



Darwin Initiative Main Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2018

Darwin Project Information

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| Project reference | 23-015 |
| Project title | Guinea-pigs as guinea-pigs, reducing bushmeat hunting while improving communities' well-being |
| Host country/ies | Democratic Republic of the Congo |
| Contract holder institution | Wildlife Conservation Society |
| Partner institution(s) | Union des Eleveurs de Cobayes au Congo Institut Congolais pour la Conservation de la Nature |
| Darwin grant value | £299,494 |
| Start/end dates of project | April 2016 – March 2019 |
| Reporting period (e.g., Apr 2017 – Mar 2018) and number (e.g., Annual Report 1, 2, 3) | April 2017 – March 2018 Annual Report 2 |
| Project Leader name | Michelle Wieland |
| Project website/blog/Twitter | |
| Report author(s) and date | Michelle Wieland, Andrew Kirkby, Charlotte Spira. 30 th April 2018. |

1. Project rationale

Historically, war and regional insecurity have left many rural communities in DRC without sufficient agricultural or livestock production, leading to aggravated poverty and extreme levels of malnutrition with 46% of children under age five in the Kivu provinces suffering from stunting due to the lack of protein. Without access to domestic meat, bushmeat has become a major protein source for the region's communities.

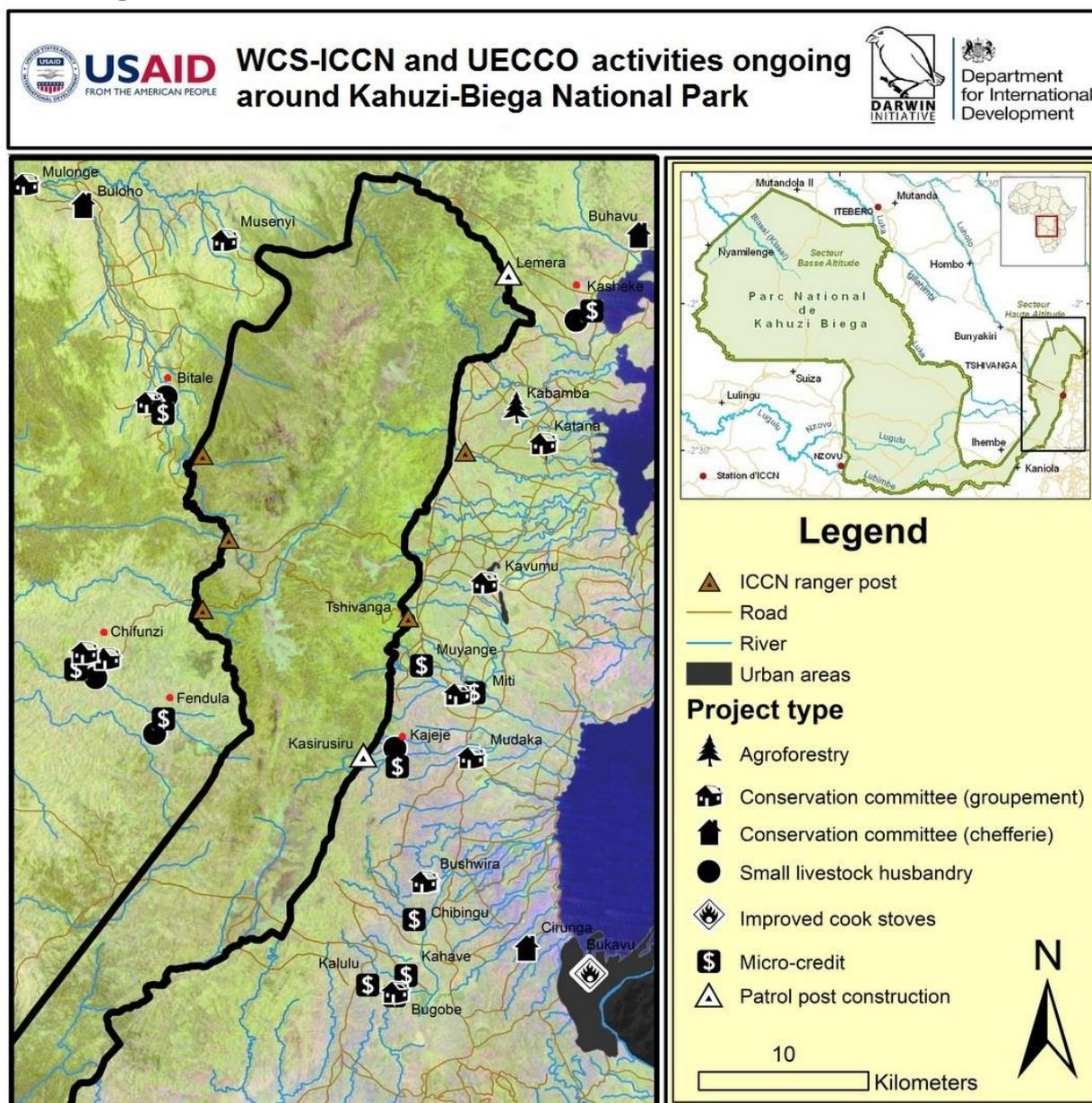
Recent WCS studies to understand bushmeat hunting and consumption around Kahuzi-Biega National Park (KBNP) found high rates of both, particularly around artisanal mining sites. These sites are often remote, basic and have disconnected economies that demand locally-procured meat. The absence of domestic meats in these sites has led to elevated meat prices that further drive the local bushmeat trade and hunting intensification in KBNP. The Congolese Wildlife Authority (*Institut Congolais pour la Conservation de la Nature* - ICCN), which has gradually regained parts of KBNP after losing control over much of it during the war, still lacks financial resources to effectively enforce hunting laws in protected areas.

This trend has led conservation authorities to identify bushmeat hunting as the most serious threat to wildlife in KBNP, which is one of Africa's most biodiverse protected areas and a critical

refuge for many endangered species. As hunting is conducted indiscriminately, rare and vulnerable species are particularly at risk, including primates such as the vulnerable owl-faced monkey, the endangered eastern chimpanzee and the endemic and critically endangered Grauer's gorilla, with a population of 213 individuals in KBNP's highland sector.

Men and women interviewed in a WCS survey widely recognised that hunting around their villages had caused a decrease, and in some cases disappearance, of mammal populations. The majority of respondents stated they would reduce bushmeat consumption if domestic meats became available and if laws prohibiting hunting in KBNP were enforced. Livestock production initiatives have attempted to improve protein supply around the park, but the lack of knowledge of adequate husbandry practices has caused poor production results and therefore yielded only low adoption rates.

This Darwin Initiative project aims at reducing hunting pressures on mammal species in KBNP while improving wellbeing by working with households whose livelihoods threaten wildlife to develop sustainable livestock production and consumption in 5 targeted communities around KBNP's highland sector.



Date: 12/Oct/2016
 Map author: Andrew Kirkby
 Base map: FACET forest cover 2005
 Coordinate system: WGS 84/UTM 35S

Figure 1. Map identifying Darwin Initiative intervention locations around Kahuzi-Biega National Park, combined with additional USAID-funded projects. The five Darwin interventions sites are Chifunzi, Fendula and Bitale to the west of the park and Kajeje and Kasheke to the east (indicated with a ●).

2. Project partnerships

In 2002, WCS established a site-based conservation programme in KBNP and provided since then technical and financial support to the Congolese Wildlife Authority (ICCN) at KBNP. Our support has been targeted towards park management, research and development and implementation of strategic projects to help reduce threats to the park's wildlife. In 2015, WCS established a contact with UECCO, a local NGO specialised in guinea pig husbandry and breeding research, and conceptualized and designed together with ICCN a new project following a series of feasibility studies. At the start of the Darwin project, WCS helped UECCO and ICCN develop a formal partnership through an MOU that would help guide their new relationship.

During the second year of project implementation, all implementing partners have continued to work as a team. All main field missions (with exception of monitoring particular project activity results) are conducted jointly by staff members of each partner organisation, each taking charge of their respective activities in the field. Regular meetings were held with all implementing partners to review results and discuss progress and planning.

Building on existing expertise, project partnerships and coordination have been extremely complementary with clear roles and responsibilities outlined from project inception. One major project setback during the first year though was the departure of KBNP Chief Warden Radar Nishuli who was involved in the conceptualisation of the project just after the project started. His replacement, Lucien Lokumu, worked at the park for about 6 months before he was moved as well. This caused some delays in the project implementation as activities were halted while the new site director was getting orientated (as ICCN is a fundamental partner, complete buy-in from the chief park warden is very important). Luckily, the park's head of Community Conservation who leads ICCN's role in this project on the ground has been fully committed and helped explain the project and its importance to each new park warden.

We have had some challenges with our partner UECCO, whose rigor in monitoring and evaluation has needed strengthening. As a response, WCS has had to review its contract with UECCO to opt for shorter deliverable timeframes. Several meetings also took place to discuss the importance of UECCO bringing past guinea pig production monitoring data to field monitoring visits so that changes in guinea pig numbers in beneficiary households can quickly be identified on site and addressed quickly if guinea pig numbers are decreasing. An adaptive management meeting led to the adoption of improved monitoring techniques and training of UECCO in KoboCollect for them to collect georeferenced, timestamp and photograph data in beneficiary households as of year 3.

3. Project progress

In Year 2, the project made good progress, making up for delays incurred during Year 1. At the start of year 2 project partners were already conducting activities in all five target sites, however due to delays, only one site (Kajeje) had completed a full cycle of project beneficiaries receiving training and credit, starting their business and beginning to repay their credit.

During this year, loan agreements between Community Conservation Committees (CCCs) and WCS and ICCN were signed in all project sites, and 189 additional beneficiaries received microcredit and training in financial literacy, credit management and enterprise development. Of these 189 credit beneficiaries, 120 chose to invest in guinea pig production while 69 chose to start other small businesses including agriculture and small-scale commerce. With the 30 guinea pig keepers already trained in year 1, the project now counts a total of 150 guinea pig keepers (75 women and 75 men) as beneficiaries. The project aims to add an additional 381 beneficiaries (with at least 150 guinea pig keepers) in year 3.

The 120 guinea pig keepers who received credit as well as 35 other guinea pig keepers (non-credit beneficiaries) underwent training provided by UECCO to improve their livestock husbandry practices and learn about guinea pig entrepreneurship to help ensure that keepers will be able to make a profit by increasing their guinea pig production while also consuming guinea pigs regularly. The project succeeded in increasing the number of guinea pigs per household and by the end of the year beneficiaries had an average of 22 guinea pigs per household (after selling and consuming animals throughout the year). This represents a notable increase compared to the baseline of 4 guinea pigs per household. Unfortunately, mortality rates were higher than expected (28%) mainly due to poor hygiene of enclosures that some guinea pigs were kept in, resulting in increased infant mortality. Further investigation found that some of the individuals trained in improved husbandry were not the ones who were delegated with the responsibility of looking after the guinea pigs. It was recommended that UECCO increase their site visits and technical support to households and improve their participant selection for training sessions. WCS is also in the process of setting up a system where community monitors from each of the project sites will be monitoring guinea pig production in beneficiary households in their village and will give technical husbandry support to beneficiaries when needed.

Baseline study results found that on average 16% of meals in beneficiary households included meat of which 36% included guinea pig meat; meanwhile only 9% of restaurants were serving guinea pig meat. In Kajeje (first site where the project was launched) no restaurant was serving guinea pig dishes before the project started, but 8% of the restaurants there are now doing so. WCS will be completing follow up surveys in the 4 other sites at the beginning of year 3. Surveys have also found a 365% increase in number of guinea pigs sold in Kajeje's market compared to the start of the project. Much of this success is due to facilitating meetings between guinea pig producers, sellers and restaurateurs to stimulate guinea pig sales. Guinea pig celebration days to promote and encourage the consumption and buying guinea pigs and other sustainable meat were not held in Year 2 as planned, however it is planned to take place in year 3.

A total of 2,390 ranger patrols were conducted in Kahuzi Biega-National Park's highland sector, with ranger rations that were purchased and distributed regularly throughout the year. This support from the Darwin Initiative was combined with matching funds from USAID and the German bank KfW. WCS worked with the ICCN to ensure that SMART data on wildlife and human sign encounters were collected and analysed on a quarterly basis. As a result from patrols, a total of 819 snares were removed and 5 small illegal mining sites were detected and closed. The ICCN continued to conduct an awareness raising campaign in all target villages with a total of 364 individuals participating in sensitisation discussions about the impacts of bushmeat hunting on wildlife populations, wildlife laws and offense penalties, as well as the importance of sustainable meat production. WCS's survey teams found a 31% increase compared to prior to project start in the number of people stating that they felt discouraged from hunting in the park due to the risks of being caught and prosecuted. So far no beneficiary who used to be involved in bushmeat hunting or trade has been arrested for conducting illegal activities in the park.

3.1 Progress in carrying out project Activities

In year 2 progress has been made towards the following four outputs:

Output 1. Project beneficiaries have the financial and technical capacity to set up and manage small enterprises.

- In year 2, the beneficiary selection process was completed and micro-credit was allocated to 189 selected individuals, combined with training in micro-entrepreneurship, financial literacy and credit management. 120 of them chose to invest in guinea pig keeping and therefore received training in guinea pig husbandry. 35 additional individuals received training in guinea pig husbandry although they did not receive microcredit. The project currently has a total of 150 beneficiary guinea pig keepers (75 women, 75 men) of which 55% (83 people) are currently selling guinea pigs.

- By year 3 the project plans to have at least 100 bushmeat hunters and/or women involved in the bushmeat chain to have changed their livelihoods to more sustainable practices. To date, 68 individuals (23 male bushmeat hunters and 45 women) have successfully been targeted.

Output 2. Improved guinea pig production and breeding techniques in target sites.

- UECCO provided training in guinea pig husbandry and micro-entrepreneurship development to all guinea pig beneficiaries and the average number of animals per household has increased from 4 to 22 after two years. However the project has observed worsening mortality rates (28% on average compared to 11% baseline), mainly due to poor animal hygiene affecting infant mortality rates. Although all keepers have received training it appeared many were not applying their newly acquired knowledge. With further investigations it was found that those participating in training sessions were sometimes not those who were given the responsibility to look after the guinea pigs. UECCO is planning to do more frequent site visits and to give more training at the household level compared to the current traditional “classroom style” where participation is limited.

Output 3. Increased availability and adoption of guinea pig meat by communities in target sites.

- In Year 2, WCS’s surveys revealed a 365% increase in the availability of guinea pigs Kajeje’s market since the project start and an increase from 0% to 8% in the proportion of restaurants in Kajeje offering guinea pig dishes. The average number of guinea pigs per households also increase from 4 to 22 animals in all project sites combined.
- Baseline surveys found that on average 16% of meals in target sites included meat (see Table 1.) and overall bushmeat was across all sites was 47% (95% confidence intervals: 29% - 66%) of households consumed bushmeat in project sites (using UCT survey methods).

Table 1. Baseline percentages of meals in targets sites that include meat and percentage of meat meals that include guinea pigs.

| | Kajeje | Kasheke | Chifunzi | Fendula | Bitale |
|--|--------|---------|----------|---------|--------|
| % of household meals that include meat | 22% | 13% | 16% | 16% | 14% |
| % meat meals that are guinea pigs | 42% | 32% | 36% | 41% | 28% |

Output 4. Law enforcement and awareness raising activities effectively deter bushmeat hunting and the establishment of new mining sites in KBNP.

- To discourage hunting in KBNP, the ICCN raised awareness in project sites about hunting and environmental laws and promoted discussion on the impacts of hunting on wildlife and on rural communities. The ICCN stressed the importance of biodiversity conservation, with positive messages promoting guinea pig production and consumption. Meanwhile, monthly food rations for rangers to conduct patrols were supported during the both year 1 and 2. To monitor the impact of this support, data was collected during patrols using a SMART (Spatial Monitoring and Reporting Tool) as well as information from arrested individuals saved in an arrestee database. ICCN patrols encountered more mine sites in year 2 than year 1, however this can sometimes be due to increased effort having an impact on detection. The project should wait until year 3 to evaluate the impact of law enforcement efforts. All 5 mine sites were shut down with some miners being arrested while others managed to run away.

3.2 Progress towards project Outputs

| Indicators | Baseline | Change recorded by end of year 2 | Source of evidence | Comments (if necessary) |
|--|--|--|--|---|
| Output 1: | Project beneficiaries have the financial and technical capacity to set up and manage small enterprises. | | | |
| Indicator 1.1. By the end of year 1, 5 Community Conservation Committees (CCCs) have been established (one per intervention site). | 5 CCCs | 5 CCCs | WCS records; Contracts and agreements signed between CCCs and the ICCN. | |
| Indicator 1.2. By the end of year 1, 200 guinea pig keepers and micro-credit beneficiaries have received training in small enterprise development and financial literacy. This will have increased to 300 guinea pig keepers and 300 micro-credit beneficiaries by the end of year 3, of which 60% will be women. | 0 man and 0 woman | 150 guinea pig keepers (75 women, 75 men) and 69 non-guinea pig keepers (64 women, 5 men) received microcredit and training in enterprise development and financial literacy | WCS and UECCO training records and reports; micro-credit allocation records. | |
| Indicator 1.3. By the end of year 2, at least 50% of beneficiary guinea pig keepers have started micro-enterprises and are selling guinea pigs. | 0% (0 enterprise for guinea pig commerce) | 55% of beneficiary guinea pig keepers are selling guinea pigs (83 people). | Training records; Guinea pig beneficiary surveys. | |
| Indicator 1.4. By the end of year 3, at least 100 hunters have diversified their livelihoods as a result of the micro-credit scheme compared to year 1 baseline. | 0 hunter | 68 individuals diversified their livelihoods, of which 23 ex-bushmeat hunters (men) and 45 women | Micro-credit beneficiary surveys; micro-credit allocation records. | Although women do not hunt bushmeat, they are involved in the bushmeat trade. |
| Indicator 1.5. By the end of year 3, 600 beneficiaries (micro-credit recipients and guinea pig keepers receiving training in guinea pig marketing) have increased their revenues by at least 25% by having set up micro-enterprises, compared to year 1 baseline. | Wealth index of Kajeje beneficiaries = 3,805,102 Congolese francs | NA | BNS surveys of microcredit beneficiaries. | Change to be measured at the end of year 3. |
| Output 2: | Improved guinea pig production and breeding techniques in target sites. | | | |
| Indicator 2.1. By the end of year 2, guinea pig mortality rates have decreased by at least 20% in households that have received | 11% average guinea pig mortality rate in | 28% average guinea pig mortality rate in trained | Guinea pig beneficiary surveys | Some beneficiaries have neglected the hygiene of their guinea pigs which |

| Indicators | Baseline | Change recorded by end of year 2 | Source of evidence | Comments (if necessary) |
|---|---|---|--------------------------------|---|
| guinea pig husbandry training, compared to year 1 baseline. | trained beneficiaries' households | beneficiaries' households (+155%). | | became sick and died. Two sites (Kasheke and Bitale) are still in the early months of their guinea pig production, when guinea pig mortality tends to be higher as guinea pig keepers are progressively applying what they have learnt in training sessions, and will gradually improve their husbandry techniques. Partner UECCO's technical support to guinea pig keepers has sometimes been lacking or insufficient. WCS has been pushing them a lot to do better. |
| Indicator 2.2. By the end of year 3 , the number of guinea pigs per participating household has reached at least 30 individuals, compared to early 2016 baseline. | On average 4.1 guinea pigs per household | On average 22 guinea pigs per household | Guinea pig beneficiary surveys | |
| Output 3: | Increased availability and adoption of guinea pig meat by communities in target sites. | | | |
| Indicator 3.1. Each year, all beneficiary guinea pig keepers will have an average of 25% increase in the proportion of domestic meat in their household diet. | Average 16% of meals include meat, of which 36% is guinea pig meat | NA | Guinea pig beneficiary surveys | Change to be measured at the beginning of year 3. |
| Indicator 3.2. By the middle of year 2 , at least 25% of local restaurants in intervention sites offer guinea pig dishes on at least a weekly basis. | 9% of local restaurants in all project sites combined, of which 0% in Kajeje. | 8% of local restaurants in Kajeje. | Restaurant surveys | Other sites to be surveyed at the beginning of year 3. |
| Indicator 3.3. By the end of year 3 , the number of guinea pigs available in markets has increased by at least 50% compared to year 1 baseline. | 200 guinea pigs in markets in all intervention sites combined, | 248 guinea pigs in Kajeje's market (365% increase). | Market surveys | Other sites to be surveyed at the beginning of year 3. |

| Indicators | Baseline | Change recorded by end of year 2 | Source of evidence | Comments (if necessary) |
|--|---|---|----------------------|--|
| | of which 68 were in Kajeje's market | | | |
| Output 4: | Law enforcement and awareness raising activities effectively deter bushmeat hunting and the establishment of new mining sites in KBNP. | | | |
| Indicator 4.1. From the end of year 1 onwards, no new mine sites are established within the park's highland sector. | 1 | 6 | SMART patrol data | 1 new mine sites detected in the northern part of the park's highland sector in addition to the 4 new sites that had appeared during year 1. |
| Indicator 4.2. At the end of year 2, 25% more individuals surveyed at intervention sites state that they are discouraged from hunting in the park due to the risk of being caught and prosecuted, compared to year 1 baseline data collected at the start of the project. | 295 individuals | 386 individuals = +31% | Household surveys | |
| Indicator 4.3. By the end of year 3, 90% of the beneficiaries who had already been arrested for bushmeat hunting prior to the project period did not get arrested again. | 80% of current beneficiaries had been arrested or known to illegally hunt by the community | No current beneficiary has been arrested since the project started. | ICCN arrest records. | |
| Indicator 4.4. By the end of year 3, at least 1000 people including all beneficiaries will be aware of the impacts of bushmeat hunting on wildlife populations. | 169 individuals | 364 individuals | Household surveys | |

3.3 Progress towards the project Outcome

| | Baseline | Change recorded by end of year 2 | Source of evidence | Comments (if necessary) |
|---|--|----------------------------------|---------------------------------------|--|
| Outcome: | Reducing hunting pressure on KBNP's wildlife, while improving the wellbeing of 600 marginalised households, through increasing the availability of domestic meat and replacing demand for bushmeat in mining villages | | | |
| Indicator 0.1. By the end of year 3, signs of bushmeat hunting have decreased by at least 25% within a 5km buffer inside the park boundary compared to early 2016 baselines. | 0.018 bushmeat hunting sign/km | 0.04 bushmeat hunting sign/km | Hunting sign data from SMART patrols. | Increase in patrols has improved knowledge of hunting pressure |
| Indicator 0.2. By the end of year 3, there has been a 10% increase in encounter rates of | Chimpanzees: 0.027 sign/km. | Chimpanzees: 0.03 sign/km. | Large mammal sign data | Increase in patrols will reduce future |

| | | | | |
|--|---|--|---|---|
| signs of key large mammal and primate species, compared to early 2016 baselines. | Gorillas: 0.023 sign/km. Small primates: 0.021 signs/km. Ungulates: 0.007 sign/km. | Gorillas: 0.36 sign/km. Small primates: 0.22 sign/km. Ungulates: 0.11 sign/km. | collected through SMART patrols. | variance in encounter rates |
| Indicator 0.3. By the end of year 3, there has been a 30% decrease in the percentage of households who consume bushmeat. | 47% (95% confidence intervals: 29% - 66%) of households in intervention sites consume bushmeat. | NA | Household consumption surveys. | Will be measured again in early year 3. |
| Indicator 0.4. By the end of year 3, there has been a 50% increase in the number of guinea pigs available in markets and restaurants compared to the number available at the start of the project | 200 guinea pigs in markets; 4.5% of meat-based meals served in restaurants are guinea-pigs | NA | Market and restaurant surveys. | Will be measured again in early year 3. |
| Indicator 0.5. By the end of year 3, at least 600 households in target communities have increased indices for wellbeing compared to baseline data collected at the start of the project when selecting project beneficiaries. | Average beneficiaries' well-being score = 49% | NA | Basic Necessities Surveys (BNS). | Will be measured again at the end of year 3 |
| Indicator 0.6. By the end of year 3, at least 300 beneficiary households have increased nutrition indices compared to year 1 baselines. | Average beneficiaries' nutrition index = 1.09 | NA | BNS and household meat consumption surveys. | Will be measured again in early year 3. |

3.4 Monitoring of assumptions

All listed risks, assumptions, and ways to counter them from the original proposal still hold true.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

The project is designed to improve beneficiaries' wellbeing by (1) increasing their revenue through access to micro-credit and strengthened financial training and (2) improving nutrition through increased protein availability. In the long-term, capacity and knowledge will continue to benefit the communities.

By working along the bushmeat value chain at intervention sites, the project is protecting wildlife through reduced bushmeat supply through law enforcement, sustainable livelihoods and environmental education. The project is also reducing the demand for bushmeat by shifting local consumption behaviour towards domestic livestock through increased availability and preference of guinea pig meat.

Already 219 beneficiaries (150 guinea pig keepers and 69 non guinea pig keepers) from poor households have been selected around the park and have received both financial and entrepreneurship training and were provided with micro-credit from \$100 to \$180 USD depending on the livelihood they chose to invest in. The objective is to target both bushmeat hunters and

women bushmeat traders to diversify their livelihoods and develop more sustainable and lucrative revenue-generating activities.

Guinea pig husbandry training and support from UECCO has shown to have hugely increased the availability of guinea pig meat available in project sites, with average number of guinea pigs per household reaching 22 (after regular household meat consumption and sale) compared to a baseline of 4 animals per household on average. In Kajeje, WCS's first and most advanced site which at the start had no restaurant selling guinea pig meat now has 8% of restaurants selling guinea pig dishes and an overall increase of 365% in the number of guinea pigs being sold at the market.

This year 2,390 patrols were conducted, during which 819 snares were removed and 5 illegal artisanal mining sites were closed.

Although too early to evaluate the impacts of the project and how far it has come to reaching its objectives, there has already been a notable increase of 823%¹ in wildlife sign encounter rates compared to the project baseline (0.72 sign/km at the end of year 2 compared to 0.078 sign/km baseline). WCS's baseline surveys found that approximately 47% (95% confidence intervals: 29% - 66%) of households consumed bushmeat in project sites, the beneficiary households' average wellbeing score was 49% (Basic Necessities Survey) and had an average nutrition index of 1.09 (using the Adult Male Equivalent model). These project indicators will be evaluated at the end of year 3 to assess the project's success in meeting its objectives.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

SDG 1 (no poverty) – the project is contributing to reducing poverty in intervention sites by providing poor households an opportunity to earn revenues and move up the livestock ladder.

SDG 2 (zero hunger) – the project is contributing to reducing hunger in intervention sites by increasing the availability of affordable domestic meat at household and market level.

SDG 3 (good health and wellbeing) – the project is contributing to household and children health by providing them a source of domestic meat, thereby increasing the amount of protein in their diet, which contributes to children brain and body development. The project is also contributing to increasing beneficiary wellbeing by increasing their revenues and ability to provide for their family.

SDG 5 (gender equality) and 10 (reduced inequalities) – the project is contributing through specific microfinance targeting and financial capacity building of men and women.

SDG 8 (decent work and economic growth) – the project is contributing to economic growth in intervention sites by providing community members the opportunity to develop revenue-generating businesses.

SDG 11 (sustainable cities and communities) – the project is contributing to making rural communities adopt sustainable livelihoods.

SDG 13 (climate action) – the project is contributing to reducing deforestation by supporting law enforcement efforts in KBNP that contribute to reducing incidences of illegal wood exploitation.

SDG 15 (life on land) – the project is contributing to conserving biodiversity and protected threatened species.

¹ This figure may be abnormally high due to low baseline figures causing high variance. Regardless, these numbers are a very positive sign for wildlife in the areas patrolled.

5. Project support to the Conventions, Treaties or Agreements

During the project year 2, work was conducted to support the government of DRC in meeting its responsibilities towards the Convention on Biological Diversity (Goals A, B and C), by contributing to achieving Aichi Targets 1, 4, 5, 11 and 12.

Target 1: ICCN conducted an awareness raising campaign with community leaders, project beneficiaries and local government officials in a key mining zone at all intervention sites. Key topics were values of biodiversity, the environmental laws concerning mining and bushmeat hunting and the benefits of sustainable natural resource use.

Target 4: The project provided micro-credits to 150 beneficiaries including ex-hunters, bushmeat traders and illegal charcoal producers to start sustainable businesses. Beneficiaries were also provided with financial literacy and entrepreneurship training. The support of food rations for park rangers has helped to increase law enforcement efforts within the park, helping to prevent hunting from depleting wildlife populations.

Targets 5 and 12: 2,390 ranger patrols were conducted in the park around intervention sites to deter illegal forest clearing to reduce the rate of forest loss and protect vulnerable (L'Hoest monkey, owl-faced monkey), endangered (eastern Chimpanzee) and critically endangered (Grauer's gorilla) species.

Target 11: WCS has been working closely with the ICCN in the implementation of activities, in M&E and in reporting, aiming to build the ICCN's capacity to improve park management.

6. Project support to poverty alleviation

The project set out to directly improve the wellbeing and household nutrition of at least 600 poor households in rural DRC by the end of year 3. Targeted households are provided with access to micro-credit, training in guinea pig husbandry, and micro-entrepreneurship development. This combination of activities will increase household access to proteins and help kick-start sustainable revenue-generating businesses. Wellbeing surveys (BNS) are part of the project strategy to help target households and measure changes over the years.

By year 2 already 219 (30 in year 1 and 189 in year 2) households were provided with credit and training, which will be scaled up to 600 by the end of year 3. Wellbeing scores of beneficiaries (obtained through BNS) were 49% and nutrition indices (using Adult Male Equivalent model) were 1.09 when the project started, we expect these numbers to rise by the end of the project.

Guinea pig breeding is an ideal livelihood option for poor households as it has low start-up and upkeep costs and guinea pigs have high reproduction rates, high levels of protein and the ability to attract high, but affordable prices in remote areas. As guinea pigs are the lowest rung of the livestock ladder in eastern DRC, this project will act as a stepping stone for the poorest households to acquire certain levels of wealth and eventually upgrade to more complex livestock systems or other income-generating opportunities. As guinea pig meat will become more available in target sites, the project will also benefit the wider community through better protein availability and food security. Since the beginning of the project, we monitored a huge increase in guinea pig numbers from 4 to 22 animals on average per household. Beneficiaries used their credit to buy more females from better stock, build larger and better enclosures to keep them and used their training in husbandry to increase their stock reproductive rates.

7. Project support to gender equality issues

Project beneficiaries are targeted to ensure gender integration and equity. Half of all selected beneficiaries are women.

Unlike other livestock (chickens, goats or pigs for example) women do not need permission from their husbands or the male head of household to keep, prepare, eat or sell guinea pigs. The day to day husbandry of guinea pigs is often conducted by youth or children under the supervision of their mothers, making it a popular activity for students to help pay for their school fees. The project also targeted consumers of guinea pig meat, providing cooking classes to teach guinea pig producers and restaurateurs popular guinea pig recipes. Workshops held to connect the actors along the guinea pig value chain included market sellers, who are often women.

Gender word count in the document:

| Gender | Women/ woman | Men/ man | Female | Male | Bantu | Pygmy | Indigenous |
|--------|-----------------|-------------|--------|------|-------|-------|------------|
| 11 | 30 | 8 | 3 | 5 | - | - | - |

8. Monitoring and evaluation

A monitoring and evaluation plan was developed at the beginning of the project and social surveys developed to monitor various activities. This included WCS's Basic Necessities Survey, household meat consumption surveys, household guinea pig production surveys, and market and restaurants surveys. The monitoring plan reflects clearly the original proposal, and the change request of Indicator 0.3 from "By the end of year 3, domestic meat has become the main source of protein intake for at least 200 male and female-headed households in intervention sites" to "By the end of year 3, there has been a 30% decrease in the percentage of households who consume bushmeat" was approved by the Darwin Initiative on December 8, 2017.

WCS has transferred social survey forms to the smartphone application KoboCollect (Open Data Kit platform <http://www.kobotoolbox.org>), which is being used to collect data in the field and upload them to a centralised database. This approach has been hugely beneficial in saving time and money as data entry is not needed, data cleaning is quicker, and the data can be uploaded while the survey teams are still in the field, allowing them to move on to other activities as soon as surveys are completed.

WCS added a survey to the project's M&E plan to monitor bushmeat prices in project sites, to ensure that guinea pig meat stays the cheapest meat throughout the project. Baseline data was successfully collected at all sites and is planned to be collected again in year 3.

For this project, WCS has been using SMART (Spatial Monitoring and Reporting Tool), a ranger based monitoring software tool that enables patrols to be documented. The tool is combined with a smartphone application, Cybertracker, which rangers use to collect georeferenced point data on wildlife and human signs while they patrol. The data is then uploaded into the SMART software, which gives encounter-rate and descriptive statistics and maps of the data collected, while accounting for patrol effort. WCS has been implementing the SMART software in eastern DRC since 2014 - Kahuzi-Biega National Park being one of the first national parks in the country to use the software and integrate it into its management. In this project SMART has provided a cost effective mechanism to monitor patrol effort, location as well as calculate the relative abundance of wildlife and illegal human activity using encounter rates.

9. Lessons learnt

Ensuring good coordination between UECCO, WCS and ICCN has been an integral and important part of this project. In order to ensure this, missions are coordinated so that all organisations are present as much as possible. However, differences between means of

operating and organisational policy such as tariffs to guide reimbursement of transport costs for training participants from a community, local labour or per diem rates have been the cause of much discussion and sometimes disagreement. Both ICCN and WCS receive other donor funding and have attempted to standardise their expenses, while UECCO who receives much less funding has been less able to meet ICCN's standards. The ICCN has also preferred punctual expensive large meetings with communities rather than frequent, more targeted meetings which UECCO can afford. All project partners have experienced difficulties working in DRC villages where if an organisation provides more to a community than another organisation, the communities' expectations are raised and local organisations will struggle to meet them. This has resulted in many discussions between partners to identify the best compromises and ways forward. One of the major lessons learned from this situation is for this important and often forgotten topic to be discussed at the start of any new funding so that all partners are in agreement and have a common way of operating in the field.

Two of the project sites (Cifunzi and Fendula) have suffered more than others in recent years due to political unrest and hence have received more humanitarian aid compared to other sites. Field teams have found that villagers in both sites have developed an expectation of receiving free goods (as practiced in the humanitarian sector) and are not accustomed to initiatives that expect them to be proactive and take ownership of their project. Even though the project plan was presented and beneficiaries were selected, trained and understood what was expected of them, real appropriation has been lacking. WCS then discussed the issue with local leaders to discuss relocating the project to another village. This approach, very different to what they are used to, spurred them into a community decision to accept the preconditions (i.e. building a guinea pig structure) and borrowing money to purchase animals. Although this is a recent intervention, we believe this is an important lesson learned for future work in post-humanitarian areas.

10. Actions taken in response to previous reviews (if applicable)

In response to comments and recommendations from the project's year 1 report, a copy of the UECCO-ICCN MOU and partnership between CCCs and ICCN have been attached to annexes.

In response to why hunting signs may have increased after year 1, it has been noted in the report that this is likely due to annual fluctuations and between years is often difficult to differentiate between a trend and annual fluctuations. Comparing the three years of data will likely provide more meaningful results.

As requested from previous year's reporting comments, a breakdown has also been provided for baseline survey results in section 3.1. for meat and guinea pig meat consumption per site.

The project has continued to monitor closely security situation as another recommendation and in year 3 will likely choose more beneficiaries in areas which are less likely to be affected by security instability.

11. Other comments on progress not covered elsewhere

The security situation in three of the sites (Bitale, Fendula and Cifunzi) has not been favourable to conducting field activities and has delayed field team missions to the site. The situation has improved and we hope that it does not get worse again.

UECCO has also failed to secure match funding as they had guaranteed they would from additional consultancies, which has also affected their work. These issues have manifested themselves through budgeting and time allocation challenges, and limited the amount of time spent providing beneficiaries with technical support. The latter has caused lower than expected cavy production rates due to many beneficiaries not using optimal husbandry techniques. We have brought this issue to UECCO's attention several times and they have promised that their work will improve before the end of the year. WCS has also decided to hire community monitors

in the sites with match funding in Year 3. They will conduct weekly visits in beneficiary households and alert UECCO of potential urgent need of technical husbandry support.

During the analysis of guinea pig production monitoring data collected by UECCO's teams it was found that those entering the data were not entering in the electronic database exactly what was written on the field data sheets. Once this was noticed, these data had to be re-entered and checked losing valuable time of team members. WCS is now putting in place a new system using a smartphone application (KoboCollect) to help check the data that UECCO collects and to reduce the risk of error made during data entry. WCS also plans to do more training with UECCO on data handling and management in year 3 to avoid this kind of issue.

Part of the goal with a Darwin grant is to build local capacity, whether it is with beneficiaries or with local partners. As such, WCS has helped UECCO write 2 grants this year and provided them with recommendation letters to help improve their situation. WCS is planning training sessions with them on new smartphone based monitoring tools (KoboCollect) in April 2018, including providing them 2 smartphones that they will be able to use both in the Darwin Project and elsewhere.

12. Sustainability and legacy

WCS has been working closely with UECCO to build their administrative and finance management skills by giving them training at the beginning of the project and regular technical support. WCS's project head of finance and admin provided UECCO with administrative tools that they were lacking, and WCS has helped UECCO during reporting periods so that they would need minimal support for reporting from project year 2 onwards.

The exit strategy from the original proposal is still valid. The project works closely with the existing network of CCCs which also channels other activities from the ICCN besides Darwin project activities, ensuring that the CCCs will continue to function after the project ends.

Because the credit-based enterprise of project beneficiaries requires guinea pig keepers to buy their own guinea pigs, they take ownership of their investment. By having developed improved financial and husbandry capacity during the project, they will continue to grow their livestock enterprise in the future. The rotations of micro-credit funds means that as the project continues, the number of beneficiaries increases each year as previous year beneficiaries reimburse their credit. The CCCs will be able to sustain this rotational credit after the duration of the project if credit recipients consistently reimburse their credit. We have also started to witness villagers buying their own guinea pigs and seeking advice from beneficiaries. This local adoption will be monitored in Y3 to provide project insight for scaling up in the future.

During this year, WCS recruited an economist and enterprise specialist who reviewed the existing micro-credit project and guinea pig business plan. From this he provided an evaluation document which includes recommendations for improvement that are now being put in place and the guinea pig business plan has been updated. The economist provided training to all implementing partner key staff on how to make a business plan as well as the essential components to understanding and evaluating value chains. This theory should help in ensuring enterprise projects supported by partners are well thought through, profitable and sustainable.

13. Darwin identity

The project has continued to follow its communication plan that was developed in year 1 and highlighted the list of communication products to be developed with appropriate branding. All project partners have made an effort to promote the image of the project with signboards at project sites, banners during meetings, t-shirts provided to community participants with logos of the park, the partners, DFID and the Darwin Initiative.

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2017 – 31 March 2018)

| Project spend (indicative) since last annual report | 2017/18 Grant (£) | 2017/18 Total Darwin Costs (£) | Variance % | Comments (please explain significant variances) |
|---|-------------------|--------------------------------|------------|--|
| Staff costs (see below) | | | 8% | See M/E explanation |
| Consultancy costs | | | -7% | |
| Overhead Costs | | | 2% | |
| Travel and subsistence | | | 1% | |
| Operating Costs | | | 0% | |
| Capital items (see below) | | | 0% | |
| Monitoring & Evaluation (M&E) | | | -26% | M/E expenditure difference (942£) was covered under Charlotte Spira's salary who worked heavily on M/E |
| Others (see below) | | | 0% | |
| TOTAL | | | 0% | |

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2017-2018

| Project summary | Measurable Indicators | Progress and Achievements April 2017 - March 2018 | Actions required/planned for next period |
|--|--|--|--|
| <p>Impact</p> <p>Bushmeat hunting is no longer a threat to wildlife populations and endemic species in KBNP as a result of more effective law enforcement and reduced demand for bushmeat.</p> | | <p>The project has already started to increase the availability of domestic meat in the intervention area, which will ultimately reduce the demand for bushmeat and thereby reduce bushmeat hunting in KBNP.</p> | |
| <p>Outcome Reducing hunting pressure on KBNP's wildlife, while improving the wellbeing of 600 marginalised households, through increasing the availability of domestic meat and replacing demand for bushmeat in mining villages.</p> | <p>0.1. By the end of year 3, signs of bushmeat hunting have decreased by at least 25% within a 5km buffer inside the park boundary compared to early 2016 baselines.</p> | <p>Average increase of 122% in bushmeat hunting sign encounter rate from prior the project start (0.04 sign/km at the end of year 2 compared to 0.018 sign/km baseline).</p> | <p>Continue patrols and monitoring.</p> |
| | <p>0.2. By the end of year 3, there has been a 10% increase in encounter rates of signs of key large mammal and primate species, compared to early 2016 baselines.</p> | <p>Average increase of 823% in wildlife sign encounter rates from prior the project start (0.72 sign/km at the end of year 2 compared to 0.078 sign/km baseline).</p> | <p>Continue patrols and monitoring to provide more precise encounter rate changes across time.</p> |
| | <p>0.3. By the end of year 3, there has been a 30% decrease in the percentage of households who consume bushmeat.</p> | <p>Baseline: estimated 47% (95% confidence intervals: 29% - 66%) of households in intervention sites consume bushmeat.</p> | <p>Continue to increase availability of domestic meat.</p> |
| | <p>0.4. By the end of year 3, there has been a 50% increase in the number of guinea pigs available in markets and restaurants compared to the number available at the start of the project.</p> | <p>Availability of guinea pigs increased by 365% in Kajeje's market since project start.</p> | <p>Continue to improve households' guinea pig production and connexion of producers with market sellers.</p> |
| | <p>0.5. By the end of year 3, at least 600 households in target communities have increased indices for wellbeing compared to baseline data collected at the start of the project when selecting project beneficiaries.</p> | <p>Average beneficiaries' well-being score at the project start = 49%</p> | <p>Re-evaluate at the end of year 3.</p> |

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| | 0.6. By the end of year 3, at least 300 beneficiary households have increased nutrition indices compared to year 1 baselines. | Average beneficiaries' nutrition index at the start of the project = 1.09 | Continue to improve households' guinea pig production and monitor nutrition index at the beginning of year 3 through household surveys (BNS and meat consumption). | |
| Output 1. Project beneficiaries have the financial and technical capacity to set up and manage small enterprises. | 1.1. By the end of year 1, 5 Community Conservation Committees (CCCs) have been established (one per intervention site). | Already completed in year 1. Target achieved. | | |
| | 1.2. By the end of year 1, 200 guinea pig keepers and micro-credit beneficiaries have received training in small enterprise development and financial literacy. This will have increased to 300 guinea pig keepers and 300 micro-credit beneficiaries by the end of year 3, of which 60% will be women. | 150 guinea pig keepers (75 women, 75 men) and 69 non-guinea pig keepers (64 women, 5 men) received microcredit and training in enterprise development and financial literacy. 150 new guinea pig keepers and 231 non-guinea pig keepers will receive training in year 3. | | |
| | 1.3. By the end of year 2, at least 50% of beneficiary guinea pig keepers have started micro-enterprises and are selling guinea pigs. | 55% of beneficiary guinea pig keepers are selling guinea pigs (83 people). Target achieved. | | |
| | 1.4. By the end of year 3, at least 100 hunters have diversified their livelihoods as a result of the micro-credit scheme compared to year 1 baseline. | 68 individuals diversified their livelihoods, of which 23 are ex-bushmeat hunters (men) and 45 are women who use to be involved in the bushmeat trade. More will be targeted in year 3 to reach the target of 100 hunters. | | |
| | 1.5. By the end of year 3, 600 beneficiaries (micro-credit recipients and guinea pig keepers receiving training in guinea pig marketing) have increased their revenues by at least 25% by having set up micro-enterprises, compared to year 1 baseline. | Baseline data collected, target to be evaluated at the end of year 3 (BNS surveys). | | |
| Activity 1.1. Set up Community Conservation Committees: WCS and ICCN visit target communities where village-wide meetings are held to (1) identify all social groups in the village (main socio-professional categories, e.g. teachers, natural resource users, local authorities, health workers, religious representatives, etc. and women, youth and pygmies if they are in the village); and (2) each of the identified social groups then elects one representative to become a member of the CCC. | Completed. Community Conservation Committees (CCCs) established in all 5 project sites in year 1. | | | |

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| Activity 1.2. The CCCs sign partnership contracts and loan agreements with ICCN. | Partnership contracts signed between CCCs and ICCN in all project sites and loan agreement signed in 3 sites in year 1. In year 2, loan agreements were signed in the 2 other sites. | |
| Activity 1.3. ICCN, WCS and CCC members select micro-credit beneficiaries: CCCs receive applications from community members willing to receive micro-credit and successful applicants are selected. | 219 beneficiaries selected in all project sites combined (150 guinea pig keepers and 69 non-guinea pig keepers). 381 additional beneficiaries (150 guinea pig keepers and 231 non-guinea pig keepers) will be selected in year 3. | |
| Activity 1.4. ICCN and WCS train micro-credit beneficiaries in financial literacy and micro-entrepreneurship development. | 219 beneficiaries trained (150 guinea pig keepers and 69 non-guinea pig keepers). 381 additional beneficiaries (150 guinea pig keepers and 231 non-guinea pig keepers) to receive training in year 3. | |
| Activity 1.5. Provide credit to beneficiaries: WCS provides micro-credit funds to the CCCs and the CCCs allocate credit to selected beneficiaries. | 219 beneficiaries received microcredit (150 guinea pig keepers and 69 non-guinea pig keepers). 381 additional beneficiaries (150 guinea pig keepers and 231 non-guinea pig keepers) to receive microcredit in year 3. | |
| Activity 1.6. ICCN, WCS and the CCCs monitor the micro-credit schemes. | Completed and ongoing in all project sites. To be continued in year 3. | |
| Output 2. Improved cavy production and breeding techniques in target sites. | 2.1. By the end of year 2, guinea pig mortality rates have decreased by at least 20% in households that have received guinea pig husbandry training, compared to year 1 baseline. | 28% average guinea pig mortality rate in trained beneficiaries' households (+55%). Target not reached. Some beneficiaries have neglected the hygiene of their guinea pigs, which became sick and died. Two sites (Kasheke and Bitale) are still in the early months of their guinea pig production, when guinea pig mortality tends to be higher as guinea pig keepers are progressively applying what they have learnt in training sessions, and will gradually improve their husbandry techniques. Partner UECCO's technical support to guinea pig keepers has sometimes been lacking or insufficient. WCS has been pushing them a lot to do better. Closer monitoring and assistance of guinea pig keepers to be delivered in year 3. |
| | 2.2. By the end of year 3, the number of guinea pigs per participating household has reached at least 30 individuals, compared to early 2016 baseline. | On average 22 guinea pigs per participating household at the end of year 2, from a baseline of 4.1 guinea pigs per participating household at the beginning of the project. Guinea pig production to continue to be improved in year 3. |
| Activity 2.1. Select current cavy keepers and new cavy keepers (micro-credit beneficiaries) who will receive husbandry training: the CCCs will receive applications from current cavy keepers willing to receive husbandry training and assistance, and from new individuals willing to receive micro-credit to start a cavy micro-enterprise. Members of the CCCs and WCS then select cavy breeding beneficiaries. | Completed in all project sites. Next period: provide guinea pig husbandry training and regular assistance to new beneficiaries to be selected in year 3. | |

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| Activity 2.2. UECCO provides training to cavy breeding beneficiaries in improved cavy production, focusing on good husbandry practices and breeding management. | Completed in all project sites. Next period: provide guinea pig husbandry training to new beneficiaries to be selected in year 3. | |
| Activity 2.3. UECCO and WCS train cavy breeders in cavy-based micro-enterprise development. | Completed in all project sites. To be conducted with new beneficiaries to be selected in year 3. | |
| Activity 2.4. UECCO monitors and provides technical support to cavy breeding beneficiaries for cavy husbandry and production. | Monitoring conducted in 4 of the 5 project sites. Delivery of technical support to cavy keepers has been lacking or insufficient, resulting in high cavy mortality rates. To be improved in all sites in year 3. | |
| Output 3. Increased availability and adoption of cavy meat by communities in target sites. | 3.1. Each year, all beneficiary guinea pig keepers will have an average of 25% increase in the proportion of domestic meat in their household diet. | Baseline calculated: 16% of meals on average include domestic meat in beneficiary cavy keeping households, of which 36% is guinea pig meat. Target to be evaluated at the beginning of year 3 in all project sites. |
| | 3.2. By the middle of year 2, at least 25% of local restaurants in intervention sites offer guinea pig dishes on at least a weekly basis. | 9% of local restaurants surveyed in all project sites combined offered guinea pig dishes at the project start, of which 0% were in Kajeje. At the end of year 2, 8% of restaurants in Kajeje offer guinea pig dishes every week. Target to be evaluated in the other sites at the beginning of year 3. |
| | 3.3. By the end of year 3, the number of guinea pigs available in markets has increased by at least 50% compared to year 1 baseline. | 365% increase in the number of guinea pigs in Kajeje's market since the project start. Target to be evaluated in the other sites at the beginning of year 3. |
| Activity 3.1. UECCO holds cavy cooking classes - 2 sessions per site - with restaurant cooks, women who keep covies and women who do not keep covies. | One cavy cooking class held in Kajeje. Other classes to be conducted in all project sites in year 3. | |
| Activity 3.2. UECCO holds meetings with cavy breeders, meat traders and restaurateurs to connect cavy producers with sellers. | One meeting held in Kajeje where cavy producers, sellers and restaurateurs met. Other meetings to be held in all project sites in year 3. | |
| Activity 3.3. UECCO develops and distributes pro-cavy materials to CCCs and to individuals attending awareness raising events in intervention sites. | Completed in all project sites. More materials will be distributed in all project sites in year 3. | |
| Activity 3.4. All project partners carry out annual cavy celebration days in each of the five intervention sites. | Not completed yet because of some delays in conducting key project activities. Celebration days to be held in all project sites in year 3. | |
| Activity 3.5. WCS trains community members in research techniques and together conduct market research on covies to monitor changes in protein availability and consumption. | No community member trained in year 2. | |

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| Output 4. Law enforcement and awareness raising activities effectively deter bushmeat hunting and the establishment of new mining sites in KBNP. | 4.1. From the end of year 1 onwards, no new mine sites are established within the park's highland sector. | 1 new mine site established in the park's highland sector in year 2 compared to year 1 (total of 6 active mine sites in year 2 compared to 5 active mine sites in year 1). All were shut down before the end of year 2. |
| | 4.2. At the end of year 2, 25% more individuals surveyed at intervention sites state that they are discouraged from hunting in the park due to the risk of being caught and prosecuted, compared to year 1 baseline data collected at the start of the project. | 31% increase in the number of people who said they are discouraged from hunting in the park due to the risk of being caught and prosecuted. Target reached. |
| | 4.3. By the end of year 3, 90% of the beneficiaries who had already been arrested for bushmeat hunting prior to the project period did not get arrested again. | At the end of year 2, 100% of the beneficiaries who are ex-hunters did not get arrested for poaching again. |
| | 4.4. By the end of year 3, at least 1000 people including all beneficiaries will be aware of the impacts of bushmeat hunting on wildlife populations. | At the end of year 2, 364 individuals are aware of the impacts of bushmeat hunting on wildlife populations. More awareness raising sessions to be held in year 3 to reach the target. |
| Activity 4.1. ICCN rangers conduct patrols using SMART, collecting data on wildlife sign encounters and on illegal human activities. | 2,390 patrols conducted in year 2 with KfW match funding. Rangers collected SMART data on wildlife sign encounters and illegal human activities. This will be continued in year 3. | |
| Activity 4.2. ICCN and WCS analyse results from SMART data to adapt patrol effort and orientate patrols. | ICCN and WCS analysed SMART data on a quarterly basis to adapt ranger patrol efforts. This will be continued in year 3. | |
| Activity 4.3 ICCN shows environmental films and communicates environmental laws. | Completed in all project sites in year 2. More sessions to be held in year 3. | |

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

| Project summary | Measurable Indicators | Means of verification | Important Assumptions |
|---|---|---|---|
| <p>Impact: Bushmeat hunting is no longer a threat to wildlife populations and endemic species in KBNP as a result of more effective law enforcement and reduced demand for bushmeat.</p> <p>(Max 30 words)</p> | | | |
| <p>Outcome: (Max 30 words)</p> <p>Reducing hunting pressure on KBNP's wildlife, while improving the wellbeing of 600 marginalised households, through increasing the availability of domestic meat and replacing demand for bushmeat in mining villages.</p> | <p>0.1. By the end of year 3, signs of bushmeat hunting have decreased by at least 25% within a 5km buffer inside the park boundary compared to early 2016 baselines.</p> <p>0.2. By the end of year 3, there has been a 10% increase in encounter rates of signs of key large mammal and primate species, compared to early 2016 baselines.</p> <p>0.3. By the end of year 3, there has been a 30% decrease in the percentage of households who consume bushmeat.</p> <p>0.4. By the end of year 3, there has been a 50% increase in the number of guinea pigs available in markets and restaurants compared to the number available at the start of the project.</p> <p>0.5. By the end of year 3, at least 600 households in target communities have increased indices for wellbeing compared to baseline data collected at the start of the project when selecting project beneficiaries.</p> | <p>0.1. Results from SMART patrols.</p> <p>0.2. Large mammal sign encounter rates collected through SMART patrols.</p> <p>0.3. Household consumption surveys.</p> <p>0.4. Market and restaurant surveys.</p> <p>0.5. Basic Necessities Surveys (BNS).</p> | <p>Hunting 'leakage' from non-participating areas does not increase. This will be tackled by law enforcement efforts that will spread beyond target areas.</p> <p>The number of patrols using SMART will be sufficient to capture changes in mammal sign encounter rates. ICCN will make sure that patrolling rangers use SMART to ensure adequate levels of data collection.</p> <p>Our survey methods are adequate enough to accurately estimate bushmeat vs domestic meat consumption. WCS has the necessary research capacity and tools to collect sensitive data.</p> <p>Guinea pig production is sufficient for beneficiaries to sell part of their guinea pig supply. UECCO will provide consistent support to ensure guinea pig production is optimal.</p> <p>Improved nutrition and increased revenues are sufficient to improve wellbeing. BNS surveys conducted with communities living around KBNP's high altitude sector showed that household wellbeing is positively affected by the intake of animal proteins, as well as having the financial means to access various basic goods and services. It is therefore likely that this assumption will be met.</p> |

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| | 0.6. By the end of year 3, at least 300 beneficiary households have increased nutrition indices compared to year 1 baselines. | 0.6. Beneficiary surveys. A nutrition index will be developed based on household composition, frequency of meals and protein consumption. | Increased availability of domestic meat will be sufficient to improve nutrition. Awareness raising and guinea pig husbandry training will aim to encourage beneficiaries to manage their guinea pig stocks so that their households are able to consume them at an optimum rate. |
| Outputs: 1. Project beneficiaries have the financial and technical capacity to set up and manage small enterprises. | 1.1. By the end of year 1, 5 Community Conservation Committees (CCCs) have been established (one per intervention site). | 1.1. WCS records; Contracts and agreements signed between CCCs and the ICCN. | Community members are willing to form CCCs. Much effort will be put into establishing CCCs to ensure community members understand its role and to ensure that it synchronizes and makes use of existing structures. |
| | 1.2. By the end of year 1, 200 guinea pig keepers and micro-credit beneficiaries have received training in small enterprise development and financial literacy. This will have increased to 300 guinea pig keepers and 300 micro-credit beneficiaries by the end of year 3, of which 60% will be women. | 1.2. Project partner training records and reports; micro-credit allocation records. | Training is sufficient for beneficiaries to successfully set up micro-enterprises. Technical support will continue after the training has been completed to help beneficiaries counter unforeseen difficulties. |
| | 1.3. By the end of year 2, at least 50% of beneficiary guinea pig keepers have started micro-enterprises and are selling guinea pigs. | 1.3. Training records; Guinea pig beneficiary surveys. | Training is sufficient for beneficiaries to have excess guinea pigs available for sale. The UECCO and WCS will continue to monitor guinea pig micro-enterprises to provide technical support to help counter any unforeseen problem after training. |
| | 1.4. By the end of year 3, at least 100 hunters have diversified their livelihoods as a result of the micro-credit scheme compared to year 1 baseline. | 1.4. Micro-credit beneficiary surveys. | Hunters will be interested and willing to participate in micro-credit schemes. Existing WCS-ICCN micro-credit schemes around KBNP have been successful at attracting hunters, although have shown that community discussions are central in encouraging hunters to participate. |
| | 1.5. By the end of year 3, 600 beneficiaries (micro-credit recipients and guinea pig keepers receiving training in guinea pig marketing) have increased their revenues by at least 25% by having set up micro-enterprises, compared to year 1 baseline. | 1.5. Microcredit and guinea pig beneficiary surveys. | Trainings and micro-credits are sufficient for beneficiaries to set up micro-enterprises and generate revenues. Technical support and beneficiary meetings will be held to beneficiaries after training sessions to assist financial literacy and micro-enterprise development. |

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| 2. Improved guinea pig production and breeding techniques in target sites. | 2.1. By the end of year 2, guinea pig mortality rates have decreased by at least 20% in households that have received guinea pig husbandry training, compared to year 1 baseline. | 2.1. Guinea pig production figures; Guinea pig beneficiary surveys. | Training is sufficient for beneficiaries to successfully breed guinea pigs. UECCO has substantial experience in training, however will provide regular technical support for breeders to reduce guinea pig mortality rates. |
| | 2.2. By the end of year 3, the number of guinea pigs per participating household has reached at least 30 individuals, compared to early 2016 baseline. | 2.2. Guinea pig beneficiary surveys | Beneficiaries will have a continued interest in the project and training will be sufficient for beneficiaries to successfully breed guinea pigs. UECCO will provide regular technical support and visits to ensure breeding is optimal and to discuss with beneficiaries any concerns or issues relating to guinea pig breeding. |
| 3. Increased availability and adoption of guinea pig meat by communities in target sites. | 3.1. Each year, all beneficiary guinea pig keepers will have an average of 25% increase in the proportion of domestic meat in their household diet. | 3.1. Guinea pig beneficiary surveys. | Beneficiaries eat their guinea pigs. Guinea pigs are consumed in South Kivu by households who raise them; however awareness will be raised on the health benefits of guinea pigs to encourage new beneficiary households to consume their guinea pigs. |
| | 3.2. By the middle of year 2, at least 25% of local restaurants in intervention sites offer guinea pig dishes on at least a weekly basis. | 3.2. Restaurant surveys. | Guinea pig supply will reach restaurants and cooking classes will be sufficient for cooks to prepare guinea pig meat. WCS and UECCO will work with guinea pig keepers to connect them with restaurateurs to help ensure there is a strong link. |
| | 3.3. By the end of year 3, the number of guinea pigs available in markets has increased by at least 50% compared to year 1 baseline. | 3.3. Market surveys. | Training is sufficient for beneficiaries to have excess guinea pigs available for sale. The UECCO and WCS will continue to monitor guinea pig micro-enterprises to provide technical support to help counter any unforeseen problem after training. |
| 4. Law enforcement and awareness raising activities effectively deter bushmeat hunting and the establishment of new mining sites in KBNP. | 4.1. From the end of year 1 onwards, no new mine sites are established within the park's highland sector. | 4.1. SMART patrol data. | ICCN law enforcement efforts will be sufficient to deter the establishment of new mine sites. |
| | 4.2. At the end of year 2, 25% more individuals surveyed at intervention sites state that they are discouraged from hunting in the park due to the risk of being caught and prosecuted, compared to | 4.2. Household surveys | |

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| year 1 baseline data collected at the start of the project. | | |
| 4.3. By the end of year 3, 90% of the beneficiaries who had already been arrested for bushmeat hunting prior to the project period did not get arrested again. | 4.3. ICCN arrest records. | Law enforcement is effectively conducted and monitored around intervention sites and efforts are sufficient to deter bushmeat hunting. WCS provides ICCN with technical assistance for SMART and will continue to do so throughout the project to help with monitoring and adaptive management of patrols. |
| 4.4. By the end of year 3, at least 1000 people including all beneficiaries will be aware of the impacts of bushmeat hunting on wildlife populations. | 4.4. Household surveys. | |

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Set up Community Conservation Committees: WCS and ICCN visit target communities where village-wide meetings are held to (1) identify all social groups in the village (main socio-professional categories, e.g. teachers, natural resource users, local authorities, health workers, religious representatives, etc. and women, youth and pygmies if they are in the village); and (2) each of the identified social groups then elects one representative to become a member of the CCC.

1.2 The CCCs sign partnership contracts and loan agreements with ICCN.

1.3 ICCN, WCS and CCC members select micro-credit beneficiaries: CCCs receive applications from community members willing to receive micro-credit and successful applicants are selected.

1.4 ICCN and WCS train micro-credit beneficiaries in financial literacy and micro-entrepreneurship development.

1.5 Provide credit to beneficiaries: WCS provides micro-credit funds to the CCCs and the CCCs allocate credit to selected beneficiaries.

1.6 ICCN, WCS and the CCCs monitor the micro-credit schemes.

2.1 Select current guinea pig keepers and new guinea pig keepers (micro-credit beneficiaries) who will receive husbandry training: the CCCs will receive applications from current guinea pig keepers willing to receive husbandry training and assistance, and from new individuals willing to receive micro-credit to start a guinea pig micro-enterprise. Members of the CCCs and WCS then select guinea pig breeding beneficiaries.

2.2 UECCO provides training to guinea pig breeding beneficiaries in improved guinea pig production, focusing on good husbandry practices and breeding management.

2.3 UECCO and WCS train guinea pig breeders in guinea pig-based micro-enterprise development.

2.4 UECCO monitors and provides technical support to guinea pig breeding beneficiaries for guinea pig husbandry and production.

3.1 UECCO holds guinea pig cooking classes - 2 sessions per site - with restaurant cooks, women who keep guinea pigs and women who do not keep guinea pigs.

3.2 UECCO holds meetings with guinea pig breeders, meat traders and restaurateurs to connect guinea pig producers with sellers.

3.3 UECCO develops and distributes pro-guinea pig materials to CCCs and to individuals attending awareness raising events in intervention sites.

3.4 All project partners carry out annual guinea pig celebration days in each of the five intervention sites.

3.5 WCS trains community members in research techniques and together conduct market research on guinea pigs to monitor changes in protein availability and consumption.

- 4.1** ICCN rangers conduct patrols using SMART, collecting data on wildlife sign encounters and on illegal human activities.
- 4.2** ICCN and WCS analyse results from SMART data to adapt patrol effort and orientate patrols.
- 4.3** ICCN shows environmental films and communicates environmental laws.

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

| Code No. | Description | Gender of people | Nationality of people (if relevant) | Year 1 Total | Year 2 Total | Year 3 Total | Total to date | Total planned during the project |
|----------|---|------------------|-------------------------------------|--------------|--|--------------|---------------|----------------------------------|
| 6A | Number of people to receive other forms of education/training | Men | Congolese | 67 | 91 | | 158 | 300 |
| | | Women | Congolese | 41 | 133 | | 174 | 300 |
| 7 | Number of (e.g., different types - not volume - of material produced) training materials to be produced for use by host country | | | 4 | 4 (same ones as in year 1) | | 4 | 4 |
| 12A | Number of computer based databases to be established and handed over to the host country | | | 5 | 8 (of which 5 are the same as in year 1) | | 8 | 8 |
| 23 | Value of resources raised from other sources (e.g., in addition to Darwin funding) for project work | USAID | | £70,667 | | | | |

Table 2 Publications

| Title | Type (e.g. journals, manual, CDs) | Detail (authors, year) | Gender of Lead Author | Nationality of Lead Author | Publishers (name, city) | Available from (e.g. weblink or publisher if not available online) |
|-------|--------------------------------------|---------------------------|-----------------------|----------------------------|----------------------------|---|
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Checklist for submission

| | Check |
|---|----------------------|
| Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line. | Yes |
| Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line. | n/a |
| Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report. | Need to provide link |
| Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. | No |
| Have you involved your partners in preparation of the report and named the main contributors | Yes |
| Have you completed the Project Expenditure table fully? | Yes |
| Do not include claim forms or other communications with this report. | |