Kenya Forest Service(KFS)



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Wildlife Works and the Kenya Forest Service Announce East Africa's First REDD Carbon Offset Project Under the Voluntary

Wed Apr 15, 2009 1:32pm EDT

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SAN FRANCISCO, CA and RUKINGA, KENYA, Apr 15 (MARKET WIRE) --

Today Wildlife Works Carbon, LLC and the Kenya Forest Service (KFS) announced the initiation of East Africa's first Carbon Offset project designed to take advantage of the emerging global carbon markets covering Reduced Emissions from Degradation and Deforestation (REDD). The project seeks to employ the Voluntary Carbon Standard (VCS) to carry out activities in Rukinga for participation in the voluntary carbon markets.

According to Alfred Gichu, a Chief Forest Officer from KFS, the National Focal Point for REDD Projects: "KFS intends to forge strong partnerships with the private sector in Kenya, a nation that takes pride in its role as an innovative business leader for East Africa. We welcome the entrance of Wildlife Works Carbon into the market, to assist us and Kenya's rural landowners in managing the technical complexity of the global carbon market, to engage the global carbon offset buyer in our efforts to protect our wilderness heritage, and to contribute to global efforts in climate change mitigation."

Wildlife Works Carbon is a new venture of Wildlife Works, Inc., a global leader in applying innovative market based solutions to the conservation of biodiversity.

"Wildlife Works has been a leader in using the power of the consumer marketplace to conserve biodiversity and protect forest habitat, and we see the emerging Voluntary Carbon Marketplace as a logical and exciting extension of our 10 year history," said Mike Korchinsky, Founder and President of Wildlife Works.

"We are pleased to see the VCS acting quickly to set in place a clear framework for avoided deforestation projects under their new REDD process, at a pace appropriate for the incredible threat facing frontier forests in the developing world," says Colin Wiel, co-Founder of Wildlife Works Carbon.

Wildlife Works Carbon believes it is their role and indeed their responsibility to help local landowners in the developing world to monetize their incredible forest and biodiversity assets whether they are communities, ownership groups or private individuals. What's more they are betting on the fact that the Global Voluntary Carbon marketplace is ready for carbon credits that the average consumer can relate to. "If you had a choice between carbon credits generated when a commercial factory pig farm reduces its toxic methane emissions, or carbon credits from a threatened natural forest that brings with them protection of elephants, lions, cheetah, giraffe and 54 other large mammal species which one would you prefer?" asks Korchinsky.

Wildlife Works Carbon, LLC is a new joint venture of Wildlife Works, Inc. and Colin Wiel Enterprises, and was established to pursue the use of the emerging marketplace for REDD Carbon Offsets as a sustainable and scalable funding mechanism for biodiverse forest protection. Our first project in Rukinga, Kenya, builds on a successful 12 year track record, of bringing much needed jobs to a community that was being forced to destroy their magnificent wilderness in order to survive. In that time they have turned back time, and restored a huge piece of land to a healthy vibrant ecosystem, full of elephants, lions, and 50 other species of large mammal. At the same time, the community has received 18 new classrooms for their children, and the employees and their families have received full health care benefits in a community with incredibly high HIV incidence. Wildlife Works also founded an organic greenhouse to promote healthier farming practices, to provide local farmers with cash generating citrus trees and free agroforestry trees to use for building and fuel wood. Wildlife Works Carbon will provide the financial additionality to ensure long term sustainability of Wildlife Works efforts in Kenya and beyond.

The Kenya Forest Service, as the national REDD focal point, is currently spearheading a local multi-stakeholder effort to among other things

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- Michael Parness
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Annex 7

See "WW Socio-Economic Impact Assessment.pdf"