

Jasmine Trinder 2:07

Okay, so I think I just got a thumbs up from my team to say that we are live streaming, so we'll make a start. Hello, and welcome to everyone who's tuned in for this.

Our first keynote talk of the very first Bio-Diverse Festival, very exciting. Our first keynote speaker is Dr. Gladys Kalema-Zikusoka. And just before I introduce her, I'll do a little bit of housekeeping, just let you know how everything's going to work. And then I'll hand over. So I'm Jasmine. I'm one of the co-organisers of the Bio-Diverse Festival. And I'll be hosting the talk for today. Just to let you know that as with any online events, there are, there is the possibility that we'll experience some technical difficulties or some kind of connection issues. Don't worry if this does happen, we are recording the talk. Um, so if there are any issues with the live stream, we will be uploading the talk to our YouTube, so you don't need to worry about missing out. And there should also be time hopefully at the end of the talk for short Q&A. So if you do have any questions that you'd like to ask us about her talk, then you can submit them either via the Google form that is linked in the description below the video. Or if you have a YouTube account and are happy for your name to appear next to your question, then you can also comment directly via the YouTube Live Chat the comments in the video. We will be limited with time for questions. So sorry if we don't get to address all of your questions, but hopefully there'll be time for a few. So it is my pleasure to introduce our keynote speaker, Dr. Gladys Kalema-Zikusoka. Gladys is Uganda's first wildlife veterinarian, and the founder and CEO of Conservation Through Public Health, which is a nonprofit organisation based in Uganda. That works protecting gorillas and other wildlife from disease transmitted through humans and other livestock. Gladys has won numerous awards. I'd be here all day if I were to list them all. So I'll just let you know about two awards that she has won this year, which are the 2020 Saint Andrews prize for the environment. And she was also the first African to win the 2020 Aldo Leopold award for monologists. So it's been an exciting year for Gladys already. Um, I will be turning my camera and audio off for the duration of the call just in the hope that it boosts our internet connection. I am obviously still here, and I'll reappear at the end Gladys's presentation for the Q&A. So over to your Gladys when you're ready.

Gladys Kalema-Zikusoka 4:39

Well, thank you so much for inviting me. I'm really looking forward to giving a presentation and I'm going to use a PowerPoint presentation just now. Can you see my screen? Okay. All right. Can you see my screen?

Jasmine Trinder 5:11

Yeah, I can see you presenting.

Gladys Kalema-Zikusoka 5:14

Great. I'm really excited to be on the Bio-Diverse Festival today. And because this the main topic, the main thing that's on everybody's mind right now is COVID-19. When I was invited by Tanith to give a talk, I thought that I would give my talk on the impact of COVID-19 on gorilla conservation. I've been working with mountain gorillas for, I would say over 25 years. First as a vet student, when I went there from the Royal Vet College, studying parasites in the dung, parasites and bacteria in the dung of gorillas, that time there were only two gorilla groups habituated for tourism. And then later on, I got a job as the first veterinarian for the Uganda wildlife authority, where they started realising that they needed a vet, because they wanted to prevent the gorillas from picking up human diseases, and especially from tourists, such as a fatal flu like COVID-19. So that's why I was hired in 1996. And then in 2003, we founded

conservation through public health, based on the experiences I had, while setting up the vet units of Uganda wildlife authority. And having worked with gorillas over the years, I've come to realise that the threats to gorillas don't really change. But the level of threat depends on what's happening at this site. Actually, gorillas are found in eleven countries in Africa. And we have this four different subspecies of gorillas. There's the mountain gorillas, which I work very closely with and I've worked with for the past 25 years. Then there's also the eastern lowland gorillas, only found in DRC, western lowland gorillas found in most of those 11 countries in Africa, at least nine of them. And then there is the cross river gorilla only found in Nigeria and Cameroon. And of these, the mountain gorilla, which I've been working with for 25 years is the smallest in number. But we are pleased that in spite of it being only just over 1000 mountain gorillas left in the wild, 1063, a minimum of since the last census, the numbers are growing. So the mountain gorilla is the only gorilla subspecies, who has been taken off the critically endangered to the endangered. This happened in 2018. While all the other gorillas subspecies, even if many of them, two of them are higher in number than the mountain gorillas, are still critically endangered, because they continue to go down their numbers. And the one of the biggest threats really is habitat loss. Here in Bwindi Impenetrable National Park, there's a very high human population growth right up to the edge of the park, as you can see. And when I first went there, this really struck me suddenly, we had reached the forest. And there was agriculture right up to the end. And so when it became a national park in 1992, people were told that they can't go in, but the gorillas sometimes go out. And one of the first cases I had to deal with was a scabies, skin disease outbreak in the mountain gorillas, which was traced to people living around the park with very little health care. This baby gorilla died. And the rest only recovered with treatment. And the gorillas got the scabies from people when they go outside to eat people's banana plants. They actually prefer the stem to the fruits, which is really annoying for the local community, and they destroyed the plant. And in the process, people put out dirty clothing in scarecrows to scare away gorillas and other wildlife. And that's how they ended up getting the scabies. And this made us realise that I can't you can't really protect the gorillas without thinking about the health of the people. Because scabies is actually a very common skin disease in our low income groups of people, especially where there is inadequate hygiene. I actually did my vet schooling in Royal Vet College, University of London. And when I did it, there, people never used to get sarcoptic mange of scabies. And they explained to me that in rural places in Africa, in remote areas, especially it's quite common, and so at least I was relieved because you can easily treat animals for scabies. However, there's also the issue of poaching. The gorillas in Bwindi are lucky that the people in the area do not eat gorillas. We don't necessarily eat primates, especially in that part of Uganda. But people come to hunt other animals in the forest that live with the gorillas, the dyker small antelope and bush pig and they put out snares and gorillas get caught in them. Even worse things that can happen, which I'll talk about later in my presentation, but all of in other parts of Africa, people eat gorillas. And of course the threat of disease becomes more of an issue when we start to get gorillas used to us to view them for tourism.

So we founded CTPH because we're concerned about this disease transmission between people and wildlife. And I found it together with my husband Lawrence Zikusoka who's got a master's in telecom and and first degree in International Relations. And also with Steven Lubanga, who's a vet technician who's working with the Minister of Agriculture, and had worked with doing some work with him while working on the wildlife authority as the first veterinarian. And we promote biodiversity conservation by enabling people to coexist with wildlife. By improving health and livelihoods in and around protected areas and wildlife rich habitats in Africa. We would like

people to live together in balance and harmony, balance and harmony with wildlife, and local communities acting as stewards of the environments. So we have three integrated programmes that CTPH. Wildlife health and habitat conservation. When we first started out, we only focused on wildlife health and community health. Because we wanted to prevent zoonotic disease between people and animals. This was in 2003. But then we found out that the gorillas live within a habitat, and we can't necessarily protect them without conserving their habitats. And we also found that many people are unhealthy because they're poor. So we started an alternative livelihoods programme, which in the end, we found was better out, carried out as a social enterprise, where we work with farmers around the park to improve their livelihoods and prevent them having to go into poach the dyker and the bush pig. Then comes along COVID-19 when COVID-19 began, I used to see people wearing masks in China, and I thought, Hmm, this is quite scary. For a long time, we had been thinking it was important that people wear masks when visiting gorillas because people are getting too close. But with COVID-19, everything changed. Everything brought about a big change. And just to take us back, this Coronavirus, originated from bats, I keep I keep thinking this slide is very important because there were so many debates around the world and where COVID-19 came from. Some say came from a lab, some say 5G, there's all kinds of conspiracy theories. But actually, if you don't understand where it came from, we can't stop another pandemic like COVID-19 from occurring, and came from most likely from the Whuan wet market where animals are very stressed. And it's very easy from the virus to jump from one animal to another, and the species from different types. Some are wild some are domestic, and then very bad conditions. And once an animal is stressed, the virus spreads from one to another. And the COVID-19 was not the first pandemic actually, but it was the first pandemic to reach almost every country in the world, and being as contagious as the common flu, but affecting the both the upper and lower respiratory tract. So with SARS and MERS, which occurred in Southeast Asia and then Middle East, people died, many people died who got it, but it wasn't as contagious because it mainly focused on the lower respiratory tract. Whereas COVID-19 like the common flu is very contagious but also affects the lower respiratory tract. Hence, it's resulted in, you know, over 37 million cases in the world and 1 million deaths, over 1 million deaths and still counting. And unfortunately, 80% of people are asymptomatic, so it's so easy to spread. We don't even know who has it. We're lucky that in Uganda we haven't had we've had very few cases considering the rest of the world. We have over 9000 cases and 93 deaths very little compared to the rest of the world, which is something that we are at least lucky that we are not that badly off as a result of COVID-19. So we kept being asked are great ape susceptible to COVID-19. Yes, great apes are susceptible to COVID-19 just like they have been other respiratory diseases.

Many of the human common flu viruses have affected the great apes and human metapneumovirus is one of them in the mountain gorillas in Rwanda, where two gorillas died a mother and a baby. Then there's been a rhino C virus in wild chimps in Uganda in Kibale National Park, where at least five chimpanzees died out of a colony of 56. And then there's been human coronavirus outbreaks in chimps in Ivory Coast. And this was a mild outbreak. The chimps didn't die, but they got berries that some of them got sick, and it was traced to people living around them that reserve area in the Thai forest of Ivory Coast. And then we started to hear about COVID spreading to cats, you know, the large cats, tigers, lions, and also domestic cats and domestic dogs. And this is such an area in Lombardy where 4% of pet owners. I mean, 4% of pets belonging to people who got affected by COVID-19 had actually got antibodies to COVID-19, meaning they were exposed. And it's also going to farmed mink. So it's a highly contagious disease, which can easily jump from one species to another. But one of the most significant findings has been that we share exactly the same protein

receptors, as the great apes, gorillas, chimpanzees, and other world old word primates, where we have 12 amino acids, which are exactly the same on these protein receptors, which are susceptible to the virus SARS-COV2 that causes COVID-19, which means that the way it's making us sick is the way it can make them sick. This particular gorilla is one of my favourite ones, because called Kanyuni. He died in 2017, not because of a contagious disease, from humans, or even from within gorillas, but he just fell off a tree and got a very bad wound which never healed and fought with another gorilla. And he died, which you call natural causes.

But he came from a group that was the first group to be habituated for tourism. And it's called Kanyuni. And so they are so similar to us, whatever the they get, we can get. And we really have to protect the gorillas. And also the gorillas like Kanyuni he used to like coming close to tourists, frightening them. And gorillas don't know how to social distance. You know, they sit in a group, they groom each other. So if it gets into them, then it's a big problem, because it will definitely spread throughout the group. When you visit the Uganda Bwindi impenetrable national park or the parks where the mountain gorilla tourism happens like in Uganda and Rwanda and DRC, you come across this briefing where people have to be seven metres away before they can track the mountain gorillas. When you track them, you're told about the seven metre distance, most of the time, they tell you the reason why you shouldn't get too close, but it's a very exciting activity. And hopefully, after the pandemic ends, more people will be able to do this again. And over here we see tourists viewing the gorillas using the proper distance of seven metres, which is a recommended distance. However, we did some research with the University of Ohio and found that people get too close to the gorillas not only do they get closer than seven metres, but they get closer than three metres. So we found that 60% of the time in spite of being briefed 98% of the time, people got too close to gorillas and 40% of the time is the gorillas who broke the rules. They're so used to being close to people. And they can easily interact much more closely like Kanyuni who I mentioned earlier in the slide. So what together with Annalisa Weber who did this research is a student from Ohio University, and her professor, Dr. Nancy Stevens. And so when the pandemic arrived in March 2020, to Uganda, we we got together with Uganda wildlife authority, who asked the conservation NGOs to help them to do some training to make sure that COVID-19 does not spread from humans to gorillas. And so we held a training workshop with the Rangers to talk about this issue, also working with mountain gorilla vet project, international gorilla conservation programme, and the Max Planck Institute. And these are NGOs that have worked at Bwindi for very, very many years. And we also know that over the years, these rules were becoming inadequate to protect the gorillas, but especially now during the pandemic. So we started off by upgrading the Great Ape viewing regulations in Uganda. And in Uganda, we have people going close to gorillas in Bwindi and chimpanzees in Kibale, and Dongo forest. There's other places where we have great ape tourism. And so this was all following the IUCN guidelines and recommendations of the gorilla pathology specialist group. Whenever you're sick, you're not allowed to track the gorillas anyway. But now knowing that COVID-19 you know, many people are symptomatic, yet they have the disease, we found that taking temperatures was very, very important. And so here I was with somebody from the Bwindi Community Hospital, which was actually built with revenue from tourism originally, but it's an NGO missionary hospital. And as we were teaching people how to use the non contact infrared thermometer, and this thermometer was started to be used a lot during Ebola. Because neighbouring DRC there been a lot of Ebola outbreaks. And even in between the COVID they've also had Ebola. And one way that you could prevent people giving Ebola to each other was by measuring the temperatures. And then the very first case of COVID-19 in Uganda did not have a call for flu, they just had a high temperature. So before you enter the parks, now you have to

have your temperature taken. And then wearing of masks became the new norm. And it can be a cloth mask or surgical mask. But the time that we hold this training, Uganda had run out of surgical masks. Literally, Uganda had run out of surgical masks. There's a huge panic everywhere. Even Germany had run out of surgical masks at the time, because I was on a call with colleagues from the Robert Koch Institute Dr Fabian and he said they'd run out of surgical masks. So we got a local entrepreneur to make masks. And then hand washing and disinfection was also very much emphasised.

And when we went out to track the gorillas the next day after the training, we all put on masks. And ever since then, whoever visits the mountain gorillas has to wear a mask, as long as well as enforcing the seven metre distance which actually has recently been increased to 10 metres. The Uganda wildlife authority has increased it even further. And we managed to give a donation of infrared thermometers to the park at Bwindi. And we've got other scientists, other researchers to give a donation in Kibale National Park, and other NGOs at Bwindi. And we found that as much as the tourists were breaking the rules. Now, because of the covid 19 pandemic, they're demanding that the gorillas and chimps are protected from COVID-19, which is really good, one of the silver linings of the pandemic, so they will only track and they only come back to rebook their permits, if they're sure that they're not going to make the gorillas sick, which is great. And then, of course, I mentioned that in my first couple of slides that the gorillas got a disease from people when they went outside the park. And as a result of this, we decided to work closely with the human and gorilla conflict resolution team, which is a group of gorilla guardians that herds gorillas back to the park. When they come out. The Hugo members were, this whole team came about because there was a lot of issues of habituated gorillas which have lost the fear of people going outside the park raiding people's crops, sometimes destroying their property. And people are getting upset so the Hugos had their back. And they also helped to prevent them picking up any other human diseases. So we developed some posters with support from solidaridad. And we trained them in social distancing, wearing a mask before they heard the gorillas and taking the temperature and more recently, we got them we're getting them infrared thermometers achieved support from IUCN said before they heard the gorillas back, they take their temperatures. And this is the community Conservation warden Barbara was involved in the training and Steven, our founding member. And so the posters look like this, basically, it's on this poster you have it was actually a poster made for people. And then we added a component for gorillas and the numbers of the wardens, who they need to call out if the gorillas come out. One is the monitoring and research and the other one is for community conservation, as on top of maintaining that distance. And now we also work with a village health and conservation teams, which are really community health workers trying to do conservation work. And in the past, we've always talked to them about tuberculosis, respiratory diseases, scabies, HIV, diarrhoea, disease, HIV is important because with HIV, there's a lot of TB and HIV coinfection. And when someone has HIV, they can easily pick up other diseases. And now we added COVID-19. And if you notice that bolded COVID-19, TB and respiratory diseases because CTPH conservation through public health sits on the Ministry of Health COVID-19 Task Force, and it was decided that COVID-19 should be co managed with tuberculosis and other respiratory diseases, because the symptoms are very similar, you know, coughing, sneezing, difficulty breathing, all of that. So they need to first be managed like that, until the tests are done. And that's one thing we've been emphasising we've been in Bwindi just last week, talking about all these issues with the parks with the community members, giving them follow up training. And this is an area that we continue to emphasise, hygiene and sanitation is something else we emphasised. We've always been telling people to have hand washing facilities. And sometimes it was very hard for the message to keep going and for people to keep adopting them, in

spite of our volunteers visiting them regularly. But I'm pleased to say that during the covid 19 pandemic, the number of hand washing facilities has really gone up very high, because people worried about getting the disease. also continuing voluntary family planning where some people get injections in people's homes, nutrition, sustainable agriculture, especially now when people are hungry. They're not getting money from tourism. We're reporting homes visited by gorillas and awareness and of zoonotic disease so that the hughes can come very quickly. And the notic disease is now people really understood it better because of COVID-19. And also we encourage them to tell their communities about the importance of protecting the gorilla And not go entering the park to poach or collect firewood. So all of these messages have been re emphasised to our village health and conservation teams, who visit people's homes, but they've all been given masks. So they don't have to, we know that they're not going to make people sick. And also we talked, we talked to them that you know, as much as ecotourism had to be suspended, to protect the gorillas and they were lockdowns all over to protect the people. People should keep the gorillas going, because tourism is going to come back one day. And they need to make sure that gorillas are protected all the time. And so these are some of our village health and conservation teams. 50% are women, which is great. And we went ahead and trained all of them in, we gave them soap, you know, hand washing soap and everything, so that they are very, very healthy and hygienic. And they can educate their communities to do the same. And when it comes to community livelihoods, we found that when we needed to have masks to start the first training of the park staff to wear masks, and their surgical masks had run out in Uganda, we called right for a woman, which said it's a women owned business set up by somebody who's locally from the area Evelyn and her husband, Dennis. They've been engaging the women to make tablecloths, bitange clothes, and the tourists love going there to buy stuff. And she had to lay off all her staff. And so when we called her in, at the end of march towards the end of March, and said, you know, can we get you? Can you make some masks, she was really pleased because she was able to hire back some of the women. And it was really nice to see that they're very busy working hard to make these masks for the Rangers and made them for the volunteers and for other people in the area. So at least those are people who are earning a livelihood during the pandemic, one of the very few at Bwindi Impenetrable National Park.

And so in the absence of tourism, how can we ensure that the wildlife is protected, and it's been a very, very, very big debate all over the world. Not only it's not only an issue in Bwindi and Uganda, but in many other countries around the world in Africa and other countries. And as I said earlier, we've been engaging coffee farmers around Bwindi Impenetrable National Park, and even as you're tracking gorillas, across coffee farms like this one. So this lady is picking coffee. This is very good Arabica coffee. So good that it was among the top 13 coffees that was sampled in 2018 by coffee in America with 92 points. And we're always we had a very steady market in duty free at the International Airport, where it's always been sold. And every week we're placing an order. But I have to say that since much 2020, they have not placed an order. That's how bad it's been. The airport's opened on first October in Uganda just a couple of days ago. And we're hoping that things will pick up but even then it's gonna take a while because of the lockdowns all over the world. And some of these coffee, share the coffee goes to support some of the work of CTPH improving the health of the community, the gorillas and the conservation. So knowing that most of our customers were people from within Uganda, whether it's tourists visiting the gorillas or the lodges or the duty free shops. So you know, banana boats, which sells products linked to a cause, we found that we're really stuck because we don't this was a really important time, not to say to the farmers that we can't buy their coffee anymore. And we felt we needed to look further afield. So having already established some

linkages with the USA where pangols.com started by conservation intrapreneur John Probatwas already selling the coffee online. Unfortunately, just as the pandemic began, he ran out of coffee. And so he couldn't. And at the same time, the airports were closed. New Zealand had placed an order in January so people could get coffee from there, and South Africa but they don't run out of coffee. And then we had to look further afield. And luckily, we came across Moneyrowbeans in the UK, which is coffee companies started by Vicki, who's in this picture. And she was very interested in good coffee supporting smallholder farmers, and she loved the cause of gorilla conservation. And so we're able to get that buyer and through bikkies Becky, we're now able to buy coffee from the farmers even know even though tourists are not coming to buy the coffee anymore. So this has enabled us to give revenue to some people, even during the pandemic and it means less people going into the park to poach to collect firewood. And this coffee was named after Kanyonyi the grill I talked about earlier in my the beginning of the presentation, and all our brands of coffee from windy are going to be named after gorilla in the park. So we got a serious setback. On the first of June Rafiki, who's the lead silverback gorilla of gringo gorilla group, which is one of the oldest groups to be advocated for tourism in the southern sector when he was killed by a poacher. It was so sad. This poacher went into the park. He set snares during the day, went in the evening to see what he's caught. And he came across Rafiki. And Rafiki has grown up all his life seeing gorillas, I mean, seeing people all his life. And since he was a baby, when the group was habituated in the late 1990s, and in 2008, he started to head the group, after his father. His father died. And it wasn't anything tragic, his father didn't die in a traumatic way, his father died of old age and another, and his brother also left the group. So Rafiki headed the group. And so Rafiki then came across this poacher and this poacher got scared, they've never been that close to a gorilla, and speared him, which is very, very sad.

And this poacher had not come to eat gorillas, he came to eat dyker bush pig, as you can see from the photo. But this was a real big shock. And for someone like me, who's worked in this area for so many years, I thought, how could someone kill a gorilla when the gorillas are doing so much to lift the community out of poverty? When I first started working with a gorillas, the only two gorilla groups, and now there's 18 gorilla groups visited by tourists, it used to be only about 12 people visiting them at any one time, it's the number has now gone up to you know, as much as 160. We're visiting them right up to the point of the covid 19 pandemic every day. So, and people I mean, the whole place is, you know, they used to be like three lodges. Now there's about 50 lodges around the park. So everybody's benefiting a lot from gorilla tourism. And I wonder why would this poacher do this, then we had to start thinking he was among the most hungry and most vulnerable in the park. And because of when tourism was suspended, and also people hired as porters to carry people's bags up to the gorillas, make sure they don't fall down when they're going up the mountain or coming down. And these people earning a lot every day from tourists coming tourists are no longer coming. Some people being hired by the lodges, , the lodges all closed down during the pandemic. And so people went home and had to wait until they open up again. Others are hired by, you know, in the local community businesses selling crafts, food accommodation. And so the whole economy shut down basically, around the park just because of the pandemic. And so this was a very big setback. And also the borders were closed. Some people were planting their crops in neighbouring DRC because the land was better, and they couldn't go back to even harvest their crops. So we started to think that what can we do about this? And we went to check on Rafiki's group one month later after the tragic incident occurred. And we found that Ramutwe, this gorilla over here, was now heading the group. And when I went, there it was just very calm.

He was not angry at all. But with some when I went he had assumed the head of the group is not yet a silverback, but you soon become a silverback. And we tracked with the Rangers. And it was actually a very, it was a very difficult trip to make. But we had to see how the group was getting on and collecting their samples from the nest. And this Porter, who I hired, there hadn't been jobs for porters for a very long time. He was happy to get a job, but he was wearing the mask saying in memory of Rafiki. So the local community where this very poacher came from, were very, very upset that the poacher killed the gorilla. Very, very upset, including this Porter. But however, you could tell that the community is hungry and vulnerable. And just last week, when we went to see them to talk to train our village health and conservation teams, updating them in contact tracing, looking out for people who are sick, and telling people not to poach. We, we talk to them about this whole issue of Rafiki. And we also talked to them about telling their community members not to poach, especially in this very difficult time, because the gorillas are still very, very important to us. And so we one of the things that we did is we engage reformed poachers. In August, we went and trained. We had a meeting with some of the reformed poachers. These are people who lay down their tools and said that they're not going to poach anymore. And after several arrests, they lay down their tools, but we're worried that they may decide to go back again and poach just because they don't have any other alternative right now, because some of these poachers, their children are porters in the park. And if their children are not earning a living and they can't bring back home money for their parents, then their parents may be tempted to go back and poach. So it's a whole cycle of events. All the livelihoods in the area been created as a result of gorilla tourism are connected to each other. And we have to make sure that we can support all these people. And so it's support from Task trust, they asked for group livestock projects. And we're going to do and which we've done before, and as encouraged their fellow poachers not to go into the park, to poach. But another thing that we did on top of education is we decided to provide fast growing seedlings to the very vulnerable starting off with the most vulnerable to address hunger. And people had stopped farming when gorilla tourism began. And now here we are giving them a chance to go back again, to farming, but doing it in a sustainable way. So we got 10 types of fast growing seedlings, such as cabbages, maize, beans, pumpkins, tomatoes, onions, spinach, things like that ground nuts, which can feed them during a very difficult time of no revenue from tourism. But even when tourism returns, they should always be able to feed themselves and the money from tourism doesn't go to feed them, but for other things that they need. So generally, COVID-19 has shown us that we can't just depend on tourism to survive, we have to find other ways always find other ways for communities to survive around protected areas that are not only dependent on tourism. So this is Joel, agricultural officer who's over here, and this is a nursery bedroom set up at that gorilla conservation camp where we have in our CTPH Field Station. And he's busy talking, putting up all these various seedlings, so that we will give them to the most vulnerable households as we go along, like the one that the home of the one who killed Rafiki. However some great news is that, over this time, we've had more infants born this year, in the same time as from last year. And we don't know whether it's a coincidence, or it's something to do with a pandemic. But we're really pleased that at least we had six new infants born in the past six weeks, and which is really amazing. And we're really pleased about that. It's at least it's some ray of hope, in this very difficult time of the covid 19 pandemic. I mean, many of these, these garments were conceived before the pandemic began, because the gestation period is the same as ours, eight and a half months. But we are really pleased that they're having all these babies. And another thing that we've got a into as a result of the pandemic is advocating for Responsible tourism, not only in Uganda, but responsible great ape tourism

but also all over Africa, where the 25 countries with great apes 28 Great Ape sites, and the 10 countries of 10 countries of these have great ape tourism. And so it's very important that they all adopt these rules. And when you carry out great ape tourism, people have to countries governments have to think about, you know, not only the gain from the money, but how to protect these great apes so that they can be around forever. And for future generations because the money from tourism has really helped the countries where

this tourism is the numbers were the Great Ape species have increased. So tourism is definitely contributing to the growth of gorilla populations, which is, but how do we do it in a way that it doesn't compromise the health of the gorillas. So we developed a policy brief to governments, donors and tour operators through the Africa CSO biodiversity Alliance, which CTPH is a member. And we also advocating that people should look beyond tourism to sustain conservation, because tourism comes and goes. And also, we carried out a social media campaign about zoonosis. Reverse zoonosis and links to COVID-19. And within this policy brief, we're also advocating to tour companies, because they're the ones who first market to the tourists before they come, telling them the kind of experience they're going to get when they come to Uganda and other countries to see the great apes. And so they're very, very key in making sure that responsible tourism continues. And another thing that we've got involved in all the other groups around the world, we're trying to see how to prevent the next pandemic. And using a one health approach. So the approach that I've just been talking about is a one health approach which we began in 2003. And we are glad that during this pandemic, it's really people have really began to see the links between human health and animal health and ecosystem health and how you cannot keep humans healthy if the wildlife is not healthy, but also if you destroy the Wildlife Habitat, habitat for the wildlife and people get closer to wild animals in a way that they shouldn't. Then there's much more opportunity for zoonotic diseases to spread between people and wildlife. And also at the same time, animal welfare is a very big issue. The market where the pandemic began, animal welfare was ignored. animals were in very tiny cages. That's all part of the puzzle of making sure that we prevent the next pandemic. There has also been swine flu from pigs in cages. So animal welfare is a very important issue when we need to sustainably manage our lands, to enhance coexistence of agriculture and wildlife. And there's a big debate about should we ban the wildlife trade? Should we regulate the wildlife trade? Should we remove the species from the wildlife trade that caused pandemics? It's a very big debate going on. But as CTPH, and is, we feel that we should remove the species that are likely to cause a pandemic, from the wildlife trade, at least that's a very good start. And so that's something that is a big debate raging on, but we need to make sure that we don't, because the next pandemic could even be worse than COVID-19. So we have to be very careful about this. And for more information about our work, please visit our websites, both cdph.org and gccoffee.org. If you'd like to buy coffee, you can order through [moneyrowbeans](http://moneyrowbeans.com), and to support the gorillas during the pandemic, and pangols now that the airport's opening up. And please follow us on Facebook, Twitter, and Instagram. Thank you very much.

Jasmine Trinder 41:08

Okay, perfect. Thank you so much for that. Gladys. I have to say we've had a couple of questions submitted throughout your talk, um, that you have then gone on to address so you were certainly very, very thorough with your information. But I was absolutley brilliant, thank you. So, if I may, we'll jump straight to some questions. Sorry. Oh, I'll let you sort your screen out. There we go. Yeah, we're back in the call. So we did have a question in the live chat. Whicht you did partially just answer with your mention of the coffee. But how can people help CTPH and gorilla conservation more

generally, with regular donations, what else is there we can do whilst ecotourism is on hold?

Gladys Kalema-Zikusoka 41:51

Well, thank you very much. One of the things that we could do also is order the coffee through moneyrowbeans in the UK, and also on the task, trust website. They're also selling it, and pangols in the US, and New Zealand, and at least those other online platforms, which are still ongoing. And you can visit our website and make a donation and through the few platforms over there. And you could share the word also about the work that we're doing. And find other ways if you feel that you can help us to fundraise. I know that right now that the airport is opened, some people can come over and volunteer, once they feel that they're ready. We had volunteers before the pandemic, But people can still come now, you know, once they feel safe to travel, they can come and volunteer. That can also help us a lot. And we've had a few students who even wanted to come during the pandemic to do research, because they help us a lot to make sure that we see that whatever we're doing is working. And we're very open to accepts students researchers coming over to see us. And actually there's a song called team gorilla that was produced by a very talented you can an artist called Gasusa. And he produced it in memory of Rafiki, the gorilla that was killed by a poacher and, and it's now online, on Amazon, it's on Spotify. It's soon going to be an Instagram, people can download it. And it's only \$1 to download this. But in doing so, you're helping us because some of the proceeds are being donated to conservation through public health, and some to the musician and he did this all for free. So it's a very good case just to get people to understand the importance of gorillas. It's a really emotional song, very emotional. But he was very, very upset about Rafiki being killed.

Jasmine Trinder 43:50

Brilliant, well, thank you for all of that. And we will make sure as well that we update the video description, will liaise with Gladys after the talk was done and make sure that we're linking to various ways in which you can support the organisation that Gladys is working with. What other questions have we had? How would you treat gorillas who have cave head? So I don't think you mentioned that you'd had any cases thus far. But if COVID-19 were to be transmitted to gorillas, how, how could you address that?

Gladys Kalema-Zikusoka 44:23

Yes, um, if gorillas had COVID, which we thankfully we've not had any cases. So far. All these regulations that started before during the pandemic are continuing even as the park just started opening up this month. Everyone has to maintain the distance and everything, but you basically would have to dart them, you'd have to cordon off the group that has COVID-19 no one should visit it only the most essential personnel, then you have to treat them with antibiotics and it's very, very difficult just as it's very difficult to treat people with COVID-19 Can you imagine how How much harder it is for wildlife. So it's better that it doesn't get into the gorillas, but we'd have to give them the same, you know, the antibiotics, steroids, everything that we're trying to do with people. But it's going to be much harder because it's much harder to carry out the intensive care that you need when you have critical COVID-19 patients.

Jasmine Trinder 45:18

Thank you. We've had another question submitted by Eve Englefield. So based on your experiences this year, do you think that ecotourism will be will continue to be a sustainable means of funding conservation and development efforts? If pandemics are likely to increase in frequency?

Gladys Kalema-Zikusoka 45:40

And yeah, that's a very good question. Um, ecotourism. I mean, the pandemic has shown us that ecotourism is not the only answer. for funding conservation, beyond grants, it's really been a rude shock. Because the poaching has gone up all over. And once tourism stops, and so no, I feel that ecotourism is not going to be it used to be an important part of sustaining conservation efforts. But it's not going to be the only way. And we all need need to urgently think of other ways of supporting the community, beyond ecotourism. And luckily, with something like with gorilla conservation coffee, at least you can, you know, find buyers outside Uganda, other countries who can buy the coffee. People don't have to come in to support the gorillas they can do it from afar, and get buyers outside. But also other things like, the lady who makes the crafts, you know, the one who makes the masks, she could be selling her crafts virtually, you know, to people in other countries, we just have to find other ways of supporting the communities, which doesn't necessarily involve going to visit the wildlife. And we also just, you know, we have to just come up with innovative ways. I know we still have a long way to go. But COVID-19 has been a wake up call for that for sure. Even virtual tourism and all of that.

Jasmine Trinder 47:02

What other questions we had in so we've had somebody asked has Ebola rather than COVID ever affected gorilla populations? And is it possible?

Gladys Kalema-Zikusoka 47:15

Yes, Ebola has affected gorilla populations, luckily not in Uganda, although we've had Ebola outbreaks in people in Uganda. And remember with Ebola when one person dies, that's an outbreak. Because it's a very rare disease, like one person dies as an outbreak. So we've had a few people getting Ebola in Uganda, and unfortunately, some of them have died. But in in Central Africa, where the western lowland gorillas have found, the Ebola has wiped out as many as 5000 gorillas 5000 over the space of a number of years, you know, maybe 10 years or so. But basically what happens is, we still don't know yet what the it hasn't yet been found, where the bullet comes from, in some of these forests, is suspected to be fruit bats. But whatever it is, the gorillas and the chimpanzees get affected, they die. And people who are hunting them in these forests get affected and die and they spread, and their families also get infected. So that's how Ebola has been spreading more. It's been a disease that has spread from great apes to people rather than people to great apes. And but the great apes are not the source because they also die from it from something in the forest. But we have had Marburg which is very similar to Ebola. It's the same kind of viral hemorrhagic disease. And it's been in Queen Elizabeth National Park, which is actually not far from Bwindi, found in the caves over there. And bats have been able to spread Marbug to people. And some people have died in other places, it has spread in bats in mines in Uganda, and so yeah, these diseases can easily spread. And it's a big problem.

Jasmine Trinder 48:51

And we've had another question submitted this time from Cristian. How much is the gorillas habitat in danger so how threatened is the gorillas habitat? And how much land is expected to be given back or lost in the next three to five years? So you did briefly mentioned about deforestation is that posing a great threat where you're working in Bwindi?

Gladys Kalema-Zikusoka 49:16

deforestation is not such a big threat in Bwindi. It is in other parts of Africa, where the gorillas are fun because they don't have any benefits from tourism. Quite frankly, I think it's a benefit from tourism that stopped people destroying the gorillas habitat, because the moment they made it a national park and tourists could come, then suddenly it is a very

hard edge. But sometimes that edge is broken. There's only a small part of Bwindi that has a buffer zone. So it's not such a big problem. But the problem now is that the gorillas, our numbers are growing, and there's very little space for them to grow. So we need to find more lands for the gorillas in order to more land you know that to to have enough space for the growing gorilla population. And that's when the deforestation is going to become a big issue in Bwindi the the conservation success story is that the numbers are growing in Bwindi, but there isn't enough space for the gorillas to expand, and their land to expand. So then it's going to become such a big issue. And that's the next thing we have to worry about.

Jasmine Trinder 50:17

Yeah, thank you. If I may, I have a question as well. So you mentioned briefly about looking beyond tourism and the various ways that we can we can do this. And have you explored virtual ecotourism options. So things that don't rely heavily on importing exporting goods, but sort of, as we've had to do with Bio-diverse Festival, where it's all gone online, and COVID is sort of facilitated that. Is it possible that COVID could prompt other conservation efforts to explore virtual avenues to help people sort of experience gorilla conservation or other conservation efforts online?

Gladys Kalema-Zikusoka 50:57

Yes, I think we haven't done it as conservation through public health. But Dr. Ian Redmond, who's Chair of the Ape Alliance, has definitely, he's been trying, he's got something called, Veco tours, which has been running for a number of years. And I think now we've COVID-19 is really going to develop it even further. Because he had that idea that you could, you don't have to always stop the gorillas by going to see them. You don't have to see them to support them. But you can see you can support them by seeing them in a virtual way. And I think that's really going to pick up. I know some of the national parks are thinking about it that Uganda national parks, Uganda wildlife authority is thinking about it. And Rwanda, I think has also started to do it. And I think it may be the future. You know, people want to experience the wildlife, they could also do it virtually. And as long as they're willing to pay for it. It can also help to keep the running courses going to protect this very critical species.

Jasmine Trinder 51:53

Absolutely. Brilliant. I think we've got time for just one last question. This one is a slight tangent from what you've been talking about, directed more at you. So we've had a question, what is the proudest moment of your career so far?

Gladys Kalema-Zikusoka 52:10

Well, a very big question. Um, I'd say that I've had very many proud moments. Really, I've had many proud moments, but I'm Hmm. Well, I think I'll say maybe the proudest moment has been setting up an NGO that has been able to not only reduce the threats very direct threats to critically endangered species, like the mountain gorillas, and chimps, but also to be able to improve people's attitudes to conservation. Because you know, we have people who are very, very poor around Uganda, and especially in the rural areas, and just the fact that you're attending to their health, and engaging them in conservation, make them to like the one to protect the wildlife, you know, which is something that I feel is very, very important. And I've been very proud in changing people's attitudes to conservation, no matter how poor they are, and how desperate they are, it's really good to see them changing and want to protect the wildlife. And in the long run, that the wildlife also thrives. So we're pleased too that the gorillas are falling sick less often since we started conservation through public health. And also that people are generally appreciating the importance of gorillas, aloe, also been really happy and excited and elated, you know,

when we've had to deal with a very complicated case. And one time I had to do the rectal prolapse, the gorilla was going to die. And after intervening on it was considered to be controversial, because people are not sure whether it was due to bad genes and whether it's in-breeding, but when this particular female, young female gorilla survived, a female juvenile gorilla, everybody was very happy. And she went on to produce many more babies. And I was really, really pleased when she made it. So yes, I've had many proud moments I have to say. And it's been really amazing, also winning awards for our work. And that's, that's just been truly humbling.

Jasmine Trinder 54:11

Well, I think it's been very inspiring. And I mean, I think I have to agree with you that changing people's attitudes, changing people's mindsets is certainly not easy. So the fact that you've been able to do that through conservation with public health is definitely a testament to your work. So I think we're going to wrap it up there. Thank you once again, for joining us for the very first Bio-Diverse festival. It's been an absolute honour. Um, and just a reminder to everyone who's watching at home that we will have our second live talk at the same time tomorrow. So tune in then if you are able to listen to Professor Duncan Cameron's talk, and he'll be talking to you about soil microbiology, so a bit of a Change of topic from today. But thanks again, Gladys. And see you all soon.

Gladys Kalema-Zikusoka 55:02

Thank you so much for hosting us. And whenever you're able to get to Uganda, visit us see our work and follow us on Facebook, Twitter. Thank you so much.

Jasmine Trinder 55:12

Thank you so much.

Gladys Kalema-Zikusoka 55:16

Bye bye. Thank you