

## Natural High Forest Rehabilitation Project on degraded land of Kibale National Park



Project Name	Natural High Forest Rehabilitation Project on degraded land of Kibale National Park
Project Location	Kabarole district, Uganda
Project Proponent	Face the Future. Contact: Martijn Snoep, +31303101044, <a href="mailto:m.snoep@facethefuture.com">m.snoep@facethefuture.com</a> Uganda Wildlife Authority. Contact: Wilfred Chemutai, +256775400517, <a href="mailto:chemutaikapture@yahoo.com">chemutaikapture@yahoo.com</a>
Auditor	AENOR. José Luis Fuentes Pérez. Génova 6. 28004 Madrid- Spain. Telephone +34 914326000, <a href="http://www.aenor.es">www.aenor.es</a> , <a href="mailto:jfuentes@aenor.com">jfuentes@aenor.com</a>
Project Start Date	15 <sup>th</sup> May 1994
GHG accounting period and lifetime	GHG accounting period: 1 <sup>st</sup> January 2009 to 31 <sup>st</sup> December 2068 Project lifetime: 15 <sup>th</sup> May 1994 to 31 <sup>st</sup> December 2068
Project Implementation Period and GHG Monitoring Period	2 <sup>nd</sup> March 2014 to 28 <sup>th</sup> February 2017
CCB Status History	Validation and first verification date: 26 <sup>th</sup> November 2015 Undergoing second verification
CCB Standards Edition Used	CCB Standards, Third Edition, December 2013
CCB Benefits Summary	The project has planted an area of 29,6 hectares with a total of 41,600 indigenous tree seedlings. The project has continued to carry out fire protection measures with an average of 36 kilometers of firelines maintained each year. As part of the exotic eradication strategy the project has removed or debarked about 2,530 trees and cleared 80.4 hectares of Lantana camara. The planting and maintenance activities have created on average 133 jobs per month. The project has measured the dispersion of 15 additional indigenous tree species in the permanent sample plots. Two hundred meters of new elephant deterring trenches are established. Training on diverse topics was given to 88 people.
Gold Level Criteria	Biodiversity: the project has planted 29,6 hectares of forest that potentially develops into High Conservation Value Forest. The project has maintained the areas planted and regenerated since 1994, which have developed into a closed canopy forest, providing a habitat for important forest species. The forest has been established as part of the wider Kibale National Park landscape that holds High Conservation Value Forest. The number of tree species in the planted forests and the regeneration of climax species have both increased within the monitoring period.
Date of PIR Completion	5 April 2017
PIR Version Number	V1.1
Expected Verification Schedule	29 May – 2 June 2017



## 1 Introduction

Data have been collected based on the CCB Monitoring Plan for the UWA-Face project. This Project Implementation Report includes the results for the monitoring variables related to community and biodiversity. The carbon monitoring results (covering the Climate Section of the CCB Standards) are covered in a separate Carbon Monitoring Report 2014 – 2017. The CCB Monitoring Plan has been devised in such a way that it covers all the relevant indicators for project implementation activities and processes and for project impacts. All other relevant information is included in the PDD and there are no deviations applicable. Therefore, this report does not provide new information separately for all the CCB Standards indicators. Cross references to the CCB Standards Indicators are provided in the table below.

CCB Standards Indicator	Reference
G1.9	Implementation of activities is reflected in PIR Chapters 2 – 9. This includes seedlings raised, tree planting, fire management, exotics eradication, agreements for resource use, training, woodlots, sourcing of project inputs, community proposals, trenches and unpalatable crops.
G1.10	Risks are covered in the AFOLU Non-Permanence Risk Report Indicators for poaching are in PIR Chapter 4 Indicators for crop raiding and trenches are in PIR Chapter 2 Indicators for NTFP's are in PIR Chapter 4 Indicator for employment is in PIR Chapter 8
G1.11	No changes in terms of ownership. Protection of the forest through fire management and exotics eradication is covered in PIR Chapters 5 and 6
G3.1	Full documentation is available; no changes Dissemination of documentation; summaries of PIR are distributed to stakeholders Information meetings: are being organized to inform communities about monitoring results
G3.2	No changes, see PDD
G3.3	Workshops are organized to inform community representatives about monitoring results. Updates are also distributed through radio and newspapers. Hardcopies of PIR summaries are distributed. The audit dates are communicated to the communities.
G3.4	No changes, see PDD
G3.5	No changes, see PDD. Attendance lists will be kept of meetings with community representatives for sharing of monitoring results.
G3.6 – G3.12	No changes, see PDD
G4.2	An update of management capacity is provided in the supporting document for the AFOLU Non-Permanence Risk Report names 'Management Capacity _170308'. Otherwise there are no changes, see PDD.
G5.1 – G5.3	No changes, see PDD
G5.4	See PIR Chapter 4
G5.5 – G5.6, G5.9	No changes, see PDD
CL2, CL3 & CL4	This is covered in the VCS PD and Monitoring Report
CM2.1 & CM2.3	See PIR Chapters 2, 3, 4, 8 and 9
CM2.2	See PIR Chapter 2, mitigation of human wildlife conflict
CM2.4	No changes, see PDD
CM3.2 & CM3.3	No changes, see PDD
CM4.1	No changes to the Monitoring Plan
CM4.2	No changes, see PDD
CM4.3	Summaries of the PIR are distributed to communities and meeting are organized to share the monitoring results.
B2.1	No changes, see PDD
B2.2	See PIR Chapter 7
B2.3 – B2.9	No changes, see PDD
B3	No changes, see PDD
B4	See PIR Chapter 7. Summaries of the PIR are distributed to communities and meeting are organized to share the monitoring results.
GL3.3 & GL3.4	No changes, see PDD
Changes to Project Design	There are no changes to the Project Design

## 2 Addressing the Human Wildlife Conflict

The presence of the National Park with its wildlife and the cultivation of crops up to the boundary of the park results into crop raiding incidences of wildlife. This is mainly caused by elephants. Two interventions have been identified to address the human wildlife conflict. The most important solution is the creation of elephant trenches along the park boundary. The Park management has experience with realising those trenches in collaboration with the local community. The second solution is planting crops that are not attractive for wildlife (unpalatable crops), e.g. tea. Up to now no unpalatable crops have been planted along the boundary of the project area. This is part of the future activities of the project. Elephant trenches have partly been funded by the project and the project will continue to do so (see the UWA-Face Plan of Activities 2015 – 2024).

The digging of new trenches financed by the project has started in the beginning of 2017. The initial plan was to already start by the end of 2016. Due to a delay of the receipt of funds at the project account, it was only possible to start in January 2017. Due to logistical challenges in hiring people to dig the trench only 200 meters of new trenches have been created so far. The implementation has now improved and it is expected that the targets for new trenches will be met in 2017.

The maintenance of trenches along the boundary of the project area has been carried out by the Park. However, there were no clear records available to show the extent of the maintenance. Therefore the data of trench maintenance have been conservatively omitted in the tables below. Triggered by the absence of those records the UWA-Face project will start to keep a trench digging and maintenance file, to avoid a future lack of records.

Crop raiding incidences are recorded by the Park, specifying the parish or village where the incidence took place. Incidences like these are recorded by rangers on a daily basis and the information is kept in a book at Park headquarters in Isunga. The incidences that took place in the monitoring period are based on those records. Combining the number of incidences with the presence of the trenches gives an indication of the effectiveness of trenches. For most of the parishes it was possible to determine whether the incidence had taken place at a location with or without a trench. Two exceptions were reports from the Parishes of Isunga and Rugonjo, where it was no clear whether the incidence took place at a location with or without a trench. In these two parishes an estimation has been made by staff familiar with the local situation, providing a percentage of incidences with and without trenches. For future monitoring the rangers will need to include the presence of trenches in their reports for the parishes of Isunga and Rugonjo.

The data in the table with crop raiding incidences by elephants show more incidences in areas without a trench, compared to areas with a trench, suggesting that the trenches are effective in reducing the intensity of crop raiding incidences. Expanding the trenches and introducing other measures such as beehives and planting tea, are aimed to reduce the number of incidences. The effect is expected to become visible in the next monitoring period. The total number of crop raiding incidences is 240, comparable with the previous monitoring period (249 incidences).

Objectives	Indicators	Result	Comment
By 2024,10% of the H/H along the park boundary near the project area would have planted un palatable crops to reduce human wild life conflict	-No. of awareness meetings and training held	0	Activity is not yet implemented
	-No. of seedlings procured by H/H.	0	Activity is not yet implemented
	-No. of crop raiding incidences reported	see separate tables	
By 2024,70% of the park boundary where	-No. of meetings held with communities	4	

people are living along the project area, should have effective elephant deterrent trenches to contain animals in the Protected Area in order to reduce the Human Wildlife Conflict	-No. of people employed to dig the trench	17	
	-No. of kilometres of trenches dug	0,2	
	-No. of kilometres of trenches maintained.	NA	
	-No. of crop raiding incidences reported	see separate table	

Number of crop raiding incidences around the project area in the second monitoring period.

Year	Elephants	Baboons	Chimps	Lions	Others
2011	29	0	1	0	0
2012	74	1	4	4	1
2013	92	0	0	0	0
2014	61	3	0	0	1
2014	41	0	0	0	1
2015	112	0	0	0	7
2016	61	0	0	1	8
2017	9	0	0	0	0

Length of trenches dug and maintained along the project area (expressed in kilometres).

Year	Trench dug	Trench maintained
2014	0	0
2015	0	0
2016	0	0
2017	0.2	0
Total	0.2	0

Crop raiding incidences between 2011 and 2014 by elephants in parishes along the project area borders

Parish	Total incidences	Incidences with trench present	Incidences with no trench present	% of parish with trench along the park border	Year trench established
Isunga	90	40	50	95%	2007
Nyabweya	1	1		98%	2009
Kadindimo	0			no need, because of natural barriers	n.a.
Rwimi	0			0%	n.a.
Kakooga	25		25	10%	2007
Bigodi	5	5		50%	2010
Bujongobe	9	9		95%	2008 and 2010
Rugonjo	35	16	19	60%	2007, 2008, 2010
Kyanbandara	14		14	0%	n.a.
Busingye	38		38	8%	2017
Kiziba	23	23		41%	2008 and 2017
Rwenkuba	0			0%	n.a.
<b>Total</b>	<b>240</b>	<b>94</b>	<b>146</b>	<b>Average = 38%</b>	

### 3 Revenue sharing funds for income generating projects for communities

The project aims to support income generating projects for local communities. The first funding arrived in December 2016 and the first proposals will be invited in the course of 2017. The first meetings have already been organized. For the current monitoring period there are no income generating projects identified yet. The first available budget available from December 2016 is 49 million UGX, which will be doubled by at least that amount in the second quarter of 2017. Therefore, in 2017 an amount of about 100 million UGX will be available to fund these activities. Examples of income generating projects are keeping of animals (goats, chicken, pigs), handicraft projects and ecotourism activities.

Objectives	Indicators	Results	Comment
Fund income generating projects for community groups along the boundary of the project area in the period 2015 – 2024 for a total value of 280M UGX	- No. of proposals approved	0	Activities not yet implemented
	- Value of proposals approved	0	Activities not yet implemented
	- No. of projects implemented	0	Activities not yet implemented
	- Value of projects implemented	0	Activities not yet implemented

### 4 Illegal extraction of resources inside the national park

Objectives	Indicators
By 2024, have an effective trench dug adjacent to the project area	See Human wildlife conflict focal issue
Protection against poaching and overextraction of NTFP's	See table below

	1st monitoring period			Current monitoring period			
	2011	2012	2013	2014	2015	2016	2017
Poachers arrested	12	0	9	3	6	6	0
Traps discovered	278	179	345	29	44	10	1
Arrests for firewood, polewood and other resources	8	27	66	12	17	8	3
Agreements (MOU) with communities for resource use	3	2	2	3	3	3	2
No. of written requests for resource use approved	0	0	10	2	7	19	6

The number of arrests are obtained from Registry of Suspects, available at the Park headquarters in Isunga. The number of traps discovered, are now obtained from a different data source than in the previous monitoring period. The data are available from SMART (Spatial Monitoring And Reporting Tool), which includes georeferenced observations of rangers. It is now possible to select only the traps that are observed inside the boundaries of the restoration area. This explains the strong reduction in the number of traps discovered compared to the previous monitoring period. It is too early in this stage to establish an effect of project interventions, since most of the work in indirectly preventing illegal activities (i.e. addressing the human wildlife conflict) still has to be carried out.

## 5 Wildfires

Fires are especially a threat to the young planted compartments. When the elephant grass is still abundant within the compartment, it's prone to fire coming in from outside the park. The data on fire management activities are provided in the tables below. The project is currently preparing for woodlot establishment. Our aim is to realize this with indigenous species, instead of the popular eucalypt and pine species. We therefore need to identify those landowners that are willing to plant indigenous species. The planting of the first woodlots is planned for 2017.

Objectives	Indicators	Result	Comment
To have proper elephant deterrent trenches dug in 12 neighbouring parishes by the year 2024.	See Human wildlife conflict focal issue		
To support establishment of woodlots at household in the 12 neighbouring Parishes by 2024.	-No. of households with woodlots from the project	0	Activities not yet implemented
	-No. of seedlings distributed by project	0	Activities not yet implemented
	-No. of people trained in woodlot management by project	0	Activities not yet implemented
	-No. of wildfire incidences	See separate table,	
By 2024 external fire lines to be opened and maintained along the fire risky areas of the project area.	-Length of fire lines established and maintained.	See separate table	
	-No. of fires incidences reported in the project area.	See separate table	

### 5.1 Length of firelines established and maintained

Year	1st monitoring period			Current monitoring period			
	2011	2012	2013	2014	2015	2016	2017
Length (km)	37	34	37	37	32	32	42

The table shows the length of the firelines. The firelines are maintained twice per year, one round of slashing in each dry period. Because of the establishment of new internal firelines, the length of firelines has increased in 2017.

### 5.2 Number of fire incidences reported in the project area

Year	1st monitoring period				Current monitoring period			
	2011	2012	2013	2014	2014	2015	2016	2017
Season	Dec-March	June-Aug	Dec-March	Jan-Feb	March	October	January	-
Compartment	701	403	410	1002, 206, 501	901	1002	1002	0
Area (ha)	3	5	2	154	3	20	2	0

In 2014 some major fire incidences took place. However, these fires happened in the first two months of 2014, which are covered by the previous verification period. Therefore they are not reported in the current verification period.

## 6 Exotic/Invasive species

Since the project is located in a National Park, UWA's policy is to remove exotics from the project area. Compared to last monitoring period, significant progress has been made with the removal of *Lantana camara* – infested compartments of in total 80 hectares have been treated with the uprooting of this exotic species in December 2016 and the first two months of 2017. In addition, exotic trees have been removed in the same period. This is a direct project impact. In the Plan of Activities 2016, the total amount of exotic trees to be removed in the period up to 2024, is 160,000 trees. In the previous monitoring period (2011-2014) the total number of trees removed is 15,981. With the 2,530 number of exotics removed in the current monitoring period the total number is 18,511 exotic trees, which is 11.6%. The target for the removal of *Lantana camara* up to 2024 is 100 hectares. With the current cleaning of 80.4 hectares, already 80.4% of the target is achieved.

Objectives	Indicators	Result
To have 65% of the exotic/invasive species removed from the project area by 2024.	-Number of trees removed or debarked 2014-2017	2.530
	-Area (m2) uprooted of <i>lantana camara</i> .	80,4 ha
	-Number of compartments where exotic/invasive species have been removed.	101, 106, 107, 1401

### 6.1 Number of trees removed or debarked

Year	No. of exotics	Area of <i>lantana</i> removed
2011	6,083	
2012	8,245	
2013	1,653	
2014	-	
2015	2,530	
2016	-	60.4 ha ( <i>lantana</i> )
2017	-	19 ha ( <i>lantana</i> )
<b>Total</b>	<b>2,530 trees</b>	<b>80,4 ha</b>

## 7 Biodiversity

The project aims to protect biodiversity values in the project area and restore unique habitats for Kibale's 13 primate species, amongst others. The tables below show the measurement results of biodiversity values and what has been achieved in terms of forest establishment and ecological succession. During the Project Implementation Period a total of 29.1 hectares of forest has been planted, with a total of 41,600 seedlings. This is the first time the project has planted in a density of 1,600 trees per hectare, instead of 400 trees per hectare. This is implemented in an area of 25 hectare. The expectation is that the forest development will go faster, as the seedlings will be able to outcompete grasses and weeds sooner than in areas with a lower planting density. The total area of planted forest since the project start until the end of the second Project Implementation Period (4,021 ha) and the naturally regenerated area (2,593 ha), is developing into a High Conservation Value forest, providing a habitat for unique forest biodiversity, as part of the wider Kibale National Park landscape.

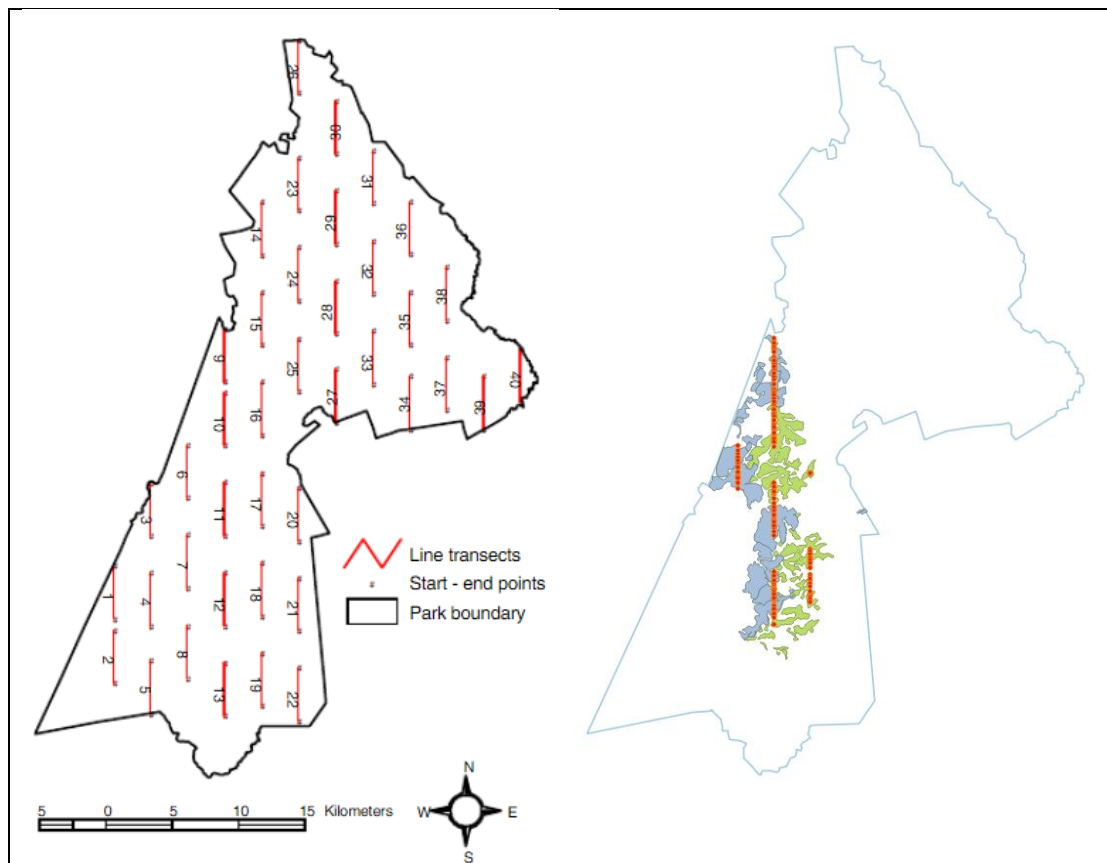
This section includes indicators for both flora and fauna. The indicators for tree species and the regeneration of tree species are considered to be the most suitable for monitoring the impact of the project on biodiversity. The datasets used for monitoring trees are based on more intensive sampling and gives therefore a more precise result.

Objectives	Indicators	Result
To conduct animal census in Kibale National Park to establish trends by 2024	-No. of wildlife censuses conducted	4, see §7.1
	-No. of each animal species counted (chimps, elephants, buffalos, duikers and primates)	See separate table, §7.2
To have all the degraded areas in KNP restored by 2024.	-No. of hectares planted.	See separate table, §7.3
	-No. of seedlings planted.	See separate table, §7.3
	-No. of tree species planted	See separate table, §7.4
	-Amount of forest carbon sequestration	See carbon monitoring report
To eliminate and control the exotics/ invasive species in KNP by 2024.	-Number of exotic trees and tree species removed or debarked	See table Exotic/Invasive species
	-Size of area (m <sup>2</sup> ) cleared for specific species such as <i>Lantana camara</i> .	See table Exotic/Invasive species
To monitor the change of tree species composition in the restoration area	No. of new tree species dispersed	See separate table, §7.5
To monitor the ecological succession of the planted and natural regenerated area	<ul style="list-style-type: none"> <li>- Tree regeneration per stratum in the project area.</li> <li>- Species composition in tree regeneration per stratum in the project area.</li> <li>- Tree biomass growth (above and below ground) per stratum in the project area for all trees above 50mm in DBH.</li> <li>- Tree species composition per stratum in the project area for all trees above 50mm in DBH.</li> </ul> <p><i>A tree is classified as regeneration only if the DBH is less than 50 mm and height is more than 10 cm.</i></p> <p><i>The stratum is defined by planting year and regenerated area.</i></p>	See §7.6

### 7.1 Wildlife censuses conducted

Wildlife censuses have been undertaken in KNP since 2001 at five year intervals. Only the censuses conducted in 2005, 2010 and 2016 by UWA allow for the extraction of observation data that overlap with the project area (planting compartments and regeneration area). The below figure shows the established transects in KNP (left) and specific observations from transects that overlap with the planting compartments and regeneration areas (right).





## 7.2 Nr. of species and individuals (per species) observed

The below table provides an overview of the species that were observed in the planting compartments and regeneration areas as well as the number of individuals observed per species, in 2005, 2010 and 2016.

The data only allow for general conclusions, since the monitoring methodology is applicable to the park as a whole, while for this report a subset of transects within the restoration area is used. The results show a clear decrease in observation for the black and white colobus, going from 17 observations of 139 individuals in 2010 to only 3 observations of 12 individuals in 2016. There is also a decrease in observations of the baboon, although to a lesser extent: the number of observation went from 22 in 2010 to 15 in 2016, but the number of individuals decreased stronger, from 444 to 225. However, if compared to the results of 2005, there are more observations in 2016.

For most other species the number of observations is more or less stable. Only one individual of the blue monkey has been observed in 2016, which is lower than in the previous censuses. However the number of observations is similar, and given the low number of observations it cannot be concluded that there are less blue monkeys in the restoration area. When looking at the chimpanzees, the direct observations went down in 2016 compared to 2010, but the indirect observations, of nests, increased. The number of individuals of the grey cheeked mangabey and the red colobus increased since 2005, while the number of observations varies slightly. Looking at the combined results of observations and individuals of the red tailed monkey, the outcome is more or less constant. The vervet monkey was not observed in 2016 and 2005, while 36 individuals were observed in 2010. However, the number of observations in 2010 was only 2, which does not justify any conclusion on

trends of observations. Finally the observations and individuals for elephants stay more or less the constant compared to 2010.

The overall picture that arises from the data is that the number of observations and individuals for most species is more or less constant, whereas both observations and individuals for the black and white colobus has decreased.

Species	2005 census		2010 census		2016 census	
	Nr of observations	Nr of individuals observed	Nr of observations	Nr of individuals observed	Nr of observations	Nr of individuals observed
Baboon	8	84	22	444	15	225
Baboon dung*	-	-	-	-	5	1
Black and white colobus	13	91	17	139	3	12
Black mamba	-	-	-	-	1	1
Blue duiker	2	2	5	5	-	-
Blue duiker dung*	-	-	-	-	2	1
Blue duiker footprints	-	-	-	-	1	1
Blue monkey	1	10	2	7	1	1
Buffalo	-	-	4	8	1	1
Buffalo dung*	8	2	12	2	4	1
Bush pig	-	-	6	12	1	1
Bush pig *	20	3	1	1	1	1
Bush pig footprints	-	-	-	-	2	3
Bushbuck	1	1	9	12	-	-
Bushbuck footprints	-	-	-	-	1	2
Chimpanzee	-	-	9	46	4	19
Chimpanzee nests*	85	77	39	35	53	48
Civet cat	-	-	2	2	-	-
Elephant	-	-	5	23	6	26
Elephant dung*	82	5	137	8	95	6
Elephant footprints	-	-	-	-	11	19
Giant forest hog	-	-	1	3	1	3
Giant forest hog dung*	-	-	1	1	-	-
Grey cheeked mangabey	7	42	9	86	10	115
Red colobus	13	172	22	235	17	270
Red duiker	-	-	8	9	2	2
Red tailed monkey	24	192	20	182	22	176
Squirrel	-	-	2	2	-	-
Vervet monkey	-	-	2	36	-	-
Warthog footprints	-	-	-	-	1	1
Waterbuck	-	-	-	-	1	1

\* Observations based on dung or nest counts. The nr. of estimated corresponding individuals was corrected by standard production rates of dung or nests (nr./day) from literature (i.e. Wing and Buss, 1970; Plumptre et al., 1995.; Plumptre and Reynolds, 1997)

### 7.3 Number of hectares and seedlings planted

Phase	Planted (ha)	Seedlings planted
Phase 1	1.410	564.000
Phase 2	979	391.600
Phase 3	354	141.600
Phase 4	388	155.200
Phase 5	81	32.400
Phase 6	105	42.000
Phase 7	100	40.000
Phase 8	105	42.000
Phase 9	97	38.800
Phase 10	370	148.000
Phase 11	3	1.240
Phase 12	4	1.600
Phase 13	25	40.000
<b>Total</b>	<b>4.021</b>	<b>1.638.440</b>

### 7.4 Number of tree species planted

Pioneer	Intermediates	Climax
<i>Bridelia micrantha</i>	<i>Cordia africana</i>	<i>Chrysophyllum albidum</i>
<i>Croton megalocarpus</i>	<i>Cordia millenii</i>	<i>Diospyros mespiliformis</i>
<i>Croton macrostachyus</i>	<i>Mimusopsis bagshawei</i>	<i>Funtumia elastica</i>
<i>Sapium ellipticum</i>	<i>Prunus africana</i>	<i>Uvariopsis congensis</i>
<i>Spathodea campanulata</i>	<i>Warburgia ugandensis</i>	<i>Lovoa brownii</i>
<i>Albizia gummifera</i>	<i>Markhamia platycalyx</i>	<i>Strombosia scheffleri</i>
<i>Erythrina abyssinica</i>	<i>Ficus natalensis</i>	<i>Newtonia buchananii</i>
	<i>Fagara angolensis</i>	<i>Blighia unijugata</i>
	<i>Monodora myristica</i>	<i>Aphania senegalensis</i>
	<i>Phoenix reclinata</i>	<i>Trichilia drageana</i>
	<i>Olea lochsterteri</i>	<i>Antiaris toxicaria</i>
		<i>Morus lactea</i>
		<i>Balanites wilsoniana</i>
		<i>Aningeria altissima</i>
		<i>Teclea nobilis</i>
		<i>Parinari excelsa</i>

### 7.5 Number of new species dispersed in PSPs in the second monitoring period

Year	Species
2011	<i>Rauvolfia vomitoria</i> , <i>Mimusopsis</i> spp., <i>Erythrina abyssinica</i> , <i>Maytenus lanceolata</i> , <i>Arisona</i> spp.
2012	<i>Prunus africana</i> , <i>Bridelia micr</i> , <i>Funtumia africana</i> , <i>Maesa lanceolata</i> , <i>Albizia zygia</i> , <i>Melitia dura</i>
2013	<i>Antidesima lanceolata</i> , <i>Albizia zygia</i> , <i>Spathodea campanulata</i> , <i>Celtis africana</i> , <i>Diospyros mesp</i> , <i>Funtumia africana</i> , <i>Eudenia</i>

2014	Eudenia spp, Afromamas spp., Maesa lanceolata, Diospyros mesp, Funtumia africana, Sapium ellipticum
2015	Bridelia micrantha, Sapium ellipticum, Tabonomontana johnsonii, Rauvolfia vomitoris, Securinoga virosa, Albizia zygia, Antidesma, Funtumia africana, Diospyros abyssinica, Spathodea campanulata, Warburgia ugandensis, Celtis durandii, Eudenia, Strombozia, Erythrina abyssinica, Prunus africana, Kigeria africana, Celtis africana, Olea welwichii, Uvariopsis congensis, Chrosophyllum albidum
2016	Securinoga virosa, Bridellia micrantha, Fantumia africana, Albizia zygia, Antidesma, Sapium elipiticum, Tabonomontana, Arizonia abysinica, Eudenia, Diospyros abysinica, Allophylus, Celtis durandii, Celtis africana, Parinari, Spathodea campanulata, Olea welwichii, Baranite, Prunus africana, Mimusops bagshawei, Markhamia platycalix, Colar gigantia, Chrisophyllum albidum, Lovoa brownii, Kigelia africana, Teclea nobilis, Banquet deaderum, Erythrina abysinica, Caloncoba, Uvariopsis congensis
2017	NA

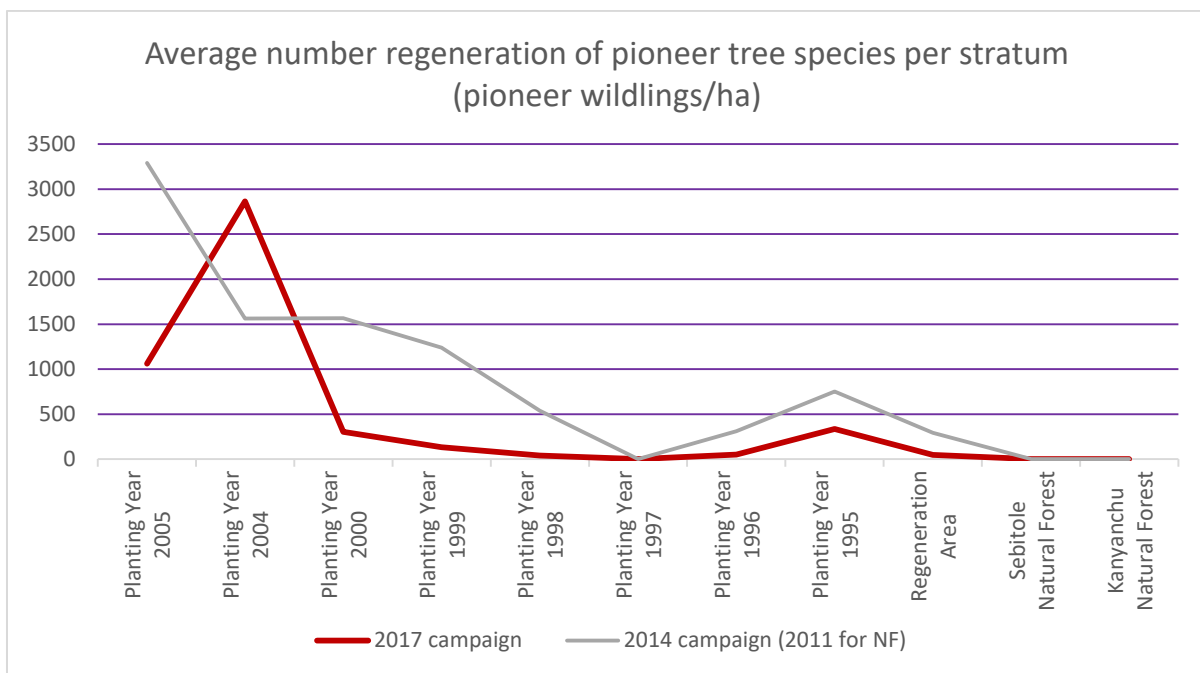
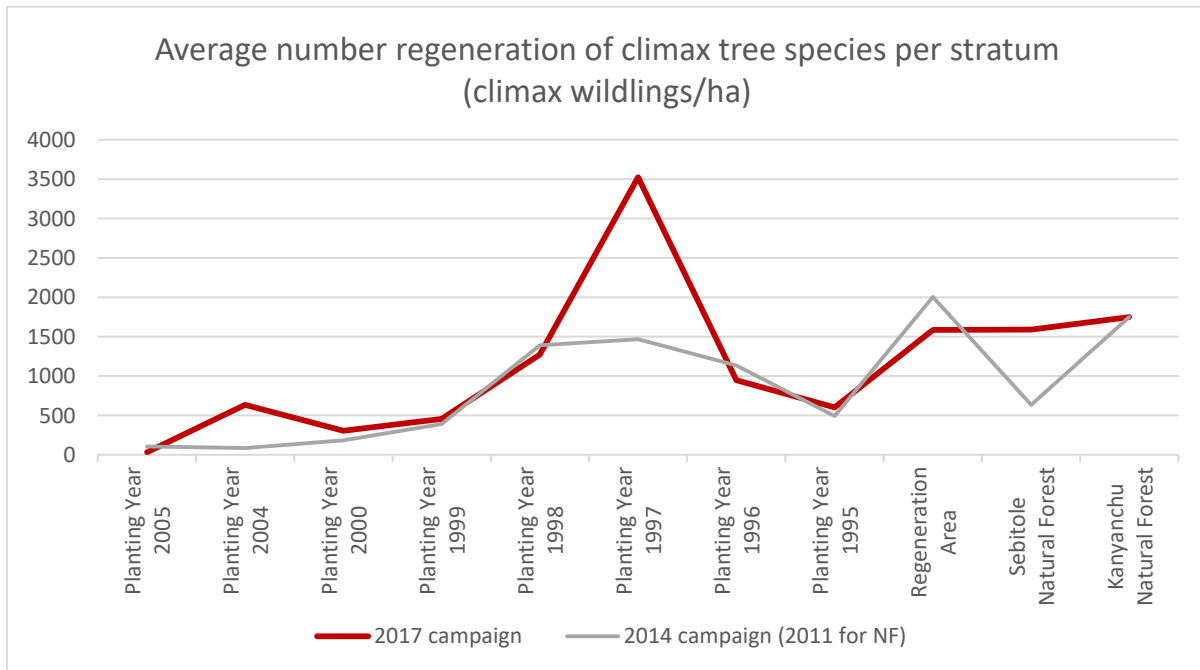
The table above provides an overview of which naturally regenerating species are encountered in the permanent sample plots. For 2017 the data is not yet available. The inventory of the permanent sample plots is usually done in April / May in each year. There is a total of 36 species that has been dispersed in the permanent sample plots. When compared to the previous monitoring period, there are 15 new species that were not recorded before.

#### 7.6 Ecological succession of the planted compartments and natural regenerated areas

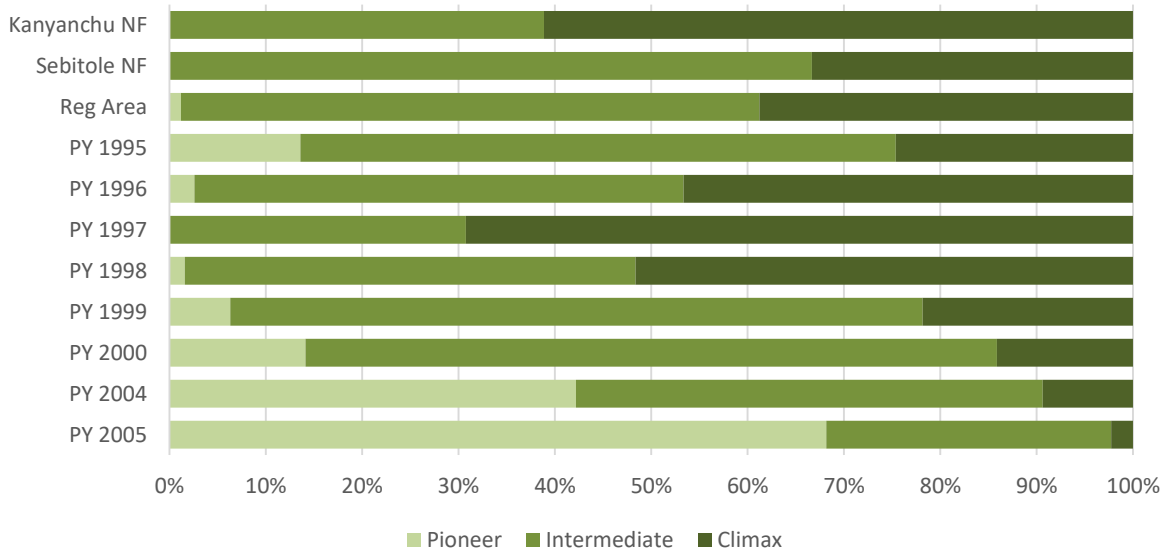
The five graphs below gives an overview of the ecological succession per stratum in the planted compartments, the regenerated area and the reference plots in Sebitole (natural forest restored 70 years ago in Kibale NP) and Kanyanchu (pristine natural forest in Kibale NP). The data for these graphs is derived from the VCS carbon monitoring campaign during which tree growth and tree regeneration have been assessed on 285 different permanent sample plots distributed over the project area. The data used for this analysis is derived from the 2017, 2014 and 2011 carbon monitoring campaigns.

Some clear trends can be seen in the presented data indicating that the tree biodiversity in the project area is increasing as the planted forests grow older. The obvious increase of the natural regeneration of shade tolerant climax species, and the decrease in tree regeneration of pioneer species gives an indication that the forest canopy is closing and that the planted forests are developing into natural forests as it is growing older. Also the species composition, the increase in number of tree species and the overall increase in tree biomass gives a clear indication that the planted and natural regenerated areas moving gradually towards its original natural state with similar high conservation values as the surrounding natural forests in Kibale NP. These trends were also found while analysing the data from the 2014 campaign.

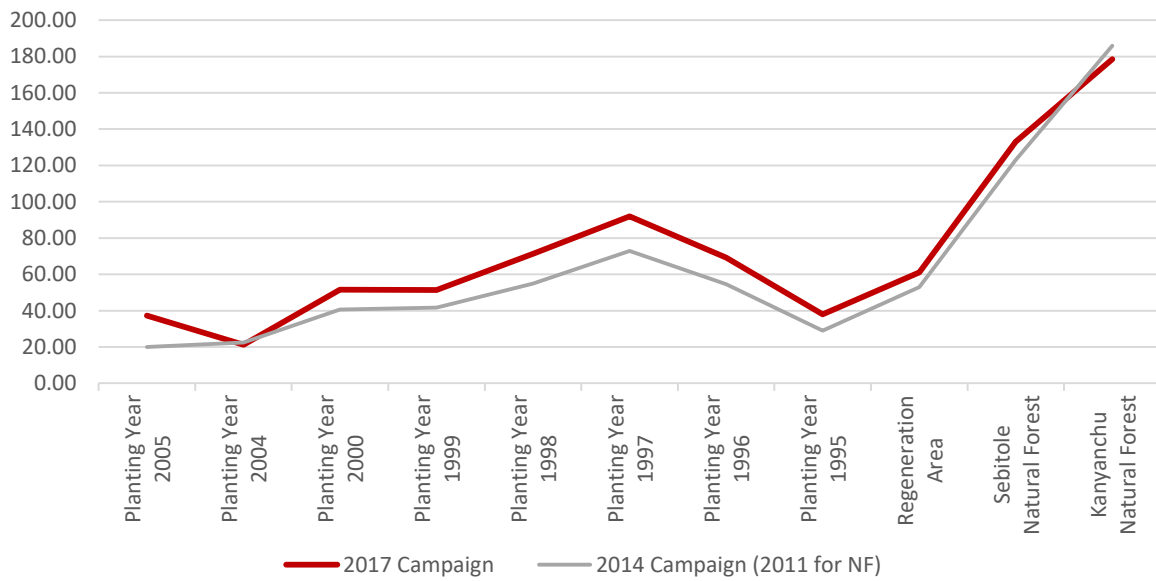
The high number of regeneration of climax tree species in the 1997 planting year is probably caused by the fact that during this year many climax tree species were planted in the project area. At the same time the canopy in these 1997 compartments are currently closing, which provides an ideal condition for climax species to regenerate. Compared to the 2014 findings the number of climax species for the 1997 planting year is even increasing considerably, which might give an indication that these compartments are entering a next phase of forest succession in which the climax species are getting a more dominant role in the forest composition.

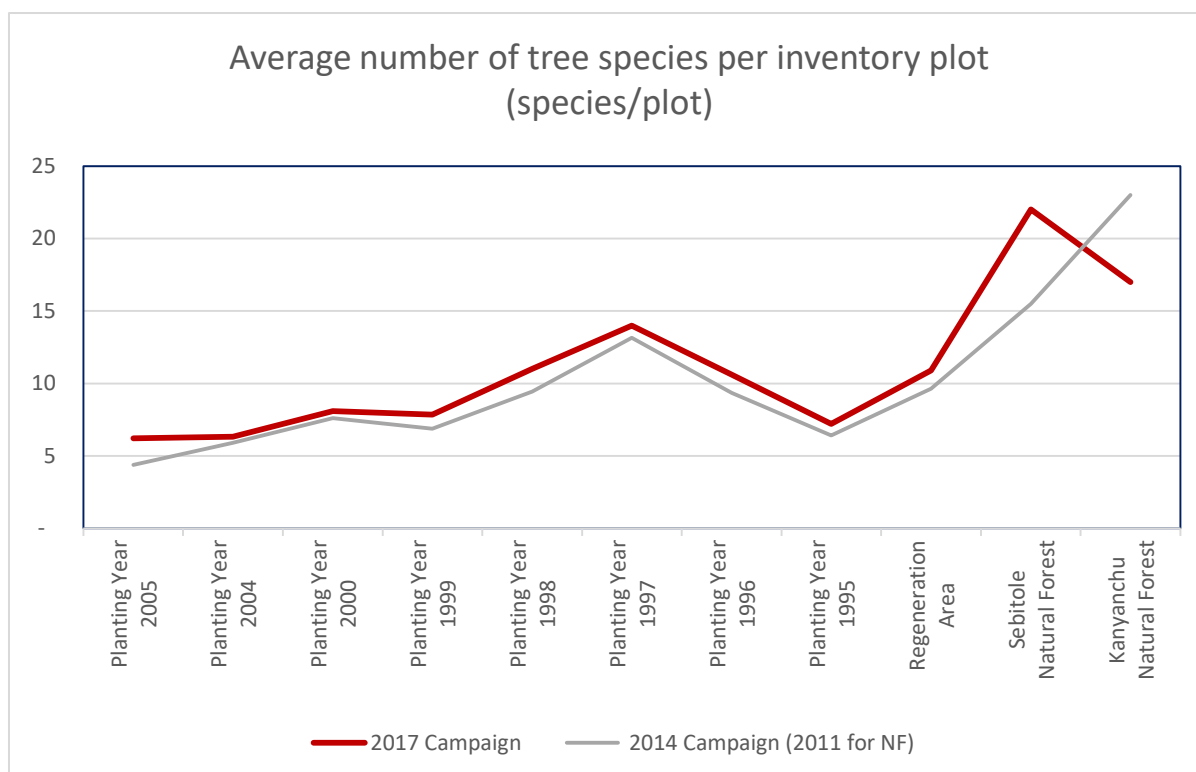


Tree regeneration species composition per stratum



Average tree biomass per stratum (tC/ha)





## 8 Project Impact on employment

The main social impact of the project is providing employment to the local people. An overview of the number of people employed for the project is provided in the table in this section. The data are presented on a monthly basis for the second monitoring period. The average monthly employment figure is 133 jobs.

Objectives	Indicators
Create employment for local communities around project area	-No. of people employed from the communities adjacent to the project area

Year	Month												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
2011	159	180	263	252	210	250	325	380	394	742	666	807	4,628
2012	188	274	327	354	336	266	197	174	166	165	195	229	2,871
2013	180	159	146	151	156	159	181	170	150	162	170	150	1,934
2014			200	201	160	240	240	251	215	259	251	235	2,252
2015	15	15	223	199	120	149	150	-	-	-	-	100	971
2016	-	15	15	50	90	114	90	95	50	106	187	347	1,159
2017	195	220											415

## 9 Other Project Impacts

Objectives	Indicators	Result
Enhance tourism opportunities by establishing native forest	-Number of jobs for UWA tourism staff	See tables below
Local sourcing of project inputs to benefit the local economy	-Number of park visitors -Value of purchased supplies	See tables below
Provide skills to workers and employees in order to increase local business development and employment opportunities	-No. of people trained on nursery management, planting, maintenance, fire management -No. of people trained on first aid skills -No. of Contracts with farmers to supply seedlings -No. of new local nurseries	See tables below

### 9.1 Tourism

	1st monitoring period			Current monitoring period			
	2011	2012	2013	2014	2015	2016	2017
UWA tourism staff	16	15	17	14	14	14	14
Number of park visitors	NA	9.723	11.361	12.111	11.292	11.746	2.568

The number of UWA tourism staff decreased slightly since the previous monitoring period. The number of park visitors remained stable. The number of visitors in 2017 are only for the months of January and February. There is some likelihood that tourism activities will be implemented in the restoration in the future. In that case the number of visitors for the project area will be separately recorded.

### 9.2 Local sourcing of project inputs

	2014	2015	2016	2017	Total
Food	€ 3,241	€ 4,036	€ 6,558	€ 3,134	€ 16,969
Services	€ 528	€ 179	€ 596	€ 5,005	€ 6,308
Fuel and car repair	€ 7,969	€ 9,375	€ 8,590	€ 1,133	€ 27,067
Other	€ 416	€ 2,948	€ 6,987	€ 442	€ 10,794
<b>Total</b>	<b>€ 12,155</b>	<b>€ 16,537</b>	<b>€ 22,731</b>	<b>€ 9,714</b>	<b>€ 61,138</b>

Within the monitoring period a total value of €61.138 (or 232,325,083 UGX) worth of local supplies and services were sourced for the project. The main expenses were on fuel and vehicles repair and servicing and on food for the workers. The total value has decreased compared to the previous monitoring period, where the total value amounted to €162.568. The main reason for that is the large assignment of planting 367 hectares in 2011 and the maintenance of those compartments in subsequent years.



### 9.3 Skills

Indicators	1st monitoring period				Current monitoring period			
	2011	2012	2013	2014	2014	2015	2016	2017
People trained in nursery management, planting, maintenance, fire management	0	0	0	0	7	10	28	20
People trained on forest carbon monitoring		0	0	25	0	0	0	23
People trained on first aid skills	0	25	0	0	0	0	0	0
No. of contracts with farmers to supply seedlings	12	5	0	5	0	4	8	0
No. of new local nurseries	1	1	0	0	0	1	1	0

People were mainly trained in nursery management and fire management. No training was needed for planting and maintenance, since people hired are already experienced in these activities. In January 2017 training was given for the monitoring of carbon stocks inside the project area. Part of the participants attended the training for the first time, others had been participating in previous training sessions. In the beginning of 2014 there was training provided on monitoring of carbon stocks, but this falls outside of the current monitoring period.

In 2016 the number of seedlings required for planting increased, resulting into an increase in the number of contracts with local nurseries. In the first two months of 2017 no contracts were made; new contracts are planned for March and April, to supply seedlings for planting another 25 hectares in May 2017.