Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative: Final Report

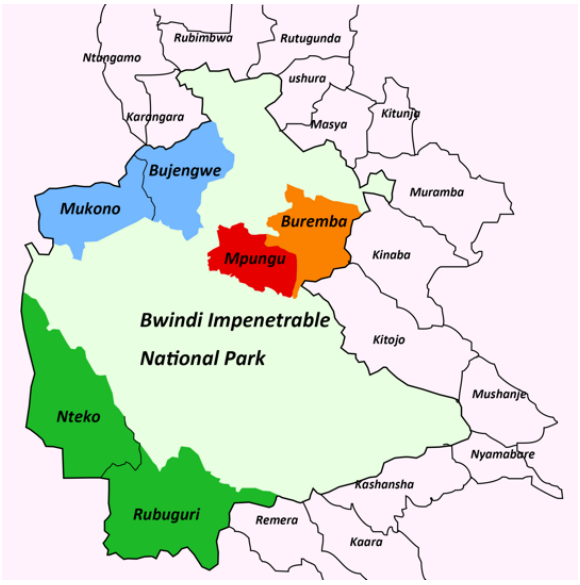
*To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)*

Darwin Project Information

Project reference	23-023
Project title	Can Health Investments Benefit Conservation and Sustainable Development?
Host country(ies)	Uganda
Lead organisation	Conservation Through Public Health (CTPH)
Partner institution(s)	Oxford University, International Institute of Environment and Development (IIED), Uganda Wildlife Authority (UWA), Jane Goodall Institute (JGI) – Uganda, Budongo Conservation Field Station (BCFS)
Darwin grant value	£ 295,000
Start/end dates of project	1st April 2016/31st March 2019
Project leader's name	Dr. Gladys Kalema-Zikusoka
Project website/blog/Twitter	https://www.iied.org/are-health-investments-paying-for-endangered-wildlife; https://www.iccs.org.uk/project/can-health-investments-benefit-conservation-and-sustainable-development; http://www.ctph.org/one-health/; https://www.iied.org/evaluating-change-can-be-challenging-it-starts-quality-data-collection?
Report author(s) and date	Dr. Gladys Kalema-Zikusoka, June 2019

1 Project Rationale

Map 1. Bwindi Impenetrable National Park and surrounding parishes



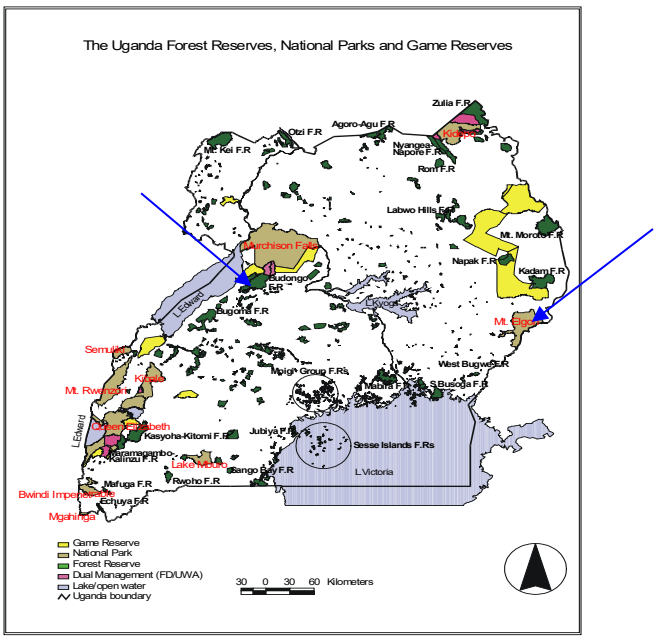
Blue: Treatment parishes where CTPH started integrated programs in Kanungu District in 2005

Orange: Control parish and 1st scale up parish during this project

Red: Control parish and 2nd scale up parish during this project

Green: Parishes where CTPH started integrated programs in a different district, Kisoro in 2010

Map 2. Uganda showing Budongo Forest Reserve and Mount Elgon National Park (blue arrows)



The project was initially implemented in Bwindi Impenetrable National Park (BINP), in south western Uganda and then extended to Mt. Elgon National Park in eastern Uganda and Budongo Forest Reserve in north western Uganda. All these sites are protected areas. Bwindi Impenetrable National Park is an Afromontane forest in south western Uganda and home to the endangered Mountain Gorilla with an estimated 400 individuals, which is close to half of the world's population for the subspecies, and is the top tourist destination in Uganda. The IUCN status of mountain gorillas changed in 2018 from critically endangered to endangered because it is the only gorilla subspecies that is showing a positive growth trend, with a recent increase of the Virunga population from 480 to 604 bringing the total number of individuals to 1,004. Bwindi is also home to unhabituated chimpanzees, elephants and over 300 bird species among other biodiversity.

Bwindi Impenetrable National Park (BINP) occurs within one of the poorest and most densely populated regions of Africa, yet is a critical conservation priority for its high level of endemism and biodiversity, including the endangered Mountain Gorilla. Local people have severe unmet health needs, which impact on conservation outcomes both directly and indirectly. Directly, frequent interactions between gorillas and local people lead to potentially fatal disease transmission to gorillas, including scabies, viruses, bacteria and intestinal parasites. Indirectly, poor human health can lead to an inability to work effectively, poor school attendance and mortality, causing greater dependence on illegal harvesting of Park resources, such as, medicinal plants and inability to take up new livelihoods. Improving human health in communities adjacent to protected areas is likely therefore to be critical to achieving both conservation and poverty alleviation outcomes.

Mt. Elgon is a mountainous National Park with a low level of mountaineering tourism, which has faced a long spell of degradation and deforestation as a result of encroachment and illegal cattle grazing by the nearby local communities. These communities face frequent landslides as a result of poor soil and land practices, which has caused them to move deep into the forest. Uganda Wildlife Authority manages both Bwindi Impenetrable and Mount Elgon National Parks.

Budongo Forest is a tropical rain forest in north western Uganda, home to the critically endangered Chimpanzees and under a different management – National Forestry Authority. Budongo is a primate tourism destination and is near Murchison Falls National Park, which is among the top five tourist destinations in Uganda.

All three protected areas, Bwindi Impenetrable, Budongo Forest and Mount Elgon are surrounded by high human population densities ranging from 200 to over 600 people per square kilometre.

Conservation Through Public Health (CTPH) has undertaken a programme of primary health care and

conservation education around BINP for the last eight years. This approach has reduced gender differences, with women getting more involved in conservation and men getting more involved in family planning. While the CTPH team has also seen more support for conservation as a result of the health program, the evidence for these results is largely anecdotal and the link between the two has not been proven. Neither has the potential general applicability of this approach been evaluated. We therefore sought to evaluate this integrated approach to conservation and health as a holistic replicable model for sustainable development; and to test its potential for replication within a great ape protected area - Budongo Forest, with Critically Endangered chimpanzees, and non-great ape protected area - Mount Elgon National Park.

Health has not been a focus of Darwin; this project aimed to bring new knowledge on the value of health investments to conservation.

2 Project Partnerships

This partnership began due to the need to evaluate and improve the conservation impact of health investments made by CTPH, a Ugandan based NGO, since its inception. CTPH was founded in 2003 after scabies skin disease outbreaks in the then critically endangered mountain gorillas were traced to people living around the park who have inadequate access to basic health and other social services. CTPH Founder and CEO led the team that investigated the scabies outbreaks as the first veterinarian for Uganda Wildlife Authority, where an infant gorilla died and the rest of the gorilla group only recovered after Ivermectin anti-parasitic treatments. The gorillas most likely contracted the scabies when they ranged outside the park to forage on banana plants and came across dirty clothing put out for scarecrows, a common practice amongst Bwindi Impenetrable National Park communities to scare gorillas, baboons and other wild animals. Over the years CTPH started to address other health problems that can have a negative impact on conservation including large family sizes leading to poor maternal and child health, and a greater dependence on the forest to meet basic family needs for food and fuel wood. CTPH joined the Uganda Poverty and Conservation Learning Group (U-PCLG) that was initiated by IIED, who took an interest in this new approach to conservation and also got Oxford University interested in this question, leading to a joint partnership. CTPH has an MOU with Uganda Wildlife Authority (UWA) and started to scale the Village Health and Conservation Team (VHCT) model to Mount Elgon in 2016 through counterpart funding from the Global Development Network. Jane Goodall Institute (JGI) is a member of the U-PCLG and had worked with CTPH on a previous project funded by USAID to adapt CTPH's great ape health monitoring work in Bwindi to Budongo, so they were selected as partners to expand the VHCT model to Budongo.

Conservation Through Public Health as the lead project implementer has led the stakeholder engagement on this project. This includes coordinating and guiding activities of the key project implementers, Oxford University, the project lead researcher and IIED, the project lead in research to policy engagement; and working with the key scaling up partners, Uganda Wildlife Authority and Jane Goodall Institute, and others including Budongo Conservation Field Station, District Natural Resource Officers and District Health Officers of Kanungu, Bukwo, Kween, Bulambuli and Masindi to replicate the VHCT model at Mount Elgon and Budongo Forest Reserve.

CTPH has engaged partners through formal meetings, one to one project management meetings through Skype conference calls or face-to-face meetings, and regular updates on email as well as a dedicated WhatsApp forum for Uganda-based partners.

- **Formal meetings**

  In May 2016, CTPH convened all implementing partners for an inception workshop held at Lake Victoria Hotel in Entebbe where the project was launched and theory of change development began, as well as recommendations of individuals for the project advisory committee, documented in the year 1 report. (Annex 7.1)

  In February 2017, CTPH held a meeting with the Advisory Committee members who gave advice on general aspects of the project and how best to engage local stakeholders, documented in the year 1 report. (Annex 7.2)

  In April 2017, CTPH convened all implementing partners and members of the Advisory Committee for a meeting at the Entebbe office, to review project progress in the first year and plan for project implementation in the second year. (Annex 7.3)

  In June 2017, CTPH held a meeting with Oxford University and scaling up partners to start the process of designing Theories of Change and baseline surveys at the scaling up sites of Budongo Forest and Mount Elgon and plan for baseline surveys and subsequent project implementation sites within their core project areas. This included selecting priority parishes to implement the project with least access to health services and most conservation challenges. (Annex 7.4)

In March 2018, a partner review meeting was held at CTPH's Gorilla Health and Community Conservation Centre to review the project progress in year 2 and plan for the third year of the project. A main focus of the partner review meeting, which was also attended by the Darwin project internal evaluators from LTS, was presentation of the preliminary research report by Oxford University based on independent evaluation of CTPH's Bwindi model for scaling up to Mount Elgon National Park and Budongo Forest Reserve. This included information on how the baseline surveys were conducted at Mount Elgon and Budongo Forest. (Annex 7.5)

In March 2019, CTPH held an end of project review meeting with the project Advisory Committee members, where Ugandan based project partners were invited including UWA and JGI. The main focus of the meeting was to review and evaluate the final project findings, and advise on how to sustain project interventions beyond the donor funding cycle. (Annex 7.6)

- **One to one project management meetings**

CTPH has organised skype conference calls to coordinate project activities and/or discuss urgent issues on the project with Oxford University and IIED to review project progress, planning and timing of activities and conduct interviews for new project personnel as the need arises. Some of these meetings have been face to face when in the same country, immediately before or after the formal partner meetings, and when Gladys went to the UK for a biodiversity fellowship with Oxford University in January and February 2018.

CTPH has held face to face meetings with Ugandan based project partners, UWA, JGI, Budongo Conservation Forest Station and the District Local Governments.

- **Regular email updates**

Email is the most frequent method to discuss management of the project with the UK-based partners – Oxford University and IIED and the Ugandan based partners, UWA, JGI and BCFS.

- **Dedicated Whatsapp group**

This has been the most popular method of communication with Uganda-based project stakeholders because of the local culture, where not many people have easy access to email and people can get Whatsapp signals even in very remote parts of the country. We use the forum to inform partners about progress on the project and dates for upcoming meetings, and get their feedback about related issues such as zoonotic disease outbreaks and national PHE (integrated population, health and environment) activities.

- **Achievements**

The Whatsapp group has kept local project partners interested and engaged in the Darwin funded project, and enabled them to report relevant emerging issues such as disease outbreaks of Marburg and Ebola, and give updates on related project activities at Mount Elgon, Budongo and Bwindi, funded by other donors.

There have been cost savings on the project because Oxford University and IIED have timed activities on this project with other activities they are doing in Uganda on other Darwin funded projects so that some travel costs have been shared to reduce on our project.

We have been able to obtain counterpart funding for this project through donors to CTPH for Mount Elgon and Bwindi, and to JGI for WASH (water, sanitation and hygiene) activities, and in-kind support from Oxford University in the form of salary for the lead investigator and an Oxford University biodiversity fellowship for CTPH lead investigator.

Government partners were engaged in the project where UWA participated in proposal development, project review meetings and evaluation. Majority of the members of the Project Advisory Committee are from the government, and were involved in project monitoring and evaluation where they gave recommendations on how to improve the project implementation and how to report project findings.

All project partners commented on the final project report.

The Ugandan based partners, UWA and JGI will continue to collaborate to sustain the project interventions that were initiated during this project at Bwindi, Mount Elgon and Budongo Forest Reserve. CTPH, UWA, JGI, BCFS, IIED and Oxford University are engaged in the U-PCLG and will continue to collaborate within this forum.

- **Challenges**

This is the first time that CTPH has managed researchers who are conducting an independent evaluative research on the organization. There was a delay in Year 1, because of the illness of the Oxford researcher originally named in the proposal, which led to an LTS-approved extension to the research elements of the project of 6 months. This gap was filled by another highly experienced Oxford researcher (Dr. Henry

Travers) being available to take on the role, and the involvement of additional researchers to carry out other elements of the research under Dr. Travers' supervision (Fran Olsthoorn and Peter Musinguzi). The March 2018 review meeting identified some other research needs to understand the conservation impact of CTPH's health interventions; this led to additional research (Annalyse Moskeland) also under the supervision of Henry Travers involving a contribution analysis of how CTPH has influenced conservation and public health practices around Bwindi. The gorilla health data analysis delayed until CTPH hired a Monitoring and Evaluation Officer in Year 3, Edwin Ainerukundo who is also a statistician, completed the analysis.

The research identified weaknesses in the datasets, which would have become apparent more quickly if there had been stronger coordination between CTPH head office and project staff. Also, more intensive engagement between CTPH and the Oxford research team at the field level would have helped both partners to develop a joint understanding of the context, the research process, and the anticipated outputs, allowing more collaborative adaptive management as the constraints on the research became apparent.

- **Lesson**

When working with partners conducting independent research on CTPH, CTPH needs to get more engaged with the research design and ongoing review of research findings, not only at the beginning, but also throughout the research.

3 Project Achievements

3.1 Progress in carrying out project Activities

The log frame changed, please find attached the revised version in Annex 7.7.

3.2 Progress in carrying out project Activities

Output 1: An evidence base of the outcomes of integrating healthcare with biodiversity conservation is built, based on 5,200 households in three frontline parishes at Bwindi and using a Before-After-Control-Intervention evaluative design

1.1 Before-after control intervention strategy variables and data collection tool developed at inception workshop

This activity was completed and reported on in the year 1 annual report.

1.2 Collation of datasets on human and gorilla health from CTPH, gorilla conservation and health partners and from secondary data

CTPH collated and provided unclean datasets to Ben Evans and Henry Travers on gorilla faecal parasite analysis of habituated groups. However these were not in a form that was suitable for analysis. The gorilla parasitology data from 2005 to 2017 was cleaned by CTPH, which enabled final analysis to take place using STATA statistical software including a spatial and temporal comparison of pathogen infection rates and parasite burdens in different gorilla groups and interactions with the human local community and community livestock. This was compared with data obtained from UWA on gorilla clinical signs Annex 7.8

CTPH compiled data on VHCT monthly community outreach from January 2009 to November 2017 and VSLA monthly data from 2011 to 2017. Unfortunately, substantial issues with the VHCT datasets meant that much of the data could not be used. These findings also resulted in a joint IIED publication on how to collect quality data from non-professionals where Dr. Henry Travers is the lead author, https://pubs.iied.org/17647IIED/?k=monitoring Annex 7.9

The VSLA monthly data included scanned copies of hard copy notes recorded by VHCTs at each of their VLSA meetings.

Arrest and forest use data regularly collected by UWA was made available to Fran Oolsthorn, an MSc student at Imperial College London with experience in tropical fieldwork, via CTPH, after approval of research permission from UWA and Uganda National Council of Science and Technology (UNCST). This was used in her research, as a general comparison to her own field surveys. Annex 7.10.

CTPH introduced the Oxford researchers to the local health centres, and a number of attempts were made to access their Village Health Team datasets. Unfortunately a prohibitive fee was to be charged for accessing the datasets, and to the best of our knowledge, the information contained within them would

not have added to the robustness of the analysis (because the date of first data collection was after the CTPH intervention started, and therefore would not provide a baseline, and because the indicators collected do not overlap fully with those collected by the CTPH teams). Therefore these datasets were not pursued (although if the situation changed, it would be possible to revisit them). It was also difficult for Oxford researchers to obtain other complementary datasets from the health centres providing services to treatment and control parishes.

Records from Human and Gorilla Conflict resolution (HUGO) community volunteers (who chase gorillas from community land) were also made available, and valuable general information and guidance was also provided to give context to the analysis.

This activity is now complete, and was carried out to the best of the researchers' ability, given the limitations mentioned above.

In Year 3, CTPH hired a Monitoring and Evaluation Officer, Edwin Ainerukundo, who reviewed records of the 29 VHCTs and extracted information that showed the homes they were visiting, but the datasets were not standardized enough to track behaviour change amongst these homes and could still not be used. This resulted in CTPH developing a new VHCT logbook with conservation indicators that mirror the health indicators developed by Ministry of Health where each household has its own page and VHCTs only have to tick what they see on each visit, making it easier to fill and track behaviour change (Annex 7.11). CTPH also developed a summary logbook for VHCT leaders from each parish specific VHCT network to fill in each month (Annex 7.12).

1.3 Data collected from a representative sample of all 5,200 treatment and control households using household surveys

Data collection from 5,200 treatment and control households using household surveys was postponed from Q3 and Q4 of Year 1 to Q1 of Year 2. In preparation for the surveys conducted in June 2017, questionnaires were developed and tested in February 2017. In Q4 of Year 1, key informant interviews were conducted with representatives from the main stakeholder groups in order to validate the CTPH project's implied theory of change, and develop a consensus theory of change for evaluation during the main data collection period in Year 2. In the main data collection period, key informant interviews, focus groups, household surveys and direct observations on forest transects were carried out in both treatment and control sites. In Q1 of Year 2, surveys of 25% of random households in the treatment and control parishes were conducted, beginning in control areas to allow for CTPH to roll out in Q2 of Year 2 with funding from Disney Conservation Fund to the control area of Buremba and Mpungu Parishes in Mpungu Sub County with 2,562 households.

Following the Year 1 research, a gap in understanding was identified, due to the complex relationship between the VHCT programme and other activities being carried out by external organisations. A need to understand the mechanisms underlying the results being obtained from the quantitative surveys was identified. Therefore, with LTS approval, a more detailed study was carried out to disentangle the impact of the CTPH VHCT programme from that of the VHT programme implemented by Bwindi Community Hospital. Qualitative surveys were conducted using focus group discussions and key informant interviews to complement the quantitative surveys. An additional Ugandan researcher, Peter Musinguzi, was recruited for this purpose. Drs. EJ, Henry and Gladys interviewed him prior to recruiting him, and was found to be suitable for the task, based on his experience conducting impact evaluation on an NGO in western Kenya working with bee keepers.

This activity was completed in Year 3 with a final report written, see Annex 7.10, that includes results of additional research conducted in Year 3 to improve understanding of CTPH's historic impact through conducting 43 interviews from stakeholder organisations to understand CTPH's influence on conservation and public health practice at Bwindi Impenetrable National Park.

1.4 Forest transects walked (10 per area), and data collected on forest use

This activity is now complete and was carried out as anticipated.

Datasets analysed and research report written

Quantitative and qualitative datasets were analysed and a final report was submitted to the Darwin Initiative incorporating as much as possible feedback from CTPH and partners, and finalisation of the analyses. Following disagreement on some of the project findings, the report was not written up as an IIED report or publication and is only being submitted to the Darwin Initiative as an internal report not to be shared with

the general public (Annex 7.10.) The gorilla health data was analysed by CTPH using STATA statistical software and compared with clinical signs data from UWA records (Annex 7.8).

Output 2: Change in the management of the Bwindi project by CTPH, based on evaluation findings, leading to improved project outcomes.

2.1. Strategic plan developed for implementation of priority actions at Bwindi, based on research findings

Recommendations from the preliminary research report were developed and reviewed at the Year 2 partners meeting. From these, a strategy to improve project outcomes was developed and priority actions implemented at Bwindi, based on research findings and availability of funds.

2.2. Implementation of priority actions at Bwindi

New priority actions at Bwindi that were implemented in year 3 as a result of the research included:

(i) more regular meetings every quarter with the VHCTs, with CTPH hosting one meeting every 6 months and the VHCTs hosting another meeting every 6 months at their VSLA (Village Savings and Loan Association) meeting. The frequency of the VSLA meetings had been reduced to once a year due to limited availability of funds to also test the model for sustainability and affordability. This change was agreed upon after two meetings with the first set of VHCTs recruited in 2007;

(ii) All Village Health Team members have been recruited to become VHCTs, so that all community health workers now also have a conservation remit. This will ensure that messages are clearer for local people. Also CTPH, UWA and health partners will jointly own the health and conservation data, which is also important for sustainability.

(iii) The VHCT raw data was reviewed by a new Impact and Learning Officer (Monitoring and Evaluation Officer, at CTPH, who identified similar issues with the data as the Oxford University team. With support from CTPH Advisory Board member, a highly experienced public health practitioner with a Masters and PhD in public health, Dr. Lynne Gaffikin, CTPH conducted a self-evaluation of the VHCT model, with counterpart funding by the Mulago Foundation as an additional action-oriented research study to contribute to our understanding of CTPH's contribution to conservation impacts at Bwindi due to the health interventions, a report was written up, (Annex 7.13).

(iv) The team also collaborated to produce a guidance manual on how to carry out monitoring and evaluation using volunteer datasets, based on our learning when analysing the VHCT datasets. This was published by IIED (Annex 7.9), and was based on a week-long training visit by Dr Travers to CTPH in XXX[date], in which he interacted closely with the CTPH data team, to understand their processes, needs and constraints and worked with them to improve their data collection and analysis processes.

Additionally, CTPH started to make plans for the following actions at Bwindi:

(v) Setting up a program to regularly deworm at risk local human communities and livestock that regularly interface with the mountain gorillas. This is also based on the finding that Bwindi gorillas that are lethargic and have a high burden of parasites that look like normal gorilla parasites, but can only be differentiated from human or livestock parasites through larval culture or Polymerase Chain reaction (PCR) tests, improved after being treated with antiparasitic drugs.

(vi) Supporting Bwindi local communities to adopt clean energy saving cook stoves and charcoal briquettes to reduce on the need to enter the forest for firewood.

2.3. VHCTs implement revised project with input from project participants, and report back to CTPH

In Q1 and Q4 of Year 3, CTPH held meetings with the first 29 VHCTs to present, discuss and validate research findings, and then developed an action plan for priority actions that started to be implemented in Year 3 of the project.

Output 3. ***Community health programmes are included as part of conservation management by at least one additional national park in Uganda - Mount Elgon National Park - and one additional***

conservation agency in Uganda within the NGO sector - Jane Goodall Institute (in Budongo Forest Reserve), by end of year 3.

3.1 Inception workshop held to develop a theory of change and associated monitoring and evaluation tasks

See 1.1. above

3.2. Baseline survey carried out at Mount Elgon and Budongo to understand health status, attitudes and forest use prior to intervention of this project

In the fourth quarter of Year 2, a baseline survey of 23% of households at Budongo Forest Reserve and 25% of households at Mount Elgon National Park was conducted by Oxford University researchers, Peter Musinguzi and his assistant Moses Musiimenta, a social scientist, who comes from the Bwindi local community and had also supervised research assistants during the qualitative baseline survey led by Dr. Henry Travers. A total of 1,945 randomly selected respondents were interviewed from 12 parishes including two at Budongo Forest Reserve with 930 households and 10 at Mount Elgon National Park with 1,015 households. Control parishes and villages were selected with similar characteristics as the treatment areas. Analysis of the data was completed in Year 3 and the report attached (Annex 7.14)

In Year 3, when report findings were presented in a meeting to Budongo Forest and Mount Elgon, the health and conservation partners did not agree with all the findings and a recommendation was made to survey all households in the project catchment area using the VHCTs as data collectors, also as part of their training to get them to visit all the homes in their target area (Annex 7.15). They were supervised by JGI in Budongo and by CTPH at Mount Elgon. Results of the surveys are attached (Annex 7.16).

3.3. Design for CTPH roll-out agreed and action plan prepared for the two new sites based on research recommendations

The design for CTPH roll out and action plan was agreed by the relevant partners based on partner meetings held in April and June 2017 and considering the research results presented in March 2018. This includes introduction of the project to local leaders, selection of VHCTs from government-supported VHTs, training them to implement health and conservation behaviour change communication, service delivery and referrals at household level and at group talks and collection of monthly data, training in managing group income generating projects and VSLAs, and assigning locally based supervisors from the government or supporting NGOs to provide support supervision for the VHCTs and their leaders, who then collate the monthly data and share it with CTPH, UWA and District local governments for timely health and wildlife management. This activity was completed in year 2.

3.4. Selection and training of 120 VHCT members in 6 parishes, minimum 30% women.

Though the project was designed for roll out to occur after the independent evaluation, counterpart funding from Global Development Network (GDN) enabled the activity to occur at Mount Elgon National Park earlier than planned where recommendations from the evaluation were used to improve the roll out. 85 Mount Elgon VHCTs were selected from 5 parishes located adjacent to the protected area in three districts, Bukwo, Kween and Bulambuli and trained by CTPH together with UWA and District Health and Natural Resource officers (DNROs) in Q2 of Year 1 through counterpart funding from the GDN Japanese Social Development Fund. A decision was made for the VHCTs to be supervised by DNROs who would then share information with UWA and District Health Officers. The proportion of women VHCTs at both roll out sites is 36%. VHCTs started to collect monthly data, and after consistently collecting data for six months, VHCTs from each district were given a group cattle income-generating project as their choice to sustain their volunteer efforts. The VHCTs were trained by CTPH to provide adequate livestock husbandry and health and trained to set up and manage a VSLA. The VHCTs at Mount Elgon consist of 37% women. Selection of Budongo VHCTs was done in Q1 of Year 3 based on already existing 19 VHTs in one parish, Kasenene, who CTPH and JGI trained as VHCTs, of which 26% are women. At Budongo, the VHCTs were trained by JGI to provide adequate livestock husbandry and health to 18 Boer breed of goats corresponding to 18 VHCTs. The 19th VHCT has received one Boer goat under the Growing Together Project, a collaborative project implemented by JGI in the same parish. They were also trained to set up and manage a VSLA.

3.5. Roll-out of CTPH model to Mount Elgon and Budongo, targeting 6,000 households for improved health care and reduced threat to the Parks

Scaling of VHCTs started at Mount Elgon in Q2 of Year 1 and was brought forward because of timing of availability of counterpart donor funding from Global Development Network. Thus though a baseline

survey of 25% of homes in the treatment parish was conducted at Mount Elgon in Q4 of Year 2, information gathered during the earlier than planned implementation informed the project baseline survey design.

Roll out of the model at Budongo Forest started in Q1 of Year 3 as planned. An additional local scaling up partner, Budongo Conservation Field Station (BCFS) was identified for implementation of the project at Budongo Forest, working closely with JGI Uganda. A tripartite MOU between CTPH, JGI and BCFS was developed, to enable smooth implementation of the project, see Annex 7.17. The MOU between CTPH and the Masindi District Local Government was not considered to be necessary because CTPH was not working directly with Masindi District and JGI the main scaling partner already had an MOU with Masindi District.

Through household census baseline surveys conducted by VHCTs, the project reached all 2,029 homes in Kasenene Parish in Masindi District at Budongo Forest Reserve and all 2,007 homes in Kapkoros and Chepkwasta parishes in Bukwo District, Kapkwata Parish in Kween District and Mayiyi and Kiganda parishes in Bulambuli District at Mount Elgon National Park (Annex 7.16)

3.6 Post survey of random sample at Mount Elgon and Budongo to assess changes in conservation attitudes and health behaviour change

The post survey was not done because the Q4 survey in Year 2 was a 25% random survey and unless it was going to be a cohort (panel) study, it was not going to yield any evidence of behaviour change within 6 to 9 months of this large randomly sampled population.

Instead, CTPH conducted review meetings with JGI and local governments to see how the VHCTs were adapting to the new system and if they were having challenges. It started out with nine out of 19 VHCTs using the new VHCT logbooks and the others followed up by JGI, resulted in all VHCTs using the logbooks.

Output 4. ***Better understanding of linkages between primary healthcare and conservation among target audiences in Uganda and internationally***

4.1 A communication framework document is published and shared

IIED took lead in developing the communication framework document in Year 3. Initial discussions on the communications strategy were started at the Year 1 inception meeting. Specific activities included a blog and policy brief.

An IIED guest blog was developed by CTPH with support from IIED https://www.iied.org/evaluating-change-can-be-challenging-it-starts-quality-data-collection? to support the IIED report, "Monitoring and evaluation for non-professionals: How to ensure quality in data-collection processes" published by Henry Travers, Senior Associate, University of Oxford E.J. Milner-Gulland, Tasso Leventis Professor of Biodiversity, University of Oxford; Dilys Roe, Principal Researcher, IIED; Gladys Kalema Zikusoka, Founder and CEO, Conservation Through Public Health; Alex Ngabirano, Community Health Field Officer, Conservation Through Public Health

A policy brief was developed by IIED and CTPH, Annex 7.18.

4.2 Sharing of preliminary findings through a workshop

Preliminary findings were shared through an implementing partner review meeting held at CTPH field office in Buhoma, Bwindi Impenetrable National Park in March 2018. Also present at the meeting was the Darwin internal evaluators from LTS, Victoria Pinion and Irene Karali. Participants gave preliminary feedback on the findings, and a decision was made to conduct further contribution analyses to complete the story, as well as capturing CTPH's local advocacy efforts that resulted in interventions being replicated by other local stakeholders in both the treatment and "control" parishes. A researcher from Oxford University, Annalyse Moskeland was recruited to undertake this work in Q2 of Year 3, and completed it in Q3 of Year 3. The study provided supplementary evidence of CTPH's contribution to observed improvements in key health and conservation indicators to complement the primary findings of the quantitative and qualitative surveys already completed. Results were included in the final research report, Annex 7.10.

3.3 Progress towards project Outputs

Outputs:

Output 1. ***An evidence base of the outcomes of integrating healthcare with biodiversity conservation is built using a Before-After-Control-Intervention evaluative design and other evaluation approaches.***

This output has been modified in the revised log frame, (Annex 7.7). Progress towards achieving this output was made, as follows:

1.1 Agreement of variables to be assessed, and of sampling strategy, for BACI designed study, and collation of existing datasets (CTPH data, hospital referrals), by mid year 1.

It was completed, See activity 1.1 above.

1.2 *Collation and analysis of records of gorilla disease in space and time, for correlation with human health indicators.*

The gorilla health data was cleaned by CTPH with support from Oxford University and analysed comparing the habituated gorilla group infection rates of intestinal helminth parasites from 2005 to 2019 and the non-habituated gorilla groups infection rates where samples were collected during three gorilla censuses, 2006, 2011 and 2018. The analysis was at group level. The data was also compared with periodic human and livestock surveys. The report was written up, (Annex 7.8)

1.3. Survey carried out of 5,200 households in Bujengwe and Mukono parishes (2,600 participating households; treatment) and Mpungu Subcounty (2,600 non-participants, control), looking at health status, uptake of CTPH activities, attitudes to the Park and the project, understanding of health/conservation links, social norms around Park and health, and suggested improvements to the project, by mid year 2.

The originally anticipated evaluation was completed on time, albeit with a modified design that gives weaker causative inference than a BACI design, due to the limited availability of baseline information. Additional research to complete the picture was continued in year 3.

A quantitative survey of a random sample of 25% of 5,200 households was conducted in Q1 and Q2 of Year 2. Initially a Before-After-Control-Intervention evaluative design was planned for implementation in treatment parishes where CTPH has had direct project interventions and control parishes where CTPH has not directly implemented projects. However, due to a lack of robust baseline data from both treatment and control areas, a comparative study of current levels of indicators in control and treatment areas was undertaken. In preparation for the surveys, pilot interviews were conducted to validate CTPH's theory of change for its intervention, and data collection tools were refined. The research showed that there were very few significant current differences between treatment and control parishes.

A qualitative survey was conducted in the treatment parishes in Q3 of Year through key informant interviews with Bwindi Community Hospital, Kayonza Government Health Centre III and Uganda Wildlife Authority, and four focus group discussions with 12 participants including LC1, women, youth Bataka group, HUGO and Batwa representatives. One to one interviews were also held with VHCTs working directly with CTPH and VHTs. The research aimed to understand the role of VHCTs in relation to the broader landscape of health interventions in the treatment area. It also gathered information on the VHCTs' perceptions of their work, in order to give context to the quantitative survey findings.

1.4. Survey of human use of the Park (e.g. firewood, honey, bushmeat) and gorilla encounters; a) through indirect questioning as part of the household survey, and b) through direct observation of human signs on 10 transects in each of the control and treatment areas.

This was completed in Q2 of Year 2. See activity 1.4 above

1.5. Analysis of data, production of preliminary findings and recommendations in project report.

This was largely completed in Year 2, with the final report completed in Year 3 after adding an additional analysis of CTPH's influence on conservation and public health practices at Bwindi Impenetrable National Park, and correlation of gorilla health data, and other data from further contribution analyses.

Output 2. Strategic plans to guide changes in management of the Bwindi project by CTPH, based on the evidence base, are developed.

This output was completed. Progress against the output indicators is as follows:

2.1. Agreed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan (with timescales) during the Research Workshop (end year 2)

The research findings recommended areas of improvement in the current programs, which CTPH adapted to strengthen and scale the model to other frontline parishes around Bwindi:

(i) CTPH started to hold quarterly meetings with VHCTs jointly hosted by CTPH and the VHCTs at their monthly VSLA meetings, to enable timely adaptive management by regularly reviewing data collected to address challenges, improve on project delivery and initiate different education campaigns to promote gorilla and forest conservation.
(ii) Since CTPH has been collecting intestinal helminths parasite data since 2005, comparative data has started to be more regularly collected from humans and livestock, to see where to intensify deworming of people and livestock in the local community
(iii) Improved data collection tools to better capture conservation indicators and hold more regular meetings with VHCTs to review their data in a timely manner for quality control and timely adaptive management. Oxford University provided capacity-building support in year 3 to enable data analysts at CTPH to better manage the collection, quality control and processing of datasets, including producing a short guidance manual (Annex 7.9)
(iv) Engaged all government supported VHTs as VHCTs to reduce the number of households that these community volunteers are responsible for enabling them to more effectively achieve better conservation and public health practices
(v) CTPH hired a Monitoring and Evaluation Officer to ensure quality data for effective adaptive management
(vi) CTPH plans to promote the use of energy saving cook stoves to help reduce deforestation due to use of firewood as the household's main energy source
(vii) CTPH plans to provide more regular technical support to the VHCTs in VSLA management

2.2. CTPH, UWA and local partners implement at least 2 specific changes to their Bwindi project, based on the Strategic Plan (mid year 3).

Three specific changes that have been implemented are

(i) recruiting all VHTs as VHCTs to share the burden with monitoring them with other health partners
(ii) improving the data collection tool by developing a VHCT log book with health and conservation indicators where there is a specific page for each household
(iii) more regular and meaningful engagement to be able to improve on supervising the VHCTs and their data collection through jointly hosted quarterly meetings between CTPH and VHCTs at their monthly VSLA meetings.

2.3. Village Health and Conservation Teams report improved attitudes towards the Park and the project, and improved uptake of healthcare by over 10,000 participating households in target villages, measured through a 20% increase in number of model households that have gained knowledge about disease transmission between humans and wildlife and the importance of forest and wildlife conservation, acquired any of the following: hand washing facilities, drying racks, drinking boiled water, planting trees, using energy saving cook stoves (end year 3).

Though a household census baseline survey was done in Years 2 and 3 at Bwindi, Budongo and Mount Elgon reaching a total of 6,598 households in 8 parishes, a post survey was not done in the treatment and control parishes because the time of 9 months was too short to see any changes. Due to the challenges found in data collection at Bwindi that were identified during the project, it was not possible to measure improved uptake of healthcare and health promoting practices, improved attitudes towards the Park and the project, based on the past VHCT monitoring data in the 2,420 households in the two treatment parishes. Furthermore, it was going to be more difficult to measure any increased uptake of good health and conservation practices in a short period of less than one year from a household baseline random survey in such a large population without being able to track change in behaviour in specific homes through a cohort (e.g. panel) study.

Instead, a more robust system to enable more accurate recording of individual household behaviour change for future monitoring and evaluation purposes was developed where VHCT log books were distributed to all new and old VHCTs and summary VHCT books distributed to the VHCT leaders at Bwindi, Budongo and Mount Elgon. All the VHCTs are now using these books.

3. Guidelines to include community health programmes as part of conservation management, by at least one additional national park in Uganda - Mount Elgon National Park - and one additional conservation agency in Uganda within the NGO sector - Jane Goodall Institute (in Budongo Forest Reserve), are developed and implemented.

3.1 Inception workshop held to develop a theory of change for Bwindi and the two roll-out sites and associated monitoring and evaluation tasks (early year 1)
Completed and reported upon in the year 1 annual report.

3.2 Baseline survey of local people's health status, attitudes and social norms, local forest use, and wildlife health status performed in Budongo and Mount Elgon, led by partner organisations, using the surveys designed for Bwindi, in order to provide the Before-Control elements of a BACI design for future monitoring and evaluation in these locations (by mid year 2).

Random baseline surveys were conducted by Oxford University at Mount Elgon in Q4 of Year 2 in January 2018 before Budongo Forest in Q4 of Year 2 in February 2018. The detailed report is in Annex 7.14.

3.3 Completed design of integrated conservation and health programme in Budongo and Mount Elgon, informed by the preliminary findings of the evaluation research, and presented at Research Workshop (by end year 2).

Completed in year 3

3.4. Recruitment and training of new VHCTs at Mt Elgon and Budongo, comprising 93 local people in 93 villages and 9 parishes with at least 50% women (by end year 2)

CTPH received funding from GDN in 2015 and started to implement activities at Mount Elgon in 2016. During this project 85 previously recruited VHCTs were trained of which 38% are women. Following recommendations from the Budongo partners project inception meeting held in June 2018 with Masindi District local government, JGI and BCFS, a decision was made to recruit all VHTs in Kasenene Parish, to become VHCTs, and the number came to 19, of which 26% are women. JGI had been engaging six out of the 19 VHTs in Kasenene Parish in WASH activities covering the whole parish and engaged an additional 13 in this project. This brought the total to 105 VHCTs in six parishes in the roll out locations. This is an increase from 93 VHCTs in 9 parishes where we were granted permission from the Darwin Initiative to revise this deliverable.

3.5. Conservation Through Public Health programmes are implemented by UWA – Mount Elgon Conservation Area Management and JGI-Uganda - Budongo Forest Reserve, through new VHCT teams (by mid year 3).

This activity began in Year 1 at Mount Elgon and commenced in Q1 of Year 3 at Budongo

3.6 Follow-up survey at Mount Elgon and Budongo Forest to assess short-term changes in attitudes and health practices, by assessing over 10,000 participating households in target villages, measured through a 20% increase in number of model households that have gained knowledge about disease transmission between humans and wildlife and the importance of forest and wildlife conservation, acquired any of the following: hand washing facilities, drying racks, drinking boiled water, planting trees, using energy saving cook stoves (by end year 3)

The follow up survey was not done because the Q4 survey of Year 2 was a 25% random survey and unless it was going to be a cohort/panel study, it was not likely to yield any evidence of behaviour change. Specifically, the time of 6 to 9 months was too short to show any change in a large randomly-sampled population.

4. A communication and dissemination strategy to increase the understanding of linkages between primary healthcare and conservation among target audiences in Uganda and internationally, is developed.

4.1 A communication framework document is published and shared

IIED developed this, see outline in Annex 7.19.

4.2 In Year 3, a workshop held in Uganda, with the Poverty and Conservation Learning Group, Uganda Wildlife Authority, Jane Goodall Institute and the Ugandan government's National Environmental Management Authority and National Forestry Authority to share the research framework and preliminary findings from the Bwindi evaluation research and Budongo/Mt Elgon baseline survey with national-level stakeholders in Uganda.

CTPH held a workshop with the Poverty and Conservation Learning Group in March 2019 to share results of the project, where IIED also attended. Participants saw the value of integrating health with

conservation and suggested how the approach can be scaled to different regions of Uganda. See report in Annex 7.20.

4.3 By end of Year 2, two Research Workshops will be held to present the results of the Bwindi impact evaluation with local stakeholders in Uganda and international stakeholders in London

One research workshop was held in Q4 of Year 2 with local stakeholders at Bwindi where preliminary results of the research were shared. The workshop with international stakeholders in London was not held because of lack of funding.

4.4 A Research Report and a Policy Brief are published, disseminated physically and virtually by IIED and CTPH, and uploaded on CTPH and IIED websites and mentioned on CTPH and IIED social media facebook and twitter pages (by end of year 3).

A research report was written and submitted to the Darwin Initiative, but not published by IIED, Annex 7.10. A policy brief based on research findings was published by IIED in Annex 7.18.

4.5. By end of year 3, at least one paper submitted to a high impact peer-reviewed journal, describing the evaluation of the Bwindi project, and presented in at least one international conference.

A paper has not been submitted to a peer reviewer journal because the results of the evaluation of the Bwindi project were not conclusive in determining the value of CTPH's health investments to conservation. Results were also not presented at an international conference.

4.6. By mid-year 3, village-level dissemination carried out through the VHCTs in the 44 participating villages at Bwindi to report back on research findings and planned changes to the project based on their input.

Village-level dissemination was carried out when all VHTs were recruited as VHCTs in all 31 participating villages at Bwindi including 22 in the treatment parishes, Mukono and Bujengwe and nine in the control parishes of Buremba and Mpungu where local leaders attended the meetings held to select and train the VHCTs who then went out to disseminate the information at the household level.

4.7. In early Year 3, village-level dissemination in Budongo and Mt Elgon to launch the new CTPH programmes in their areas, featuring the newly appointed VHCTs.

This activity began in Year 1 at Mount Elgon and intensified in Year 3 during training in use of the new VHCT log books, and commenced in Year 3 at Budongo when the project was launched.

Challenges

1. The project encountered problems with achieving the outputs due to poor quality of data from the VHCTs, which prevented use of the data to measure changes in community health and conservation practices over time. The research team was also not able to use historical data of human activities in the forest. These potential constraints had been identified in the following assumption in our original log frame "Previous years' ecological and social data being available to allow statistical comparisons."

2. The project also encountered research methodology challenges that limited the ability to detect the benefits of CTPH health interventions to conservation at the community level. Specifically, an assumption not stated in the log frame was that "exposure to VHCT interventions would be equally distributed within the community"; in this case meaning all homes were visited equally by the VHCTs. Therefore, a random sample of the full "intervention" population was considered adequate to measure and infer to the population level, later comparing with "control" communities to determine the benefits to conservation of supporting a health intervention. If a census had been taken rather than a sample and VHCT exposure levels of each household measured, at least the analysis could have included stratification by level of VHCT exposure to determine the effect of exposure level on relevant outcomes. This would have allowed both for documentation of actual exposure levels as well as a more "sensitive" assessment of the extent to which VHCT household visits (number and timing) were associated with positive health and conservation outcomes. Alternatively, if stratification by this important factor had been incorporated into the design, and oversampling conducted if needed of households actually visited, the study would have had more power to assess differences between intervention and control communities, adjusting for level of intervention. As designed, the study was not able to answer the key research question.

The lack of data on level of exposure and household outcomes among households "exposed" was addressed by CTPH conducting action-oriented research. This research - not dependent on data

historically collected by VHCTs - was designed as a form of self-evaluation with external expertise and counterpart funding from the Mulago Foundation. Using a “sentinel” study design, household level health, livelihood and conservation outcomes were compared in 120 households (60 most visited and 60 least visited households) known to have been visited by a subset of the most active VHCTs based on visits recorded in their note books, see report in Annex 7.13.

The ecological data challenge was partly resolved by also comparing gorilla census data. The latter revealed more snaring in Mpungu subcounty, the Democratic Republic of Congo (DRC) border and deeper in the park than in the areas of Mukono and Bujengwe, where tourism has been conducted. The full census report will be published by UWA and International Gorilla Conservation Programme (IGCP) later in 2019.

Going forward, the challenge of poor quality data was resolved by the Oxford University research team helping CTPH to develop SMARTer indicators for the VHCTs and CTPH advocating to IGCP to support UWA in collecting more robust ecological monitoring data.

3.4 Outcome

The integration between access to primary healthcare with biodiversity conservation in Uganda is mainstreamed for sustainable use of Protected Areas

0.1 An assessment of the effectiveness of CTPH's Bwindi project in bringing about poverty alleviation and biodiversity conservation outcomes, using robust impact evaluation methodology

Research was conducted using an impact evaluation methodology. Additional research filled in some identified gaps, using different methodologies.

0.2 Recommendations for improvements to the Bwindi CTPH project are adopted and implemented.

Recommendations were made based on the quantitative and qualitative research, which were put in a strategic plan for adoption and implementation in Year 3.

0.3 The approach is rolled out to Mount Elgon National Park and Budongo Forest Reserve, based on the evidence from the evaluation.

The approach started to be rolled out to Mount Elgon in Year 1 based on counterpart funding from GDN JSDF, and 85 VHCTs were trained where some impacts at household level were evaluated by a GDN consultant through Most Significant Change methodologies. In Year 3 of this project, the 85 VHCTs were trained using a new data collection tool in the form of a standardised VHCT logbook and all of them have started to use it to monitor behaviour change.

The approach was rolled out to Budongo Forest in quarter 1 of Year 3 where one additional partner was identified, BCFS supporting VHCTs and JGI supporting sustainability of the VHCTs through group income generating projects and VSLAs. However, because BCFS was only working in Nyabyeya parish and JGI was already conducting activities in the target parish for the project implementation, Kasenene Parish, it was more cost effective for JGI to support VHCTs and their sustainability through group income generating projects and VSLAs. All 19 VHTs were trained to become VHCTs where they are using the new standardised VHCT logbook to record and monitor behaviour change.

0.4 Analysis of data, production of findings and recommendations in project report where agreed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan

Data have been collected and analysed, and preliminary findings and recommendations presented in a report during a project review meeting held in Quarter 4 of Year 2. Following the additional research and consultations, a new strategy for engaging the VHCTs was developed.

0.5 Recommendations from the evaluations are included in national biodiversity policies.

Through research to policy engagement, in Year 3, during workshops with local and international partners, recommendations from the evaluation were used to influence national policy in the conservation, health and sustainable development sector in a U-PCLG meeting.

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

We sought LTS approval to modify the project log frame impact of the project from “Integration of conservation and development is mainstreamed through recognition that investments in primary health

care can provide an entry point to alleviating poverty and improving biodiversity conservation outcomes" to "Improved community health and enhanced biodiversity in protected areas of Uganda", which is enabling the project to be more aligned towards having a positive impact on biodiversity and poverty alleviation.

Recommendations from the independent evaluation in Year 2 were used to improve the wellbeing of communities bordering protected areas in Uganda, in turn having a positive impact on biodiversity through reducing their dependence on the protected areas to meet basic needs for health care, food and fuel wood. This project is strengthening a monitoring and evaluation framework to measure how health interventions can contribute to conservation outcomes.

New communities were reached with combined health services and conservation education by community health workers trained to become Village Health and Conservation Teams (VHCTs) at Bwindi, Budongo and Mount Elgon. They promoted hygiene and sanitation, infectious disease prevention and control, family planning, nutrition, sustainable agriculture, alternative livelihoods, tree planting, risks of human and gorilla disease transmission, and other elements of wildlife and forest conservation as evidenced in the new VHCT logbooks indicators, Annex 7.11.

The total number of households that benefitted from this project through roll out activities of VHCTs during this project where baseline surveys were conducted to all households in target parishes was 6,598 including 2,562 at Bwindi Impenetrable National Park, 2,029 at Budongo Forest Reserve and 2,007 at Mount Elgon National Park. Threats to biodiversity including critically endangered species and fragile habitats in three protected areas were reduced in this project.

The communications strategy targeted international academics, national academics, national conservation and health groups, international conservation and health practitioners, VHCTs and local people. Outcomes included a better recognition of the value of integrated conservation and health interventions to poverty alleviation and biodiversity conservation.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Contribution to Global Goals for Sustainable Development (SDGs)

SDG1: No Poverty - End poverty in all its forms everywhere

This project sought to address poverty by addressing the health needs of communities living around protected areas. During the project we conducted evaluations to strengthen health service delivery as well as group income projects and VSLAs for 279 VHCTs at implementing and roll out sites. At Mount Elgon National Park, 85 VHCTs from 42 villages in 5 parishes reached 2,007 homes with an estimated 12,042 people. At Bwindi Impenetrable National Park, 60 VHCTs from nine villages in two parishes reached 2,562 homes with an estimated 15,375 people. At Budongo, 19 VHCTs from nine villages in one parish reached 2,029 homes with an estimated 10,145 people. At Mount Elgon, some outcomes at household level evaluated by CTPH and a GDN consultant through Most Significant Change methodologies showed an increase in family planning adopters, which indirectly leads to reduction of poverty at a household level. VHCT activities are leading to savings on expenditure on health due to reduction of hygiene related diseases and savings on expenditure on education due to more manageable family sizes. A financially sustainable community based service delivery model of VHCTs supported by group income generating projects and VSLAs pioneered at Bwindi, was adapted and implemented at new parishes in Bwindi, Mt. Elgon and Budongo, which laid the foundation for increased household savings among the VHCTs. While not specifically tested in this study there is other evidence available (Margolius' Foundation of Success report) to suggest that providing communities with things they need (and themselves articulate as needed) builds trust and good will. Communities increase their trust that conservation organisations care about their well being as well as that of the wildlife and their habitat. This in turn increases their willingness to listen to the messages provided and, absent other barriers, to implement suggested positive practices.

SDG3: Improved health and well being of local communities

This project main focus is to evaluate the impact of health interventions on biodiversity conservation and sustainable development. A total of 164 VHCTs reached 6,598 homes with an estimated 37,562 people. Through VHCT behaviour change communication, there will be an increase in the number of homes with hand washing facilities, usage of toilet facilities, drying racks for utensils and drinking of boiling water, usage of modern family planning and good health seeking behaviour as has been seen with the Bwindi VHCTs and Mount Elgon VHCTs. We tracked the number of homes with hand washing facilities, drying racks, toilets and clean water storage containers. At Mount Elgon there were increased referrals for new family planning methods and suspect patients with malnutrition, TB, HIV/AIDS, scabies and other

diseases; and increase in households with pit latrines, hand washing facilities and clean water storage containers.

SDG 5. Gender equality and empowerment of all women and girls
This project was developed when anecdotal evidence through initialing the CTPH model showed that there were benefits of integrating conservation and health care at Bwindi Impenetrable National Park, including reducing gender differences, where women are more involved in natural resources management and men in family planning. In Year Two at Mount Elgon the project increased leadership skills among women, increased engagement of women in conservation and natural resource management and increased involvement of men in family planning through training 85 VHTs to become VHCTs. In year 3 of the project, 41% of the 164 new VHCTs were women, being empowered to be conservation leaders.

SDG 15: Life on Land
This project reduced threats to gorillas and other endangered species, other wildlife and their fragile habitats through targeted health interventions among people living around Bwindi Impenetrable and Mount Elgon National Parks and Budongo Forest Reserve. People from communities living near protected areas can enter the forest to illegally poach and/or gather resources to meet their basic needs. This project aimed to reduce illegal activities including poaching and deforestation; limit contact between people and great apes (gorillas and chimpanzees); improve health-seeking behaviour of local communities and improve attitudes to gorillas, chimpanzees and other endangered species and forest conservation. At Mount Elgon there has been increased planting of trees by local communities, and reduction in human and park-wildlife conflict as a result of project interventions. Additionally, at Budongo local communities are more aware of the health risks and negative conservation impacts of eating bush meat and primates in particular. At Bwindi the population of mountain gorillas is showing a steady growth trend resulting in their status being down listed from critically endangered to endangered in 2018; there have been reduced scabies and giardia disease incidences in the gorillas, increased tolerance to gorillas on community land and greater support for the park. Bwindi local communities are aware that people and gorillas can make each other sick, and this project has highlighted the need to emphasize that this risk of cross species disease transmission is still high even when Human and Gorilla Conflict resolution team members (HUGOs) chase them away from community land back to the park.

SDG 17: Partnerships
This project promoted global partnerships to achieve the project's goal and objectives. In the second year of the project, CTPH formed partnerships with 8 main partners from Uganda and the UK to achieve the goals of the project to improve community health and enhance biodiversity conservation. These include Oxford University, IIED, UWA, JGI, BCFS, National Forest Authority, Bwindi Community Hospital, and District local governments of Kanungu, Bukwo, Kween, Bulambuli and Masindi and VHCTs from the protected area communities. Furthermore relations between UWA and the local communities improved at Mount Elgon and Bwindi.

4.2 Project support to the Conventions or Treaties (CBD, CITES, Nagoya Protocol, ITPGRFA)

This project is addressing the following CBDs strategic goals by building the evidence base of the outcomes of integrating health care with biodiversity conservation:
B: Reduce direct pressures on biodiversity and promote sustainable use: The project is improving conservation attitudes and promoting better health and family planning as seen in the roll out to Mount Elgon, Budongo and two new parishes at Bwindi. This will address high human population growth, and enable people to take up new livelihoods, reducing poverty and dependence on the forest to meet basic needs;
C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity: Improved human health will reduce risks of disease transmission between people and gorillas, particularly those interfacing with mountain gorillas on community land. At Bwindi, there has not been another scabies outbreak in gorillas since CTPH activities began and occurrence of Giardia disease has reduced. Analysis of the gorilla health parasite data shows that though the overall gorilla parasite infection rate has decreased since 2005, there has been a recent increase in human related parasites including *Ascaris lumbricoides* within habituated gorilla groups that frequently range in community land. The same benefits are being rolled out to Budongo Forest to reduce the risk of disease transmission between people and chimpanzees.

D: Enhance the benefits to all from biodiversity and ecosystem services: Mountain gorillas bring in significant tourism revenues for Uganda, which are shared with local communities. Improving the health of mountain gorillas helps to protect a sustainable source of income from ecotourism. In Uganda the main drivers of biodiversity loss include human-wildlife conflicts, encroachment and poverty, which are exacerbated by high human population growth rates. This project has highlighted the value of certain health interventions as part of an integrated approach to reducing poverty and biodiversity loss. It particularly addresses Aichi target 1 (awareness of biodiversity value), 2 (integrating biodiversity into planning), 12 (preventing extinction) and 14 (safeguarding ecosystem services). The impact evaluation strengthened the

CTPH model to enable healthier gorillas and human wellbeing at current and roll out parishes around Bwindi Impenetrable National Park and improved community health and enhanced biodiversity at Mount Elgon and Budongo Forest. People living around Mount Elgon National Park have started to plant trees and improve their attitudes towards UWA based on project interventions in Year 2.

4.3 Project support to poverty alleviation

This project is working to alleviate poverty through improving the health and wellbeing of the people. Health is an important dimension of poverty. Improving health practices with conservation attitudes through behaviour change communication leaves a long lasting impact. The VHCT programme is sustained by group livelihoods projects and VSLAs, which directly improve the income of the VHCTs. The other community members benefit from the services provided by the VHCTs. The wildlife will benefit from the improved conservation attitudes, which are hoped to lead to reduced or regularized resource harvesting.

Direct impacts of this project include the improved health service delivery to target communities through greater access to health services by the VHCTs and increased VHCTs income from the livelihood projects and VSLAs. Behaviour change communication also includes promoting good nutrition and sustainable agriculture, which contributes to food security. Through training the VHCTs we are improving literacy, and gender equity where at least one third of the VHCTs are required to be women. At Bwindi 52% of the VHCTs are women, at Mount Elgon, 38% of the VHCTs are women and at Budongo, 26% of the VHCTs are women. This has resulted in women getting more involved in conservation and natural resource management and men in family planning. The VSLAs increase income of the women in their families earning them greater respect from their spouses and more participation in decision making and planning at home.

The improved understanding of the benefits from this approach will lead to increased rollout to other parts of the country and internationally.

Notable achievements this year include a financially sustainable community based service delivery model of VHCTs supported by group income generating projects and VSLAs pioneered at Bwindi, being adapted and implemented at Mt. Elgon and Budongo Forest, which is leading to increased household savings among the VHCTs.

4.4 Gender equality

The VHCTs involved in this project include both men and women, at Mount Elgon 38% of the VHCTs we have engaged in the project are women, at Budongo 26% are women and at Bwindi 52% are women. Through the project's approach where VHCTs conduct couple peer education and village health talks, women have become conservation leaders in their communities, while the men have also become health leaders in their communities. This refers to the Output indicator 3.4 in the log frame.

4.5 Programme indicators

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?** The project led to greater representation of local poor people in management structures of biodiversity through the engagement of 279 Village Health and Conservation Team (VHCT) members from Bwindi (Kanungu District), Budongo (Masindi District) and Mount Elgon (Bukwo, Kween and Bulambuli Districts).
- **Were any management plans for biodiversity developed and were these formally accepted?** Not applicable
- **Were they participatory in nature or were they 'top-down'? How well represented are the local poor including women, in any proposed management structures?** The programming was participatory in nature through training workshops and meetings with VHCTs who had already been jointly selected by the local community and District Health Offices. The representation of women VHCTs ranged from 26% to 52%. Women representation was highest at Bwindi at 52%, followed by Mount Elgon at 38%, then Budongo at 26%.
- **How did the project positively influence household (HH) income and how many HHs saw an increase?** 164 households were positively impacted through enrolling in VHCT Village Saving and Loan Associations.

- **How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?** The project positively influenced household income by enrolling 164 VHCTs into group livestock income generating projects and VSLAs, which improves a saving culture and in the past has led to VHCTs and other community groups doubling their income within one year. The increase in household income was not measured during the project because of the short duration for roll out of less than one year in Year 3.

4.6 Transfer of knowledge

Though the project did not result in any formal qualifications, there was transfer of knowledge from Oxford University to CTPH staff in collating data from the VHCTs, which resulted in an IIED publication. There was also transfer of knowledge from IIED to CTPH, which resulted in the publishing of a blog and policy brief.

4.7 Capacity building

CTPH Community Health Field Officer, Alex Ngabirano became a co author on a publication for the first time, “Monitoring and evaluation for non-professionals: How to ensure quality in data-collection processes” published by Henry Travers, Senior Associate, University of Oxford E.J. Milner-Gulland, Tasso Leventis Professor of Biodiversity, University of Oxford; Dilys Roe, Principal Researcher, IIED; Gladys Kalema Zikusoka, Founder and CEO, Conservation Through Public Health; Alex Ngabirano, Community Health Field Officer, Conservation Through Public Health.

Dr. Gladys Kalema-Zikusoka had her first publication through IIED, and increased her publications where her enrolment in the Oxford University biodiversity fellowship led to a new publication that provided supportive evidence on the conservation outcomes of CTPH health interventions. Reference is: Kalema-Zikusoka. G, Stephen Rubanga, Birungi Mutahunga and Ryan Sadler (2018). Prevention of Cryptosporidium and GIARDIA at the Human/Gorilla/Livestock Interface. Frontiers in Public Health. Brief Research Report. published: 14 December 2018 doi: 10.3389/fpubh.2018.00364

5 Sustainability and Legacy

The project achievements which are most likely to endure are:

(i) Utilisation of a more robust data collection system - the VHCT log books; engaging all VHTs as VHCTs, and VHCT quarterly meetings based on availability of funding.

(ii) Scaling of this One Health/PHE model to other partners through influencing policy change within organizations that want to adopt the approach and strengthening the partnership with the Uganda PHE Network that is linked to the East African Community who have adopted the PHE approach based on previous advocacy efforts of CTPH before this project began.

(iii) Additional research being conducted on the value of health interventions to conservation, which began in Year 3 with counterpart funding from Mulago Foundation and planning to continue this research partnership with Stanford University through applying for larger funding while comparing other models that are integrating health and conservation.

(iv) Project staff will be supported through funds that CTPH has mobilised from other donors. The project acquired tablets to enable future research and new computers for ongoing program implementation.

(v) The planned exit strategy is to continue to develop more robust and convincing research results and recommendations to enable more systemic scaling up of the CTPH model. There has been funding found for Mpungu subcounty control parishes at Bwindi, and there is increased interest from other donors who would like to know how our health interventions have resulted in conservation and sustainable development outcomes.

(vi) We plan to ensure a sustained legacy through seeking additional funding for Budongo Forest and Mount Elgon through joint proposals with JGI and UWA and other conservation partners, and disseminating project results to local, national and international stakeholders and donors.

6 Lessons learned

- Administrative: the project would have benefitted from also having regular meetings with other implementing partners, UWA and JGI from the beginning of the project, which would have made them better prepared to take the lead in expanding the model at Mount Elgon and Budongo Forest.

- Management: CTPH needed to get more involved in the design of the evaluation research that Oxford did. Questionnaires and field protocols were sent to key staff for comments and the overall design was discussed at project meetings, but it may have been better if time had been taken to explain the technical details of the research methods in more detail to CTPH staff in person. CTPH

staff may have had a better understanding of the nature of the research, and the adaptations required to the design due to data availability. They may also have been less lax in collecting key information for the researchers such as VSLA record books because they did not understand the importance and urgency.

- Technical: The BACI design only achieves desired results when appropriate baselines and controls are available. Where there is an absence of adequate controls, then other designs have to be used to meet the goals of the project.
- M&E: we learnt that we need to have SMARTer indicators and remove killer assumptions, this required updating the CTPH ToC, and project ToCs and revising the log frame accordingly.

6.1 Monitoring and evaluation

Monitoring and Evaluation was built into the project deliverables to ensure that we are on track and completing activities and achieving the planned outputs, outcomes and impact. Since the inception workshop, the log frame was revised to adapt to some changes in the project design brought about by changes in the project implementation, and to have SMARTer indicators for the outputs and outcomes to ensure that the activities and outputs contribute to the project Outcome. In Year 3, we added one additional indicator in the outcomes and also removed killer assumptions in the log frame. We also developed a Monitoring and Evaluation plan, which was useful to the project, see Annex 7.21.

The outcome indicators of achievement are:

- 0.1 An assessment of the effectiveness of CTPH's Bwindi project in bringing about poverty alleviation and biodiversity conservation outcomes, using robust impact evaluation methodologies
- 0.2 Recommendations for improvements to the Bwindi CTPH project are adopted and implemented.
- 0.3 The approach is rolled out to Mount Elgon National Park and Budongo Forest Reserve, guided by evidence from the evaluation.
- 0.4 Analysis of data, production of findings and recommendations in project report where **a**greed set of recommendations for action, based on research findings are developed into a 5-year prioritised Strategic Plan
- 0.5 Recommendations from the evaluations are included in national biodiversity policies.

We measured these through means of verification in the log frame. The three main implementing partners, CTPH, Oxford University and IIED shared the M&E work.

Additionally CTPH internal mechanisms for monitoring progress on the project included weekly internal team meetings and annual partner meetings. In March 2018, CTPH revised the theory of change for CTPH model and the project, through hiring an impact evaluation expert, Michael Kidodoido, to facilitate the process. Please see new ToCs Annex 7.7

Areas of improvement were:

(i) CTPH getting more engaged with the aims, methods and outputs of the research, both at the beginning and throughout.

(ii) CTPH staff receiving training in monitoring and evaluating data sets to improve the quality and adaptive management.

(iii) CTPH hiring an experienced Impact and Learning Officer who is a statistician with a core function of projects monitoring and evaluation and strengthening data collection of VHCTs in particular.

Self Evaluation of the VHCT model

CTPH conducted a self-evaluation of the VHCT model to identify what has worked well over time and why or why not. The evaluation was designed with support from Dr. Lynne Gaffikin, CTPH Advisory Board Member and Adjunct Professor at Department of Obstetrics and Gynecology, School of Medicine, Stanford University and carried out by the new Impact and Learning Officer (Monitoring and Evaluation Officer) hired in Year 3 of the project, Edwin Ainerukundo.

Key objectives were to:

i) recommend needed modifications to the VHCT scope of work, their motivation strategies and documentation abilities;

ii) identify and improve gaps in delivery of VHCT interventions

Using a sentinel study design, CTPH investigated two groups of households: the most and least visited by a subset of “best performing” VHCTs who were identified by analyzing VHCT annual reporting rates

from CTPH's VHCT database and subsequent ranking by CTPH's Community Health Field Officer and VHCT leaders. Six (three from each of the 2 parishes) among the 24 VHCTs with the highest reporting rate were ultimately chosen as the "most active" VHCTs. Next, CTPH extracted raw logbook data for each of the selected VHCTs and an in-person interview was conducted in sixty most- and sixty least-visited households, selected according to a visit ranking formula. Univariate and bivariate analyses were performed on the two datasets and comparisons across the two to identify any important differences.

There were some notable differences between the two groups in select sanitation, hygiene and conservation indicators. Family planning (FP) use was relatively high in both groups and the percentage difference between groups was small for FP related indicators, potentially due to gradual changes initiated by CTPH in the two parishes in society norms around the sensitive issue of birth control and family sizes.

These findings imply that visit frequency and timing can make a difference for the VHCT model to most effectively bring about conservation as well as health outcomes. Knowing this, the model should be strengthened to effectively reach all "at risk" homes around Bwindi Impenetrable National Park (BINP), and scaled to other protected areas in Africa. The full report is in Annex 7.13.

6.2 Actions taken in response to annual report reviews

We responded to issues raised in the past two annual reports and partners were in agreement where we had conference calls to discuss the project and responded to it. The first issue was making the monitoring and evaluation more robust, which we did by hiring an impact evaluation expert to facilitate a session to revise the theories of change of both the CTPH project and the Darwin-funded project, as well as the project log frame, to make the indicators SMARTer. We also acted upon the following:

(i) Described in greater detail how the various partner relationships are being managed and their inputs coordinated.

(ii) Reported on the potential impacts of the delay in data collection. In the second year data collection and analysis of the social impact evaluation component of the research was completed. However after the project review meeting it was recommended to do additional research to capture the full contribution of CTPH's approach to conservation, which was completed in Year 3. The gorilla health data was cleaned and analysed initially with R software and then later using STATA software. The delay in analysis of research data did not affect the scaling to Mount Elgon and Budongo, because the Theory of Change and log frame of the project were revised to state that the research is informing more effective scale up of the model for improved conservation and sustainable development outcomes rather than determining whether or not there should be scale up of the approach to other protected areas.

(iii) Added some baselines against which to track progress towards quantifiable project indicators, primarily around the number of households that will change through adoption of good public health and conservation practices as a result of the project interventions.

(iv) Added an indicator on committed funding for scale-up.

(v) Reviewed the impact statement in the log frame to improve its clarity and make reporting against it easier/clearer from "Integration of conservation and development is mainstreamed through recognition that investments in primary health care can provide an entry point to alleviating poverty and improving biodiversity conservation outcomes" to "Improved community health and enhanced biodiversity in and around Protected Areas of Uganda".

(vi) In the second annual report, we reported progress during the reporting period with clear evidence including how we are addressing gender.

(vii) Discussed with Darwin internal evaluator the changes that need to be made to the log frame, and made track changes that were approved. We changed the project design so that the outputs and outcomes are not dependent on research findings, but rather that research findings inform better implementation of outputs to achieve better project outcomes for both conservation and health.

(viii) After the comments on the Year 1 annual report, we explained to the Darwin Initiative why the capital and M&E lines had not been spent because purchase of computers was postponed to Year 2, and the Year 2 annual review meeting was postponed from March 2017 in Year 1 to April 2017 in Year 2, because of availability of key project staff from the UK to attend the meeting at CTPH office in Entebbe, Uganda.

7 Darwin identity

- The Darwin Initiative Logo appeared on all the publications and presentations made during this project period including presentations and workshop and meeting agendas. This project has been mentioned in the CTPH, IIED and Oxford University ICCS websites and blogs

- The UK Government Logo appeared on all the publications and presentations made during this project period
- The Darwin initiative funding was recognised as a distinct project with a clear Identity from other projects and CTPH programs
- The Darwin Initiative is well understood in the country especially by conservation and community development organisations and now also being increasingly recognised by health organizations in the government.
- The CTPH twitter account, @CTPHuganda has linked back to the Darwin initiative. We also developed joint blogs with IIED about the Darwin project, which are on the CTPH website.

8 Finance and administration

Receipts have not yet been sent from CTPH to the Darwin Initiative so the figures in the report are indicative figures and are clearly being marked as Draft. The Actual claim form will be taken as the final accounting for funds.

8.1 Project expenditure

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			1%	
Consultancy costs			0%	Payment to a researcher attached to Oxford University(Annalyse Moskeland)
Overhead Costs			0%	
Travel and subsistence			17%	The implementing partners spen less on travel in year 3 than wha was budgeted
Operating Costs			-16%	Increased because an additional household census baseline survey was conducted in Year 3 on request of local project partners to be able to more effectively measure the project's impact in the long term
Capital items				
Monitoring & Evaluation (M&E)			4%	The Advisory committee meeting incurred a lower cost than what was budgeted
Others				
TOTAL			**0%**	

Staff employed (Name and position)	Cost (£)
Dr. Gladys Kalema-Zikusoka - Project Director	
Dr. James Watuwa/Dr. Innocent Djossou - Conservation Program Officer	
Alex Ngabirano - Community Health Field Officer	
Steven Rubanga - Animal Health Program Officer	
Nelson Okello/ Victoria Lanyero - Accountant	
Edwin Ainerukundo - Monitoring and Evaluation and Training	
Henry Travers - Project Researcher Oxford	
Dilys Roe IIED - Policy Engagement	
Fiona Roberts - IIED Administration	

Francesca Booker - IIED Administration	1,855
TOTAL	47, 455

8.2 Additional funds or in-kind contributions secured

The Global Development Network through the Japanese Social Development Fund provided funding for scaling up of the Village Health and Conservation Team (VHCT) approach sustained by group income generating projects and Village Saving and Loan Associations to Mount Elgon National Park in Uganda and Virunga National Park in Democratic Republic of Congo. GDN-JSDF funding will cover some of the project costs, which included salaries, overhead, national travel, meetings and a laptop, amounting to £8,504.

Oxford University provided counterpart funding amounting to £22,010, which included staff time for Prof EJ Milner-Gulland, overhead and a biodiversity fellowship towards CTPH staff training at Oxford University.

CTPH receives donations from individuals amounting to 8% of its budget; some of this will be used to support operational costs at Bwindi. CTPH also hosts university students to conduct research and field practical training on service delivery, data collection and monitoring and evaluation of human, animal and ecosystem health issues being addressed; fees from the students help to support field operation costs amounting to 3.5% of its budget. This counterpart funding will amount to £27,810.

UWA in kind staff time on the project amounted to £3,750

JGI in kind staff time on the project amounted to £3,750.

Source of funding for project lifetime	Total (£)
Global Development Network	
Disney Conservation Fund	
Mulago Foundation	
National Geographic	
Critical Ecosystem Partnership Fund	
TOTAL	

Source of funding for additional work after project lifetime	Total (£)
Disney Conservation Fund	
Mulago Foundation	
Tusk Trust	
Critical Ecosystem Partnership Fund	
Whitley Fund for Nature	
TOTAL	

8.1 Value for Money

We tried wherever possible to save costs by combining resources so that UK based project partners attend meetings in Uganda for this and other projects that they are engaged in on the Darwin Initiative. Also, the Ugandan based project partner gave presentations about the project in the UK when attending other meetings at IIED and Oxford University Biodiversity Fellowship. This reduced the overall expenditure on the travel budget. We also saved costs through obtaining counterpart funding and allowing flexibility of timing of activities where some activities including recruitment and induction training of VHCTs at Mount Elgon was held earlier than scheduled in Year 1 instead of in Year 2. The Budongo Forest component of the project was conducted cost effectively where the CTPH VHCT

training strengthened JGI's initial engagement with some of the same VHCTs to promote water, hygiene and sanitation (WASH) activities.

Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: (Max 30 words) Improved community health and enhanced biodiversity in and around Protected Areas of Uganda.			
Outcome: (Max 30 words) The integration between access to primary healthcare with biodiversity conservation in Uganda is mainstreamed for sustainable use of Protected Areas	0.1 An assessment of the effectiveness of CTPH's Bwindi project in bringing about poverty alleviation and biodiversity conservation outcomes, using robust impact evaluation methodology 0.2 Recommendations for improvements to the Bwindi CTPH project are adopted and implemented. 0.3 The approach is rolled out to Mount Elgon National Park and Budongo Forest Reserve, based on the evidence from the evaluation. 0.4 Analysis of data, production of findings and recommendations in project report where **a**greed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan 0.5 Recommendations from the evaluations are included in national biodiversity policies. 0.6 Committed funding for scale up is obtained from at least 2 donor agencies	0.1 Minutes of project meetings, evaluation report, peer-reviewed publications, conference presentations 0.2. CTPH project documents showing approval and implementation of recommendations 0.3. Minutes of collaborative meetings with JGI and UWA, management plans for projects approved, results of preliminary baseline studies in project reports 0.4. Minutes of workshops and policy briefings to Ministries, discussion forums (U-PCLG, PHE), showing interest in taking up the approach, and international interest in the media, downloads of reports, and engagement with CTPH. 0.5 Strategic Plan agreed at research workshop documented in workshop minutes. Letters of commitment from donors to fund the scale up to project roll out sites including Bwindi, Mount Elgon or Budongo Forest	Evidence of health-conservation link accepted as sufficiently conclusive to warrant continued/expanded use of intervention [Given anecdotal evidence to date on the positive impact of the project we are confident that this will be the case] Continued supportive relationship and close partnership with UWA and the district local government at Bwindi means we are able to continue to implement and improve our project, based on the evaluation results. [CTPH is committed to acting on evaluation results. UWA is a project partner and we have eight years of close collaboration with local partners at Bwindi] Capacity to implement evaluations findings in Budongo and Mt Elgon is effectively developed [CTPH works closely with the partners, and already has funding and commitments to scale up the programme to these locations] Other parties are interested in our findings and willing to use them in their own work. [We have close working relationships with national-level stakeholders, who have already expressed their interest to take on board our findings.]

Outputs: 1. An evidence base of the outcomes of integrating healthcare with biodiversity conservation is built, based on 5,200 households in three frontline parishes at Bwindi and using a Before-After-Control-Intervention evaluative design		1.1 Project meeting minutes of the Inception workshop, agreed research protocol document. 1.2-1.4. Project meeting minutes from interim project workshop (end year 1), field reports, Darwin year 2 report, project research report at Research Workshop (end year 2). 1.5. Evaluation report, meeting minutes of Research Workshop (end year 2), presentations to project partners and other stakeholders in Uganda, peer-reviewed paper, conference presentations internationally (in year 3).	Continued community willingness to participate in the studies [Community feels positively towards CTPH and preliminary discussions have suggested they will be happy to participate] Previous years' ecological and social data are available to allow statistical comparisons. External factors support the implementation of the survey to inform timely action. [Experienced researchers with good track record, and strong oversight by project leader and core team.]
2. Strategic plans to guide changes in management of the Bwindi project by CTPH, based on the evidence base, are developed.	2.1. Agreed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan (with timescales) during the Research Workshop (end year 2) 2.2. CTPH, UWA and local partners implement at least 2 specific changes to their Bwindi project, based on the Strategic Plan (mid year 3). 2.3. Village Health and Conservation Teams report improved attitudes towards the Park and the project, and improved uptake of healthcare by over 10,000 participating households in target villages, measured through a 20% increase in number of model households that have gained knowledge about disease transmission between humans and wildlife and the importance of forest and wildlife	2.1. Strategic Plan agreed at research workshop (by end Year 2), documented in workshop minutes. 2.2. Minutes of final workshop (end year 3) showing action against deliverables. 2.3. Field reports from VHCT leaders, direct observation by CTPH staff, and discussions with local leaders in participating and neighbouring areas, presented at final workshop (end year 3).	Evaluations generate clear and feasible recommendations for improvements. [Impact evaluations typically produce a range of recommendations of varying priority and timescale - we will take a progressive adaptive management approach in order to ensure CTPH can make short-term changes that are feasible with a high return on investment in the short run; longer term actions will be captured in the Strategic Plan] There is a will to act on the part of local stakeholders (including UWA and CTPH) based on the evaluation. [The fact that the initiative to do this evaluation comes from CTPH means there is a strong will to act on its conclusions] There will be time for VHCTs to register improvements in perceptions of the project in the last 6 months of the project

	conservation, acquired any of the following: hand washing facilities, drying racks, drinking boiled water, planting trees, using energy saving cook stoves (end year 3).		[Robustly measurable improvements in outcomes and impact are not feasible, but short-term improvements in attitudes, perceptions and project team/participant activities should be discernable]
3. Guidelines to include community health programmes as part of conservation management, by at least one additional national park in Uganda - Mount Elgon National Park - and one additional conservation agency in Uganda within the NGO sector - Jane Goodall Institute (in Budongo Forest Reserve), are developed and implemented.	3.1 Inception workshop held to develop a theory of change for Bwindi and the two roll-out sites and associated monitoring and evaluation tasks (early year 1) 3.2 Baseline survey of local people's health status, attitudes and social norms, local forest use, and wildlife health status performed in Budongo and Mount Elgon, led by partner organisations, using the surveys designed for Bwindi, in order to provide the Before-Control elements of a BACI design for future monitoring and evaluation in these locations (by mid year 2). 3.3 Completed design of integrated conservation and health programme in Budongo and Mount Elgon, informed by the preliminary findings of the evaluation, and presented at Research Workshop (by end year 2). 3.4. Recruitment and training of new VHCTs at Mt Elgon and Budongo, comprising 93 local people in 93 villages and 9 parishes with at least 50% women (by end year 2) 3.5. Conservation Through Public Health programmes are implemented by UWA – Mount Elgon Conservation Area Management and JGI-Uganda - Budongo Forest Reserve, through new VHCT teams (by mid year 3).	3.1. Minutes of project inception workshop. 3.2 Documented evidence (project reports, conservation agency reports, meeting minutes) of design of new projects, including report of the Research Workshop at end of year 2, with the Theory of Change and planned project structure laid out. 3.3 Presentations and reports by UWA/JGI to the Final Workshop of the project (end year 3), as well as published Project Plans, including M&E strategy, for each of the new sites. 3.4. Minutes of training workshops, lists of names of VHCT team members in each location. 3.5. Programme reports, meeting minutes, websites.	Continued commitment by JGI, UWA and other partners on this project, and funding to roll out, remains secure. Evaluations at Bwindi have applicable lessons for rollout in Budongo and Mount Elgon, by the end of year 2. No unforeseen circumstances preclude the roll-out of the programme. [funding sources are already confirmed, and in principle agreement has already been given]

	3.6 Follow-up survey at Mount Elgon and Budongo Forest to assess short-term changes in attitudes and health practices, by assessing over 10,000 participating households in target villages, measured through a 20% increase in number of model households that have gained knowledge about disease transmission between humans and wildlife and the importance of forest and wildlife conservation, acquired any of the following: hand washing facilities, drying racks, drinking boiled water, planting trees, using energy saving cook stoves (by end year 3)		
4. A communication and dissemination strategy to increase the understanding of linkages between primary healthcare and conservation among target audiences in Uganda and internationally, is developed.	4.1 A communication framework document is published and shared 4.2 In Year 3,, a workshop held in Uganda, with the Poverty and Conservation Learning Group, Uganda Wildlife Authority, Jane Goodall Institute and the Ugandan government's National Environmental Management Authority and National Forestry Authority to share the research framework and preliminary findings from the Bwindi evaluation and Budongo/Mt Elgon baseline survey with national-level stakeholders in Uganda. 4.3 By end of year 2, two Research Workshops will be held to present the results of the Bwindi impact evaluation with local stakeholders in Uganda and international stakeholders in London 4.4 A Research Report and a Policy Brief are published, disseminated physically and virtually by IIED and	4.1, 4.2 Workshop proceedings 4.2. Policy brief available online, list of organisations receiving the hard copy. 4.3. Paper accepted, abstract in conference proceedings 4.4 and 4.5 Photographs, field team reports, final Darwin report.	National-level and international target audiences are interested in learning about the potential of health as a conservation and sustainable development approach [there is increasing international interest in this approach, as evidenced by Darwin Initiative call priority; national-level audiences already interested in the CTPH project]

	CTPH, and uploaded on CTPH and IIED websites and mentioned on CTPH and IIED social media facebook and twitter pages (by end of year 3). 4.5. By end of year 3, at least one paper submitted to a high impact peer-reviewed journal, describing the evaluation of the Bwindi project, and presented in at least one international conference. 4.6. By mid-year 3, village-level dissemination carried out through the VHCTs in the 44 participating villages at Bwindi to report back on research findings and planned changes to the project based on their input. 4.6. In early Year 3, village-level dissemination in Budongo and Mt Elgon to launch the new CTPH programmes in their areas, featuring the newly appointed VHCTs.		

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 Before-after control intervention strategy variables and data collection tool developed at inception workshop
1.2 Collation of datasets on human and gorilla health from CTPH, gorilla conservation and health partners and from secondary data
1.3 Data collected from 5,200 treatment and control households using household surveys
1.4 Forest transects walked (10 per area), and data collected on forest use
1.5 Datasets analysed and research report written

2.1. Strategic plan developed for implementation of priority actions at Bwindi, based on research findings
2.2. Implementation of priority actions at Bwindi
2.3. VHCTs implement revised project with input from project participants, and report back to CTPH

3.1 Inception workshop held to develop a theory of change and associated monitoring and evaluation tasks

3.2. Baseline survey carried out at Mount Elgon and Budongo to understand health status, attitudes and forest use prior to intervention

3.3. Design for CTPH roll-out agreed and action plan prepared for the two new sites

3.4. Selection and training of 93 VHCT members in 9 parishes, minimum 30% women.

3.5. Roll-out of CTPH model to Mount Elgon and Budongo, targeting 9,300 households for improved health care and reduced threat to the Parks

3.6 Post survey of random sample at Mount Elgon and Budongo to assess changes in conservation attitudes and health behaviour change

4.1 Sharing of preliminary findings through a workshop

4.2. Sharing of research results through a Research Workshop.

4.3. Write and publish Research Report and policy briefs, and online materials to share results

4.4. Submit a manuscript and conference abstract describing the evaluation and its results.

4.5. Sharing of results to local audience in Bwindi through VHCT meetings and dissemination to participants.

4.6. Meetings to launch new programmes with VHCTs in Mt Elgon and Budongo

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress an
Impact: Improved community health and enhanced biodiversity in and around Protected Areas of Uganda.		New commun reached with conservation trained to bec Teams (VHC Elgon.
Outcome The integration between access to primary healthcare with biodiversity conservation in Uganda is mainstreamed for sustainable use of Protected Areas	0.1 An assessment of the effectiveness of CTPH's Bwindi project in bringing about poverty alleviation and biodiversity conservation outcomes, using robust impact evaluation methodology 0.2 Recommendations for improvements to the Bwindi CTPH project are adopted and implemented. 0.3 The approach is rolled out to Mount Elgon National Park and Budongo Forest Reserve, based on the evidence from the evaluation.	Research w evaluation m some identifie Recommenda CTPH proje quantitative a

Project summary	Measurable Indicators	Progress an
	0.4 Analysis of data, production of findings and recommendations in project report where **a**greed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan 0.5 Recommendations from the evaluations are included in national biodiversity policies. 0.6 Committed funding for scale up is obtained from at least 2 donor agencies	implementatio implementatio The approach year 1 based and 85 VHC household le through Mos year 3 of this a new data co VHCT logboo monitor beha The approach 3 quarter 1, w BCFS who ho baseline su meetings that VHTs were tr using the ne and monitor b Data was coll findings and r during a proje Following the new strategy Through rese during worksh recommenda influence nati sustainable d Committed fu National Park Fund, Mula Partnership F from JGI do Development

Project summary	Measurable Indicators	Progress an
Output 1. An evidence base of the outcomes of integrating healthcare with biodiversity conservation is built, based on 5,200 households in three frontline parishes at Bwindi and using a Before-After-Control-Intervention evaluative design	0.1 An assessment of the effectiveness of CTPH's Bwindi project in bringing about poverty alleviation and biodiversity conservation outcomes, using robust impact evaluation methodology 0.2 Recommendations for improvements to the Bwindi CTPH project are adopted and implemented. 0.3 The approach is rolled out to Mount Elgon National Park and Budongo Forest Reserve, based on the evidence from the evaluation. 0.4 Analysis of data, production of findings and recommendations in project report where **a**greed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan 0.5 Recommendations from the evaluations are included in national biodiversity policies. 0.6 Committed funding for scale up is obtained	The output in establish cau health impro outcomes, fo parishes at Intervention e "An evidence integrating he built, based o parishes at B Intervention e outcomes to research met 1.1 Variables agreed u in year 1 1.2 Collation and time 1.3 Surveys treatmen sampling complete 1.4 Survey o year 2 an *1.5* Analysis recomme for the ab review m recomme conducte 1.6 Some rec were use strategy 1.7 Research meeting this advo

Project summary	Measurable Indicators	Progress an
		1.8 Committe
Activity 1.1 Before-after control intervention strategy variables and data collection tool developed at inception workshop		Completed ar
Activity 1.2. Collation of datasets on human and gorilla health from CTPH, gorilla conservation and health partners and from secondary data		Data sets we gorilla health secondary da data from hea data was obta Statistics
Activity 1.3. Survey carried out of 5,200 households in Bujengwe and Mukono parishes (2,600 participating households; treatment) and Mpungu Sub county (2,600 non-participants, control), looking at health status, uptake of CTPH activities, attitudes to the Park and the project, understanding of health/conservation links, social norms around Park and health, and suggested improvements to the project, by mid year 2.		Surveys were of 5,200 hous Quantitative r research was the final repo
Activity 1.4. Forest transects walked (10 per area), and data collected on forest use		Forest transe analysed and 7.10
Activity 1.5 Datasets analysed and research report written		Preliminary re the second ar research repo

Project summary	Measurable Indicators	Progress an
Output 2. Strategic plans to guide changes in management of the Bwindi project by CTPH, based on the evidence base, are developed	2.1. Agreed set of recommendations for action, based on research findings, developed into a 5-year prioritised Strategic Plan (with timescales) during the Research Workshop (end year 2) 2.2. CTPH, UWA and local partners implement at least 2 specific changes to their Bwindi project, based on the Strategic Plan (mid year 3). 2.3. Village Health and Conservation Teams report improved attitudes towards the Park and the project, and improved uptake of healthcare by over 10,000 participating households in target villages, measured through a 20% increase in number of model households that have gained knowledge about disease transmission between humans and wildlife and the importance of forest and wildlife conservation, acquired any of the following: hand washing facilities, drying racks, drinking boiled water, planting trees, using energy saving cook stoves (end year 3).	The output in management evaluation" to "Strategic pla the Bwindi pr base, are dev These recom developed ba reports. These will be availability of VHCTs starte Elgon, Bwind 3.
Activity 2.1. Strategic plan developed for implementation of priority actions at Bwindi, based on research findings		An implemen research reco
Activity 2.2. Implementation of priority actions at Bwindi		Priority actior having more collection and as VHCTs to are each resp
Activity 2.3 VHCTs implement revised project with input from project participants, and report back to CTPH		VHCTs starte were trained
Output 3. Community health programmes are included as part of conservation management by at least one additional national park in Uganda - Mount Elgon National Park - and one additional conservation agency in Uganda within the NGO sector - Jane Goodall Institute (in Budongo Forest Reserve), by end of year 3.	3.1 Inception workshop held to develop a theory of change for Bwindi and the two roll-out sites and associated monitoring and evaluation tasks (early year 1) 3.2 Baseline survey of local people's health status, attitudes and social norms, local forest use, and wildlife health status performed in Budongo and Mount Elgon, led by partner organisations, using the surveys	The output in health progra conservation national park and one addi within the NG Budongo For

Project summary	Measurable Indicators	Progress an
	designed for Bwindi, in order to provide the Before-Control elements of a BACI design for future monitoring and evaluation in these locations (by mid year 2). 3.3 Design completed of integrated conservation and health programme in Budongo and Mount Elgon, informed by the preliminary findings of the evaluation, and presented at Research Workshop (by end year 2). 3.4. Recruitment and training of new VHCTs at Mt Elgon and Budongo, comprising 93 local people in 93 villages and 9 parishes with at least 50% women (by end year 2) 3.5. New conservation through public health programmes implemented by UWA – Mount Elgon Conservation Area Management and JGI-Uganda - Budongo Forest Reserve, through new VHCT teams, aiming to improve health outcomes for 9,300 households, with appropriate monitoring and evaluation frameworks in place (by mid year 3). 3.6 Follow-up survey at Mount Elgon and Budongo Forest to assess short-term changes in attitudes and health practices (by end year 3)	"Guidelines to as part of con additional nat National Park agency in Ug Goodall Instit developed an Inception wor Baseline surv Design of inte programme in completed re Recruitment a Elgon occurre occurred at B Bwindi in yea CTPH progra Mount Elgon year 3 by JGI Follow up sur because of th cohort studies
Output 3.2 Baseline survey carried out at Mount Elgon and Budongo to understand health status, attitudes and forest use prior to intervention		Completed as
Output 3.3 Design for CTPH roll-out agreed and action plan prepared for the two new sites		Completed as
Output 3.4 Selection and training of 93 VHCT members in 9 parishes, minimum 30% women.		This began at were selected a
Output 3.5 Roll-out of CTPH model to Mount Elgon and Budongo, targeting 9,300 households for improved health care and reduced threat to the Parks		Roll out began funding from
Output 3.6 Post survey of random sample at Mount Elgon and Budongo to assess changes in conservation attitudes and health behaviour change		A post survey

Project summary	Measurable Indicators	Progress an
Output 4. A communication and dissemination strategy to increase the understanding of linkages between primary healthcare and conservation among target audiences in Uganda and internationally, is developed.	4.1 A communication framework document is published and shared 4.2 In Year 3, a workshop held in Uganda, with the Poverty and Conservation Learning Group, Uganda Wildlife Authority, Jane Goodall Institute and the Ugandan government's National Environmental Management Authority and National Forestry Authority to share the research framework and preliminary findings from the Bwindi evaluation and Budongo/Mt Elgon baseline survey with national-level stakeholders in Uganda. 4.3 By end of year 2, two Research Workshops will be held to present the results of the Bwindi impact evaluation with local stakeholders in Uganda and international stakeholders in London 4.4 A Research Report and a Policy Brief are published, disseminated physically and virtually by IIED and CTPH, and uploaded on CTPH and IIED websites and mentioned on CTPH and IIED social media facebook and twitter pages (by end of year 2). 4.5. By end of year 3, at least one paper submitted to a high impact peer-reviewed journal, describing the evaluation of the Bwindi project, and presented in at least one international conference. 4.6. By mid-year 3, village-level dissemination carried out through the VHCTs in the 44 participating parishes at Bwindi to report back on research findings and planned changes to the project based on their input. 4.6. In early Year 3, village-level dissemination in Budongo and Mt Elgon to launch the new CTPH programmes in their areas, featuring the newly appointed VHCTs.	The output ind of linkages bet among target a to "A communica the understand and conservati internationally A communicat will be comple An inception NFA was held level worksho completed in The research w a project revie year 2 quarter international st IIED research was published Oxford Univer communicatio Village level d Conpyear 3.

Activity 4.1 Sharing of preliminary findings through a workshop	Completed at the end of year 2, see section 4.1 of the report, annex…
Activity 4.2 Sharing of research results through a Research Workshop.	Research results were shared with national level stakeholders at a U-PCLG meeting
Activity 4.3 Write and publish Research Report and policy briefs, and online materials to share results	Policy brief was published in year 3

Project summary	Measurable Indicators	Progress an
Activity 4.4 Submit a manuscript and conference abstract describing the evaluation and its results.	Not implemented	
Activity 4.5 Sharing of results to local audiences in Bwindi through VHCT meetings and dissemination to participants.	Completed in year 3	
Activity 4.6 Meetings to launch new programmes with VHCTs in Mt Elgon and Budongo	Meetings were held with Mount Elgon stakeholders in year 1 of the project. Meetings will be held with Budongo local stakeholders in year 3 quarter 1.	

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis	0					
1b	Number of PhD qualifications obtained	0					
2	Number of Masters qualifications obtained	0					
3	Number of other qualifications obtained	0					
4a	Number of undergraduate students receiving training	0					
4b	Number of training weeks provided to undergraduate students	0					
4c	Number of postgraduate students receiving training (not 1-3 above)	0					
4d	Number of training weeks for postgraduate students	0					
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (e.g., not categories 1-4 above)	0					
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	0					
6b	Number of training weeks not leading to formal qualification	0					
7	Number of types of training materials produced for use by host country(s) (describe training materials)	0					

Research Measures		Total	Nationality	Gender	Title	Language	Comments/ Weblink if available
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	0					Participatory process?
10	Number of formal documents produced to assist work related to species identification, classification and recording.	0					

11a	Number of papers published or accepted for publication in peer reviewed journals	0					
11b	Number of papers published or accepted for publication elsewhere	0					Location?
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	0					
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	0					
13a	Number of species reference collections established and handed over to host country(s)	0					
13b	Number of species reference collections enhanced and handed over to host country(s)	0					

Dissemination Measures		**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	8	Uganda	…% female	Project title	English	
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	2	UK		IIED, Oxford University		

Physical Measures		**Total**	**Comments**
20	Estimated value (£s) of physical assets handed over to host country(s)	Tablets costs	
21	Number of permanent educational, training, research facilities or organisation established	0	
22	Number of permanent field plots established	0	Please describe

Financial Measures	**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**

23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work		USA				

Annex 4 Aichi Targets

Please note which of the Aichi targets your project has contributed to.

Please record only the **main targets** to which your project has contributed. It is recognised that most Darwin projects make a smaller contribution to many other targets in their work. You will not be evaluated more favourably if you tick multiple boxes.

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	√
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	√
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	√
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and	

	implemented for minimizing genetic erosion and safeguarding their genetic diversity.	
14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

Annex 5 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (*) all publications and other material that you have included with this report

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
Journal	Prevention of Cryptosporidium and GIARDIA at the Human/Gorilla/Livestock Interface. Kalema-Zikusoka. G, Stephen Rubanga, Birungi Mutahunga and Ryan Sadler (2018).	Ugandan	Ugandan	Female	Frontiers in Public Health.	Brief Research Report. published: 14 December 2018 doi: 10.3389/fpubh.2018.00364
Report	"Monitoring and evaluation for non-professionals: How to ensure quality in data-collection processes" published by Henry Travers, E.J. Milner-Gulland, Dilys Roe, Gladys Kalema Zikusoka, Alex Ngabirano	UK	UK	Male	IIED	https://pubs.iied.org/pdfs/17647IIED.pdf

Annex 6 Darwin Contacts

Ref No	23-023
Project Title	Can Health Investments Benefit Conservation and Sustainable Development?
Project Leader Details	
Name	Dr. Gladys Kalema-Ziksuoka
Role within Darwin Project	Project Lead
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Fax/Skype	
Email	
Partner 1	
Name	Prof. EJ Millner Gulland
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Role within Darwin Project	Research Lead
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Fax/Skype	
Email	
Partner 2 etc.	
Name	Dilys Roe
Organisation	International Institute of Environment and Development (IIED)
Role within Darwin Project	Research to Policy engagement Lead
Address	
Fax/Skype	
Email	
Partner 1	
Name	Aggrey Rwetsiba
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Role within Darwin Project	Scaling partner lead at Mount Elgon National Park
Address	
Fax/Skype	
Email	
Partner 2 etc.	
Name	Dr. Peter Apel
Organisation	Jane Goodall Institute (JGI)
Role within Darwin Project	Scaling partner lead at Budongo Forest Reserve
Address	
Fax/Skype	
Email	