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How conservation will be impacted in the COVID-19 pandemic

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COVID-19 pandemic has threatened millions of human lives and devastated social and economic conditions globally. This pandemic also threatens wildlife, particularly fragile populations. Many news and rumors linking COVID-19 with wildlife have flooded in early phase of pandemic, which has impacted the conservation in long run. Understanding the unexpected threats posed by COVID-19 is crucial to preserving such animals. Negative perception towards wildlife, financial uncertainty for conservation activities, and increase pressure on poaching and illegal killing of animals would be new challenges due to this pandemic. Educating people on how disease could transfer from wildlife to human and tackling COVID-19 rumors against wild animals are necessary in this situation.

Keywords: pandemic, conservation, pangolin, bat, coronavirus

Coronavirus disease (commonly known as COVID-19) is an infectious disease caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2). Since the first infection was identified in Wuhan, China in late 2019, it has spread to over 200 countries. Based on the alarming levels of spread and severity, the World Health Organization declared this outbreak a pandemic on 11 March 2020. This is perhaps the greatest global health crisis since World War II (Kickbusch et al. 2020). COVID-19 has threatened millions of human lives, and devastated social and economic conditions globally. The pandemic also threatens wildlife, particularly fragile populations. Understanding the unexpected threats posed by COVID-19 is crucial to preserving such animals.

Corona virus and wildlife

Most experts believe that COVID-19 started from Wuhan's 'wet market' – a market that sells live and dead wildlife and domestic animals as meat. Some scientists suspect pangolin and other believe that bats could be the host of this virus. But there is no agreement on exactly how the virus jumped from animals to humans. The definitive source of this virus is still to be identified. It is too early to blame bats for this outbreak as bat coronavirus cannot infect human directly. In fact, an intermediate host is needed for coronavirus to be transmitted to people from animals (Cyranoski 2020). If the outbreak is confirmed to have originated from the contacts of live wildlife and their consumption, wet markets should be banned globally or at least much more carefully regulated to prevent the transmission of diseases from wild animals to human.

Scientists have studied the relation of SARS-CoV-2 in humans with coronavirus in bat and pangolin. The genome sequence of SARS-CoV-2 in humans has about 96% similarities with bat coronavirus (Cyranoski 2020, Zhou et al. 2020). Pangolin coronavirus shares only about 90–91% of genome sequence (Cyranoski 2020, Zhang et al. 2020). Such data is not clear enough to definitively determine whether bats or pangolins are the source of the disease. Even though humans and chimpanzees share over 98% of genetic similarity (Wildman 2002), they have many differences either in appearance and physical structures. Thus, it appears that pangolin has less probability of transmitting the diseases (Zhang et al. 2020).

COVID-19 and conservation

COVID-19 pandemic has helped conservation in developing countries like Nepal in some ways. For example, the drop in human pressures and movement inside protected areas because of lockdown measures has reduced stress to wildlife. Pollution, particularly air pollution, has improved due to reduced traffic. Carbon emissions have decreased significantly as human activities are limited.

However, the COVID-19 pandemic could hamper conservation in several ways. First, poaching could increase, as

many protected areas have been poorly attended by staff. In addition, some communities may turn to illegal hunting of wildlife for survival. Second, forest fires have spread. There are limited human resources in the field to monitor and respond to these fires. Third, the drop in ecotourism will cut financial support for wildlife protection, as parks have been closed to visitors. Additionally, most of the government and non-governmental agencies have prioritized controlling COVID-19 over supporting wildlife protection. Fourth, false speculation of linking wildlife with coronavirus would provoke the negative attitude towards animals that drive people to kill such creatures in retaliation (Kissui 2008). For example, the critically endangered Chinese pangolin and even endangered Indian pangolin could be further threatened due to anti-pangolin speculation. Fifth, most already planned conservation programs have become uncertain. For example, Nepal's Rhino Count in Nepal, which was supposed to be started in early 2020, has been postponed (Kathmandu Post, 21 March, 2020). Importantly, wildlife researchers cannot conduct their lab and field based research on time. Social survey based research in particular will be hampered even in post-pandemic due to the risk of disease transmission. Sixth, many international and national conferences, workshops, training programs and meetings have been delayed. Missing such opportunities will hamper future conservation actions and practical solutions.

Conclusion

Since the pandemic has just started, it is too early to evaluate the impact of the COVID-19 pandemic on biodiversity and conservation. It is not fair to blame one wildlife species or another as the potential source of COVID-19, as there is not enough evidence to support such an assumption. Bat populations serve the reservoirs of majority of the viruses in the coronavirus family. However, source identification is important to prevent new outbreaks in future. Even if an animal is the cause of this disease, the disease never comes to us humans directly but some means are needed to transform the virus.

The main question is how these viruses are transmitted to us from either bat or pangolin or other wildlife species. Disease transfer works both ways and even wildlife receive diseases from people and livestock. Depicting animals to this pandemic in speculation without tracing the role of animals in transmitting the disease raise the negative perception to general people and hampers conservation ultimately. Rather, we need to educate people how diseases can be transferred from wildlife to humans and also the role of such animals in ecosystem and its wellbeing. Enhanced awareness and research based knowledge sharing would help to change attitude and perception towards wildlife (Neupane et al. 2017).

Due to reduced attention to conservation during this pandemic, natural habitat and fragile wildlife might receive less attention, resulting in potential big losses. Conservation officials should put their field staffs on high alert and continue frequent patrolling in the protected areas. Wildlife surveillances either remotely or in the field should be arranged to monitor wildlife crime. Financial support should be available to maintain the conservation efforts.

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