Results of the Survey on the Impacts of COVID-19 to ASEAN Heritage Parks and other Protected Areas in the ASEAN Region





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In May 2020, the ASEAN Centre for Biodiversity (ACB) conducted an online survey for managers of ASEAN Heritage Parks (AHP) and other protected areas (PA) in the ASEAN region to better assess the impacts of the Coronavirus Disease (COVID-19) to these natural parks. As a follow-up to the first survey, the ACB administered a second survey from 27 February to 24 March 2023 to determine the conditions of the AHPs and other protected areas in the region in relation to the impacts of COVID-19, more than three years since the onset of the pandemic.

The ACB will use the results of the survey in its reports and other communication materials for public consumption, but particularly aimed at improving the welfare of the AHPs. The results of this survey will likewise help the ACB in identifying the capacity enhancement and communication needs of the AHP and PA management aimed at building pandemic resilience. The ACB also hopes that the results can contribute positively to the achievement of the ASEAN Comprehensive Recovery Framework (ACRF), AHP Regional Action Plan and One Health Programming.

A total of 63 respondents composed of managers and officials of protected areas in the Region participated in the survey from nine ASEAN Member States (AMS): two (2) from Cambodia, four (4) from Indonesia, three (3) from Lao PDR, nineteen (19) from Malaysia, three (3) from Myanmar, nineteen (19) from the Philippines, one (1) from Singapore, four (4) from Thailand, and eight (8) from Viet Nam. Thirty-six of the protected areas represented in the survey are designated AHPs.

Table 1 below presents the list of protected areas that participated in the survey. A number of duplicate responses have been deleted from both the AHPs and non-AHPs:

AMS	AHPs	Non-AHPs
Cambodia	Virachey National Park	Southern Cardamom Mountain National Park
Indonesia	Kepulauan Seribu National Park Gunung Leuser National Park Wakatobi National Park Way Kambas National Park	
Lao PDR	Nam Ha National Protected Area	Nam Pui National Park Phu Xiengthong National Park
Malaysia	Endau-Rompin Johor National Park Gunung Mulu National Park Taman Negara National Park	Gunung Gading National Park Tasek Bera Ramsar Site Taman Laut Malaysia Maliau basin Rezab Hidupan Liar Tengku Hassanal Krau Wildlife Reserve Penang National Park, Malaysia Tengku Hassanal Wildlife Reserve Maliau Basin Forest Reserve Paya Indah Wetlands Taman Negara Terengganu

Table 1. List of Participating Protected Areas in the Survey

		Protected Forest within Permanent
		Reserved forest at Peninsular Malaysia
Myanmar	Inle Lake Wildlife Sanctuary Indawgyi Lake Wildlife Sanctuary Meinmahla Kyun Wildlife Sanctuary	
Philippines	Agusan Marsh Wildlife Sanctuary Mt. Hamiguitan Range Wildlife Sanctuary Mt. Apo Natural Park Mt. Hamiguitan Range Wildlife Sanctuary Mt. Iglit-Baco National Park Mt. Inayawan Range Natural Park Mt. Kitanglad Range Natural Park Mt. Makiling Forest Reserve Mt. Malindang Range Natural Park Mts. Timpoong Hibok-Hibok Natural Monument Pasonanca Natural Park Tubbataha Reefs Natural Park	Bongsanglay Natural Park
Singapore	Bukit Timah Nature Reserve	
Thailand	Ao Phang-Nga – Mu Ko Surin – Mu Ko Similan National Park Kaeng Krachan Forest Complex Khao Yai National Park Tarutao National Park	
Viet Nam	Ba Be National Park Bach Ma National Park Chu Mom Ray National Park Con Dao National Park Lo Go-Xa Mat National Park Kon Ka Kinh National Park Ngoc Linh Nature Reserve U Minh Thuong National Park	

COVID-19 cases and related response

Survey respondents were asked if there were confirmed COVID-19 cases among the PA officials and personnel. Compared to the first survey conducted in 2020 with only one (1) respondent with confirmed COVID-19 case, there were 49 protected areas who said they had been diagnosed with COVID-19 including seven (7) AHPs. Moreover, nine (9) AHPs said that more than half of their staff and officials were diagnosed with COVID-19. Same number of AHPs reported that only less than 10% of their staff had confirmed COVID-19 cases. The percentage of staff and officials who were not infected by COVID-19 is presented as Figure 1.



Figure 1. Percentage of Personnel Diagnosed with COVID-19 among the AHPs

Asked regarding the health-related equipment (Figure 2) and materials available in the PAs, almost all AHPs said there are personal hygiene kits in their parks. Mt. Kitanglad Range Natural Park in the Philippines added that there is also a provision of face masks and vitamins to boost the immune system of their staff. Only eight (8) AHPs coming from Myanmar, Philippines, Thailand and Viet Nam said that there are COVID-19 testing stations in their parks. Thermal scanners and personal protective equipment are also available in other AHPs.



Figure 2. Available Health-related Equipment in the AHPs

COVID-19 Impacts, Restrictions and Measures

Based on the list provided in the survey instrument, the respondents identified some of the COVID-19 restrictions that were put in place in their PAs. Majority, or 23 of the AHPs said that they imposed a no mask, no entry policy among tourists/park goers. Twenty-one or 58% of the AHPs also limited the number of tourists inside the park per day. Some AHPs reported that due to these restrictions imposed by the different local government units, identified threats such as cases of wildlife hunting within the park decreased. Another AHP shared that this caused extreme lack of income and food sources. During the pandemic, Agusan Marsh Wildlife Sanctuary, an AHP from the Philippines said that communities were dependent on the natural resources in the area but some sorted to illegal hunting and fishing for daily

sustenance. However, other AHPs did not observe changes in illegal activities. Bach Ma National Park, an AHP from Viet Nam, claimed that "rangers and forest protection laborers work as usual". Restrictions implemented in PAs and AHPs were presented in Figures 3 and 4 respectively.

Around 77% or twenty-eight AHPs also agreed that the pandemic has some positive impacts to the parks in which twenty of them observed that there were more sightings of wildlife within the AHPs during the height of the pandemic. Other AHPs shared some positive results. Way Kambas of Indonesia mentioned that elephant training center become calmer, because they are not disturbed by visitors. Bukit Timah Nature Reserve of Singapore and Kaeng Krachan Forest Complex in Thailand added that natural resources "rested" and have "recovered" during the lockdown, while in Tubbataha Reefs Natural Park, Philippines, an improved water quality and less marine debris was observed. Mt. Makiling Forest Reserve in the Philippines shared that some community members earned more income from agroforestry farm produce.



Figure 3. COVID-19 Related Restriction in the AHPs

Out of the 36 AHPs, there are 14 AHPs who said they no longer impose any restrictions in the PA. Same number of AHPs also said that some restrictions are still in place.



Figure 4. Status of COVID-19 Related Restrictions in the AHPs

Thirty-five of the respondents (both AHPs and non-AHPs) rated Reduction of Tourism and PA Revenue with a *Very High* impact to their protected areas. A rating of *High* was given by 30 respondents to the impact of the threat and safety of the personnel. Meanwhile, another 30 respondents said that changes in the condition of the natural resources have *High* impact on the PAs. Figure 5 below shows the summary of significance of the different impacts of COVID-19 on the AHPs.



Figure 5. Significance of the Different Impacts of COVID-19 on the AHPs

Closure of PAs to Tourists

Majority or 26 of the AHPs said that the park was closed to all tourists and visitors during the lockdown. Twelve of these AHPs said that they closed the park for over a year while only four AHPs closed theirs for less than a year. Meanwhile there are 17 or 27% of the total number of protected areas, including the non-AHPs, who said that they closed the park for at least six months.

Twelve of these AHPs said that they lost or did not earn at least USD 50,000 from closing the park from tourists. One AHP from the Philippines, the Tubbataha Reefs Natural Park claims that they estimated over USD300,000 income loss because of the lockdown and COVID-19 restrictions. More details on closures and estimated loss of income were presented in Figure 6 to 8 below.







Figure 7. Duration of the Closure of AHPs to Tourists



Figure 8. Estimated Income Loss due to Closure of AHPs to Tourists

After experiencing a long period of lockdowns, 75% of the AHPs said they have allowed visitors to the park. Thirteen of the responding AHPs said that they started allowing visitors as early as the first quarter of 2022. Only one AHP said they re-opened late in the fourth quarter of 2022 (see Figure 9).



Figure 9. Number of AHPs that Re-opened the Parks for Tourists (by Quarter 2022)

As expected, the average number of visitors during the re-opening period was significantly lower than the pre-pandemic period. However, among the respondents (both AHPs and non-AHPs), there were a few parks such as Endau Rompin Johor National Park in Malaysia and Bach Ma National Park in Viet Nam who said they recorded a slightly higher number of visitors now compared to the number of visitors before the pandemic. Meanwhile, four AHPs like Gunung Leuser National Park in Indonesia and Ba Be National Park in Viet Nam said that the number is almost the same as the pre-pandemic period (Figure 10).





Strategies and Response to COVID-19

Given the list of management measures needed to undertake to recover from the COVID-19 pandemic and to build resilience to possible pandemics in the future, more than 30 AHPs said there is a need to *Enhance PA management capacity of office and field-based personnel to address COVID-19 protocols.* This is followed by the need to *Increase community awareness of ecosystem services provided by the PA and of nature-based solutions* with 29 responses. The priority activities/strategies that they hope to conduct include preparing protocols for the new normal and strengthening educational activities. The post-pandemic management measures and strategies of AHPs are presented as Figures 11 to 12 below.



Figure 11. Management Measures Identified by the AHPs to Build Resilience against Pandemic



Figure 12. Immediate Strategies Identified by the AHPs as Part of COVID-19 Response

None of the respondents said they can cite any zoonotic diseases in their parks aside from COVID-19. However, one respondent, Tarutao National Park from Thailand answered Yes to the question whether there is any traditional or indigenous knowledge system and practices in the area to identify zoonotic diseases. Asked what themes or topics have to be discussed among the AHPs more extensively to help identify the roles of AHPs in minimising or preventing impending pandemics, 33 AHPs answered the One Health Approach, followed by Nature-based solutions with 21 responses and Zoonosis with 20.

Aside from AHP officials and staff, they agreed that the capacity building on the One Health approach highlighting the role of the environment sector in preventing future pandemics should also include local officials, law enforcement officers, tour operators, academia and indigenous people. On the role of the AHPs in building resilience to pandemics, all the AHPs said that the communication, education and public awareness activities of the AHP/PA should be enhanced. The topics and thematic programmes that need to be tackled to prevent future pandemics are presented as Figures 13 and 14 below.



Figure 13. Thematic Programmes that AHPs Need to Discuss to Minimise/Prevent Pandemics



Figure 14. Role of AHP in Building Pandemic Resilience

Regarding the role of the local communities within and around the AHPs in building pandemic resilience, the AHPs said that the local communities have a major role in supporting awareness-raising initiatives on zoonotic diseases and their risks. Ba Be National Park from Viet Nam added that they can also help to regularly assess wildlife habitats at AHPs while Pasonanca Natural Park from the Philippines suggested training on the detection and prevention of zoonoses inside PAs & AHPs. Taman Negara National Park from Malaysia also suggested developing basic research of zoonoses inside protected areas that can easily be done by AHP's staff/officers. The roles of communities within and around the AHPs in building pandemic resilience is shown in Table 2.

Roles	No. AHP Responses
Support awareness-raising initiatives on	28
zoonotic diseases and its risks	
Report to PA management illegal/extractive	27
activities inside the area	
Assist in wildlife species and habitat monitoring	26
Avoid any form of unnecessary contact with	22
wildlife	

Table 2. Roles of Communities Within and Around the AHPs in Building Pandemic Resilience

Conclusion

There is a significant difference in the COVID-19 cases among the AHPs between the first and second surveys. Varying levels of restrictions were imposed among the visitors in the AHPs. Similar to the findings from the first survey, the lack of human disturbance during the lockdowns has increased wildlife encounters.

Despite some positive effects to nature, the income loss during the lockdowns underscore the need for supplemental financial support and alternative options for income generation among the protected areas.

The survey results emphasize the need for capacity-building on one health programming alongside nature-based solutions. The importance of community participation on natural resource management and awareness-building on zoonoses is also highlighted. The findings of the survey also reinforces the ACRF's Broad Strategy 5 - *Advancing towards a More Sustainable and Resilient Future* that gives priority to safeguarding the region's natural resources and its people.

