

Great Apes and Loss of Biodiversity: Another threat for Great Apes? Questions and Answers

I. Apes Health

1. Have any cases of COVID-19 transmission to great apes been reported so far? What measures to be taken by scientists and local populations, if any, to avoid such transmission in the future?

Answer: There have been no reports of transmission to a great ape by our organisation (Borneo Orangutan Survival Foundation) or from any other institutions in Indonesia.

2. So far, has the COVID-19 pandemic had a direct influence on chimpanzee behavior in nature and wildlife hunting activities in the fields?

Answer: In our site where Sebitoli chimpanzee community is usually monitored daily by our team and exposed to local communities and road traffic, the COVID-19 had very likely an influence: our presence as researchers has decreased, the traffic also but the illegal activities continue and may have increased: tree cutting and poaching. Three days after the traffic was authorised again, a Sebitoli female chimpanzee was killed in a roadkill.

3. Has the lockdown of Apes in rehabilitation centres impacted them?

Answer: To minimize the potential for transmission of COVID-19 to the apes in our care, we have limited the daily staff in our centres to essential animal care staff only who are on a rotating schedule that also minimizes contact between humans. As a result, we have had to reduce the time of the orangutans in forest school and this unfortunately unavoidable decrease in time spent outside of the cage may reduce their overall welfare.

4. How did you handle the rescue process in the days of COVID-19 which is ongoing for more than 2 months? Did you discover any COVID-19 infected rescued orangutans from animal trafficking or being pet? If you did, how do you plan to cure them?

Answer: As of now, we have not been called to rescue and intake any orangutans at our rehabilitation centres.

5. I saw that disinfectant is being sprayed to the food. Do you think it is safe to be eaten by orangutans?

Answer: We are using disinfectant that is safe for consumption by animals if used in the diluted dosages as written in package.

6. Have you led some studies about the dangerousness, morbidity of COVID-19 on orangutan health, considering they are very sensitive to air sacculitis and respiratory problem?

Answer: No, we have not yet conducted studies on the danger of COVID-19 to orangutan health. However, we have thoroughly documented all of our activities in response to the pandemic, including specific written protocols. We have utilized the rapid test on all of our staff and all results have been non-reactive. We documented this testing process and results as data.

7. How about if a baby orangutan rescue needs a medical treatment during pandemic? Will it be accepted?

Answer: So far there has not been a need for us to intake any orangutans since the outbreak of COVID-19 in Indonesia. As the pandemic continues, we are preparing extra precautions for the intake of orangutans that will include physical measures and full quarantine.

8. Do any of the panelists get information on the COVID-19 and commensal/urban dwelling primates?

Answer: We do not have any information or experience with this.

9. In the Taï Biosphere Reserve, Côte d'Ivoire, the coronavirus OC43 was transmitted to chimpanzees but with no recorded deaths. Does this have to do with the chimpanzees' self-medication behaviour?

Answer: Getting evidences of self-medication on chimps is not easy. Monitoring chimps being healthy and infected and comparing their diet and evolution of the infection would have been necessary. Then, if sick chimps did eat something different, information of biological activities - on coronavirus virus or on symptoms- of the part of the plant eaten, quantity and frequency of the consumption would have been necessary to evidence a self- medicative behaviour. I do not think such survey was done. It would be very interesting to sample plant part of the chimp diet in the different study site and to test them against virus and bacteria to better know the opportunities they have to self-medicate according to diseases they are exposed to.

10. Won't there be pressure for experiments on great apes for coronavirus vaccine research?

Answer: At this moment, there has been none for us. There is a possibility that other countries will discuss this option in the future.

There are laws in EU and in European countries regarding the experience on animals. This should be a valid protection, even though increase of poaching during COVID-19 pandemic could increase offer of animals in fraudulent markets.

In the EU laws, experimentation on great apes is forbidden. However, the law mentions that in certain circumstances, great apes might be used in case of health crisis.

II. Safety Protocole

11. How do you intend to solve the problem of overspeeding inside the park?

Answer: We have started sensitization with radio programme and contacts with taxi/buses drivers. We are expecting that large humps, sign-posts will be installed as soon as possible. We are also hoping that fine will be given for overspeeding, wastes throwing, wild animal feeding.

12. As animals are freely ranging in the highways during lockdown, do you think the number of animals killed on the road will increase more in future after normal human life?

Answer: During the lock-down, animals may travel freely and lose their habits to be very cautious when crossing the road. When the traffic has been reauthorized, overspeeding was even higher than before, people having business to reinforce or just feeling happy to be driving again. The first week after traffic reopening, chimps, reptiles, birds were crushed and killed on the road crossing the park.

13. What do you do with the road waste? Do you have any program to prevent that?

Answer: The road waste is disastrous. Our team is collecting the waste regularly and doing sensitization to prevent it and we plan to have a recycling programme soon. However, even better to recycle would be to reduce the use of plastic (soda and water bottles)...

14. What measures were implemented to ensure park staff/rangers were not infected and how successful were they?

Answer: The park rangers and staff activities were very reduced. The rangers who were confined in the park were not authorised to be in contact with outside people including families. The preventive measures (checking health every day and confirming no cough, no sneeze, no fever, no diarrhea, no tiredness, washing hands every 2 hours at least, disinfection of gumboots every time when entering and going out of forest, using clothes different for forest and home/camp, do not spitting, wearing masks...) were applied for Sebitoli staff who were confined.

15. How to ensure that biodiversity monitoring activities will not affect COVID-19 transmission to wildlife on nature? Should we develop survey or monitoring protocol, if we detect transmission from humans to wildlife?

Answer: When the COVID-19 was declared a pandemic, we developed protocols which minimised the non-staff to visit to our centres, our release sites, and also our research stations. This essential means that we have had no visitors. In regards to how to minimise the spread of COVID-19 from our post release monitoring team to the orangutans and wildlife in the release site and from the biologists that are monitoring the wildlife in the research stations, extra precautions have been taken. Due to the remote locations of these sites, they are mostly isolated systems, so only movement of our staff has the potential to introduce the disease. To prevent this, we are taking every step possible to keep them as isolated as possible during travel and we have implemented strict protocols on self-quarantine. After travelling to or from a release or research site, our staff must quarantine for 14 days before they can begin work. Even in daily work, WHO protocols have been implemented, increasing disinfection measures and distances between humans and animals. So far, based on our first rapid tests, even though our rehabilitation centres are located in the red zones, we have no reports of our staff infected by COVID-19.

Prevention measures of transmission of outbreaks should be put in place. This could be supported by monitoring protocol including health/behavior observation. UNESCO and MNHN with Dr Krief team are developing such a protocol in Biosphere reserves home to Great apes.

16. During this COVID-19 pandemic, many great ape sites are involved in monitoring using different minimum distance of approach to great apes. What would you recommend from your experience of monitoring great apes?

Answer: Our release sites and research stations still running, but with daily activities not as intensive as before the pandemic. At our release sites, the tracking of orangutan uses radiotelemetry equipment and upon locating an orangutan for monitoring, the teams are required to keep significant distance and out of the direct line of sight for the orangutans if possible. We also no longer accept new volunteers or researchers at the sites to reduce risk. At Sebitoli, we multiplied the camera traps set up in the forest to check for the presence and health of the chimps (as far as possible) and only few field assistants were confined at the research station. They were the only one with the antipoaching patrol authorised to go in forest. In Uganda, research on Primates has been forbidden during pandemic and no direct observations were allowed. However, I think this is important to make sure chimps were alive because they are in contact with villagers and farmers at the edge of the forest and can be infected by local communities. The monitoring with camera traps was a way to check as many individuals as possible.

17. Can scientists and park managers have a standard protocol which will take into consideration best practices so that in future as the pandemic resides, we will follow a standard, uniform, well-informed procedure?

Answer: This is definitely something that projects should consider so that all are practicing the same behaviour as dictated by the protocols. It is important to note that there is no "one-size fits all" procedure for future pandemics, as the disease pathology must be taken into account and the procedures adjusted accordingly.

UNESCO and MNHN are now developing a protocol with Biosphere reserves managers which will include health/pandemic monitoring. Aspects in sites which are home to great apes.

III. Funding – Re-opening parks

18. If barrier gestures are put in place and safety recommendations followed, could we resume tourism in protected areas? How best we can open up the park as the rate of infections gradually reduce?

Answer: Even when there is not a pandemic, as prevention, strict protocols including no feeding, no littering, and no contact should be implemented and enforced thoroughly. We may

suggest to keep some measures that tourists will now better understand such as having a health check before tracking apes (auto-declaration that no cough, no sneeze, wearing gumboots and disinfecting them before to enter the forest, keeping facial masks to observe apes. On social media, we can easily spot many people (visitors and authorities) disrespecting the existing protocols. Additionally, there should be a limited number of people, during a certain period of time, that are permitted to enter the parks, which will also reduce the cars and motor vehicles to reduce the risk to the animals.

19. In the current situation, the problem of funding is sticking out in several media: shortage of benefits for local communities, less support from international organisations. Is there a solution for this? What will be the fate of Apes?

Answer: What we are doing at the moment is mapping our strengths and weaknesses on the fundraising issues, and together with our partners from all over the world, we discuss this matter regularly. Somehow, we (so far) have been able to sort matters out. Our fear is that if the pandemic continues for many months or years, our funding will no longer be sufficient.

20. If we close out protected areas and fail to get revenues, the operations get heavily affected, is there any solution governments have put in place to overcome this challenge?

Answer: We think that we must implore the government to sit together with us to look for the solution. We will definitely support the government in any and all efforts to better management of these areas.

The closing of protected areas and the impact on revenue of communities should also be an opportunity to think about diversifying the source of revenue of population living near protected areas.

21. Is UNESCO (may be in collaboration with other UN agencies and NGOs) planning to propose an environmental "tax" to countries based on their pollution, deforestation and consumption levels? How could this gap among countries be solved otherwise?

Answer: This is in the spirit of tax carbon which is hardly to be set at global level. The level of such a decision is national.

IV. Biodiversity Protection:

22. You have addressed WHAT should be done to stop biodiversity loss, but not much about the HOW - can you elaborate on the how - provide some elements?

Answer: We, at BOSF, strive to lead by example, with our activities directly working to stop the biodiversity loss. We focus on numerous elements from the rescuing the animals from the wildlife trade and human-wildlife conflict and rehabilitating them for release in the wild to protecting one of the largest wild orangutan populations in the world within the Mawas Conservation Area.

The MAB programme and its world network of Biosphere reserves is aiming at reconciling conservation and development. See the website: <https://en.unesco.org/mab>.

23. Are there possibilities of market mechanism which can be used to protect wildlife and biodiversity?

Answer: Yes, for instance you have the agreement under FLEGT which protect natural forests (<http://www.fleg.org/>).

The French governmental initiative « Stratégie de Lutte contre la déforestation importée ».

https://www.ecologique-solidaire.gouv.fr/sites/default/files/2018.11.14_SNDI_0.pdf

24. Is it possible to separate humans from biodiversity as well as completely stop wildlife trade across the globe in order to prevent future pandemic occurrence?

Answer: No, our species is part of the biodiversity, one species among others. However, our species is special and should face its responsibilities.

Is it not better to make everything possible for Human and Nature to leave in Harmony? It is what MAB and BR are aiming to.

25. Is there a database of biodiversity in biosphere reserves, focusing on great apes? If great apes were to disappear, which species could become extinct? What would it mean for ecosystems and how would humans be affected?

Answer: Yes, on the international stage this is the IUCN. However, in many countries they have their own forum that is responsible and working on this particular matter. In Indonesia, there is the Indonesian Orangutan Forum that works on this issue.

V. Relationship with local communities

26. Do we know how many people in the local community are infected with the virus, as of now, in order to protect Apes living near the community?

Answer: Currently, our centres are in red zones. We are working tirelessly to ensure that COVID-19 will not spread in our centres through surveillance and by supporting the local community in efforts to curb the spread of the disease through education and disinfection.

27. How can biodiversity be preserved when local populations have a life fully linked to natural resources?

Answer: Biodiversity can be preserved when it is sustainably harvested and used. We may reinforce our collaboration and more specifically support local initiatives proposing to IUCN world congress in Marseille 2021 a motion to create Panafrican and Panasian regional Alliances based on local actors: "Strengthening great ape conservation across countries, in and outside of protected areas, involving local actors".

28. Don't you think that these conventions are far from the reality on the ground? They do not fit the reality of the difficult ongoing life of rural communities.

Answer: Conventions are a framework for a better future. MAB programme is engaged in fostering sustainable development. If we do not try to reach SD, then humanity will face even more difficult times. Climate Change is already there and worst times are ahead of us.

VI. Our relationship with meat

29. Don't you think that despite less disturbance and less pollution during the lockdown, some unscrupulous people could take advantage and further destroy both the diversity and the chimpanzees?

Answer: The lockdown measures by decreasing patrols in protected areas has increased poaching.

30. Are you looking to support the local communities living near Sebitoli to reduce their need to poach, especially since accidental snaring of chimpanzees caught in snares set for duiker and other smaller mammals has been a well-known issue at Kibale National Park for many years?

Answer: This is how we try to work... our project aims at improving revenues, decreasing pollution and human-wildlife conflict by developing sustainable organic agriculture of crops which is not attractive for chimps, elephants and baboons, who can provide food safety for local communities and if possible market opportunities.

31. How can we prevent similar situations/pandemics occur in the future? The journal articles showing the animal consumption as the cause of SARS 2003 have been numerous. We also have learned also the strong link between the animal wet market and COVID-19 outbreak. However, I have read as well that the markets have been in operation again.

Answer: There is a need to restore natural habitats because human and wildlife increased proximity is causing the spread of zoonotic diseases.

32. Intensive breeding is a risk factor enabling the destruction of biodiversity (for crops to feed animals) and the emergence and spreading of zoonotic diseases, what are the alternatives to intensive breeding?

Answer: Sustainable production and consumption with a balanced diet in terms of vegetal/animal proteins.

33. Can the Sumatran forest World Heritage Site be extended to include Batang Toru, the only habitat of the recently described Tapanuli Orangutan?

Answer: The decision is first with Member States. UNESCO can provide technical support.

VII. Monitoring / Mapping

34. During this COVID-19 pandemic, many great ape sites are involved in monitoring using different minimum distance of approach to great apes. What would you recommend from your experience of monitoring great apes?

Answer: We must keep working on the protocols, to ensure that all animals who are released are capable and independent enough to avoid humans. For situations where human intervention is unavoidable, full PPE (Personal Protective Equipment) should be available at the release sites and research stations.

35. How do we strengthen animal and illegal traffic monitoring in transboundary protected areas in a context of low possibilities of funding by the main conservation donors?

Answer: Conservation and development are the faces of the same coins. Developers can be approached, and you can make the case by explaining that their long-term interest is also conservation for many reasons.

36. Though we have advanced technologies in the field of Electronic Sensing, Artificial Intelligence, Machine learning, Advanced CCTV'S Etc., we are not using the collaborative technologies to save biodiversity which lives in forests in serving Water and surveillance. Why are Organizations like UNESCO not utilizing them to save biodiversity?

Answer: AI and connected things are indeed effective for conservation purposes. UNESCO is developing a programme on monitoring of great apes habitats in Africa by using drones.

37. Do you have any details on mapping apes' habitats? What about the participatory approach?

Answer: Participatory approach is very effective. There is a great mapping programme in Gombe Masita Ugalla Biosphere reserve under Jane Goodall Foundation.

VIII. Advocacy – Raising Awareness

38. At the G7 in 2019, there was a great call for the protection of great apes. What is our role now, the role of scientists and of the world to raise the issue of "One Health"? How can we raise public awareness, resurrect the announcements made by the G7?

Answer: In 2019, the coordinator of GRASP made a plea to Ministers of environment of G7 to which the GRASP scientific commission contributed.