

HONG KONG UNESCO GLOBAL GEOPARK

Executive Summary

1. A United Nations Educational, Scientific and Cultural Organization (UNESCO) geopark is a single, unified geographical area where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. It uses its geological heritage, in connection with other aspects of an area's natural and cultural heritage, to enhance awareness and understanding of key issues facing society, such as using the earth's resources sustainably, mitigating the effects of climate change and reducing natural disasters-related risks. As announced in the 2008-09 Policy Address, the Government would set up a geopark with a view to better conserving the geological landscapes as well as promoting geoeducation and geoscience popularisation. In 2009, the geopark was established, obtained the national geopark status and became Hong Kong National Geopark of China. In 2011, the geopark was accepted as a member of the Global Geoparks Network (GGN) and was renamed Hong Kong Global Geopark of China. In 2015, with the formalisation of the new "UNESCO Global Geopark" label, the geopark was renamed Hong Kong UNESCO Global Geopark (hereinafter referred to as Hong Kong Geopark). In order to ensure the quality of UNESCO Global Geoparks, the status of each UNESCO Global Geopark is subject to a thorough revalidation every four years. The Agriculture, Fisheries and Conservation Department (AFCD), as the management authority of Hong Kong Geopark, is responsible for all aspects of the implementation of the geopark, including planning, management and visitor services.

2. Hong Kong Geopark is located in the eastern part of Hong Kong with land area of about 150 square kilometres, and comprises two geological regions, namely the Sai Kung Volcanic Rock Region and the Northeast New Territories Sedimentary Rock Region. The main planning principles of Hong Kong Geopark include legal protection of important geological sites under the Country Parks Ordinance (Cap. 208) and the Marine Parks Ordinance (Cap. 476), and orientation to nature conservation, education and sustainable development. As of June 2022, 12 geosites with land-tour routes and 2 boat-tour routes were developed for Hong Kong Geopark and 8 visitor centres were established. According to AFCD, the annual number of visitors to Hong Kong Geopark ranged from about 1.2 million to 1.5 million in 2017 to 2021. In 2021-22, the recurrent expenditure for Hong Kong Geopark was about

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\$29.2 million. The Audit Commission (Audit) has recently conducted a review of Hong Kong Geopark.

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3. *Mechanism for identifying geosites for promotion not laid down in guidelines.* Since 2011, AFCD has identified three new geosites with land-tour routes, developed facilities under the “Same Roots, Same Origins” project (launched in 2017 to conserve the cultural heritage of local communities) and made improvements to existing geo-trails. Audit noted that AFCD had not laid down guidelines on the mechanism for identification of such sites (e.g. the criteria for selecting the geosites concerned and approval authority) (paras. 2.9, 2.10 and 2.12).

4. *Some geosites not accessible by regular daily public transport services.* Audit notes that public transport services to some geosites are not available to visitors daily, including: (a) Kau Sai Chau, with travelling requires hiring a boat, using recreational kaito ferry services that are subject to demand or joining a guided tour; (b) Tung Ping Chau, with the regular kaito ferry service between Ma Liu Shui and Tung Ping Chau only available on Saturdays, Sundays and public holidays; and (c) Lai Chi Wo, Kat O and Ap Chau, with the regular kaito ferry services between Ma Liu Shui and these three geosites only available on Saturdays, Sundays and public holidays (from 7 July 2022, a regular kaito ferry service from Sam Mun Tsai to Lai Chi Wo/Kat O/Ap Chau on Tuesdays and Thursdays is provided on a trial basis until 31 December 2022) (para. 2.23).

5. *Need to enhance the accessibility to East Dam.* High Island Reservoir East Dam (hereinafter referred to as East Dam) is one of the most popular geopark attractions of Hong Kong Geopark. The access road to East Dam (i.e. Sai Kung Man Yee Road) is maintained by the Water Supplies Department (WSD) and its access is restricted under the co-management of AFCD and WSD. East Dam can be accessed by green minibus (GMB) directly, franchised buses/other GMB services at Pak Tam Chung, joining tours and taxis (para. 2.26). Audit noted the following issues:

- (a) *GMB service.* Since the introduction of the direct GMB route between Pak Tam Chung and East Dam in July 2018 and up to September 2022, the service was only available on Sundays and public holidays. According to the Transport Department (TD), in view that the passenger demand for the

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GMB route concerned was high, the service would be extended to Saturdays (from 22 October 2022). Audit noted that TD had conducted surveys on the demand of public transport services at East Dam on 22 days in the period from 2020 to 2022 (up to July) in different seasons, but no similar surveys had been conducted on weekdays. Besides, the 20-minute headway of the GMB service on Sundays and public holidays had not been changed since February 2019, and the demand for public transport services at East Dam was affected by seasonal factors (paras. 2.28, 2.29 and 2.37); and

- (b) ***Coach permits.*** With a view to promoting green tourism and facilitating tourists' access to Hong Kong Geopark, the Tourism Commission, in collaboration with the Travel Industry Council of Hong Kong, AFCD and WSD have been taking forward a scheme since June 2012 allowing registered travel agents to apply for coach permits to access East Dam via the restricted Man Yee Road to receive inbound tourists. Since November 2020, the scheme has been extended to travel agents which organise local tours. Audit noted that the number of applications for the coach permits to East Dam was on an increasing trend, and the actual demand might even be greater because AFCD had not maintained information about turning away applicants due to the daily limit of three permits having been exceeded. On the other hand, some permits were not utilised but the reasons were not ascertained (paras. 2.31 and 2.33).

Visitor services

6. ***Need to review methodology in calculating visitor numbers.*** According to AFCD, as the majority of the land area of Hong Kong Geopark overlaps with three country parks (i.e. Sai Kung East, Sai Kung West, and Plover Cove) plus the Tsiu Hang Special Area (the main entrance of which is through Lions Nature Education Centre located there), the corresponding visitor data from these areas would be the most practical source of data for Hong Kong Geopark to approximate the visitor number. After a review of the calculation method in 2018, the total number of visitors to Hong Kong Geopark has been estimated to be 30% of the total number of visitors to the three country park areas plus 100% of that to Lions Nature Education Centre. Audit noted that in calculating the visitor numbers to Hong Kong Geopark, AFCD had not taken into account some new geosites developed after 2018 (e.g. Kau Sai Chau), some sites with a high carrying capacity (e.g. Tung Ping Chau), and the visitor numbers of visitor centres (except for Geopark Visitor Centre located within Lions Nature Education Centre) (paras. 3.5 and 3.6).

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7. ***Need to keep under review patronage to visitor centres.*** As of June 2022, there were eight visitor centres in Hong Kong Geopark. Audit noted that, amid the coronavirus disease (COVID-19) epidemic, the visitor numbers of Volcano Discovery Centre and Geopark Visitor Centre (i.e. the two visitor centres with the largest number of visitors) generally decreased. Besides, the number of visitors to Kau Sai Village Story Room was on the low side, and the lack of regular kaito ferry services might be a reason (paras. 3.4 and 3.9).

8. ***Need to keep under review opening schedule of visitor centres.*** Audit reviewed the opening schedule of visitor centres as of August 2022 and found that they did not match with the availability of public transport to the related geosites, as follows: (a) while regular kaito ferry services from Ma Liu Shui to Ap Chau were available on Saturdays, Sundays and public holidays, Ap Chau Story Room was not open on Saturdays; and (b) from 7 July 2022, while a regular kaito ferry service from Sam Mun Tsai to Lai Chi Wo/Kat O/Ap Chau on Tuesdays and Thursdays was provided on a trial basis until 31 December 2022, the four story rooms at the geosites concerned were not open on the said days (para. 3.12).

9. ***Need to clearly set out service requirements of visitor centres in the midst of COVID-19 epidemic.*** As of June 2022, the operation of six visitor centres was outsourced, including five story rooms and Volcano Discovery Centre. Audit examined the services provided by the operator of Volcano Discovery Centre and noted the following issues (paras. 3.15 and 3.16):

- (a) ***Alternative services not provided in the midst of COVID-19 epidemic.*** From 2019-20 to 2021-22, Volcano Discovery Centre was closed for 9.7 (27%) of the 36 months due to the COVID-19 epidemic. Audit noted that there was no contract clause in the operation contracts to specifically cater for the service provision and the payment mechanism in the midst of COVID-19 epidemic where the required services could not be provided. There was no documentation showing that AFCD had requested the operator to provide alternative services during the closure of the visitor centre and the full contract cost had been paid to the operator for the period (para. 3.17); and
- (b) ***Guided tour services suspended for a long time.*** When Volcano Discovery Centre was open, some services (e.g. guided tours) continued to be suspended, of which some had been suspended for a long time. For

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example, free guided tours at the centre and paid land-based tours had been suspended since mid-July 2020 and not resumed up to August 2022 (para. 3.19).

10. ***Scope for improvement in conducting visitor surveys.*** Audit noted that since March 2016 and up to June 2022, apart from the visitor survey conducted at Volcano Discovery Centre, no visitor survey had been conducted for Hong Kong Geopark. For Volcano Discovery Centre, Audit noted that the annual response rate of the survey was on the low side (ranged from 0.2% to 1.2%) in the period from 2017 to 2022 (up to March), and only one electronic device was available for completion of the visitor survey at the centre. No Quick Response code (QR code) was available for completing the survey online (para. 3.22).

11. ***Scope for improving provision of geopark facilities.*** According to AFCD, the land-based tour routes are designed to be self-guided with on-site interpretation panels, and the signage should be sufficient to present the key geological and ecological heritage attractions along all geo-routes. Audit noted that, as of July 2022, interpretation panels were not available at some observation points in 7 (58%) of the 12 geosites with land-tour routes, and AFCD had not explored alternative means (e.g. QR codes) for providing important information at the key geological and ecological heritage attractions without interpretation panels (para. 3.27).

12. ***Need to properly maintain geopark facilities.*** Audit conducted site visits to seven geosites with land-tour routes and eight visitor centres in the period from April to August 2022 and found that some geopark facilities were not properly maintained (e.g. a multi-language audio guide in a visitor centre was out of service). Besides, Audit examined the records of 16 damaged or worn signs reported in the period from 2020 to 2022 (up to March) and found that the time elapsed from the identification of the damages to the completion of repair or replacement ranged from 4 days to 5 months (averaging 3 months) (para. 3.29).

13. ***Need to enhance provision of geopark information.*** Audit conducted site visits (see para. 12 above), and examined leaflets (displayed at the eight visitor centres and those available on the AFCD's Hong Kong Geopark website (hereinafter referred to as the geopark website)) and geopark information on websites as of July 2022. Audit noted that: (a) some geopark information was outdated or inaccurate (e.g. 26 (25%) of 105 QR codes shown in the leaflets were invalid); and (b) relevant

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and updated leaflets were not always available (e.g. while there were a total of 29 leaflets, the number of leaflets available at the eight visitor centres and on the geopark website varied from 3 to 16 (averaging 10 leaflets)). As of June 2022, no documentation was available showing the criteria in selecting leaflets to be placed at the visitor centres and on the geopark website (para. 3.32).

14. ***Scope for improvement in recruiting and reassessing geopark guides.*** A Geopark Guide System is in place to encourage existing tour guides to build capacity and deepen their knowledge in line with global standards. The system comprises two grades, namely the Recommended Geopark Guide (R2G) and the Accredited Geopark Guide (A2G) (hereinafter collectively referred to as geopark guides) (para. 3.37). Audit noted the following issues:

- (a) ***Scope for improvement in recruiting geopark guides.*** Since the launch of the A2G system in March 2011 and up to March 2022, only one round of recruitment exercise had been conducted in March 2012. Besides, since the launch of the R2G system in June 2010 and up to March 2022, seven rounds of recruitment exercises had been conducted. There was a gap of over five years between the sixth (in September 2015) and the seventh (in January 2021) round (para. 3.39); and
- (b) ***Delay in re-assessment of geopark guides.*** A2Gs and R2Gs are required to be reassessed every three years and two years respectively. Audit noted that there were delays in the re-assessment process. For example, in the 2021 re-assessment of A2Gs, an email for the submission of re-assessment documents and the notification of passing the re-assessment were only issued to the A2Gs concerned 4 to 5 months and 6 to 7 months after the expiry dates of the previous accreditation respectively (para. 3.42).

Other related issues

15. ***Need to strengthen actions in organising educational activities.*** Hong Kong Geopark develops and organises educational activities for all ages to spread awareness of geological heritage and its links to other aspects of natural, cultural and intangible heritages. Audit noted that the number of educational activities organised for Hong Kong Geopark decreased by about 72% from 72 in 2017 to 20 in 2021. According to AFCD, the decrease was mainly due to the COVID-19 epidemic, and for the coming school year from September 2022, it had reviewed the anti-epidemic

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requirements for schools and would provide both face-to-face and online school seminars and talks (paras. 4.2 and 4.4).

16. ***Scope for improving monitoring of geopark partners.*** AFCD works with different partners in promoting Hong Kong Geopark (para. 4.17). Audit noted that:

- (a) ***Geopark hotels.*** There are two geopark hotels in Hong Kong. According to AFCD guidelines, inspections should be conducted at least twice a year to ensure that the operation and partnership arrangements are being followed. However, no documentation was available showing that inspections had been conducted since December 2014 and up to August 2022 (para. 4.18); and
- (b) ***Promotion with geopark partners.*** Two promotional videos, which included promotion of dishes with the names of the restaurants, had been uploaded to the social media account of Hong Kong Geopark in November 2014 and February 2016. These videos were still available for public viewing as of August 2022 but the restaurants concerned were no longer geopark partners. However, there was no disclaimer in the videos or in the posts of the social media account of Hong Kong Geopark stating this fact and that it would not take part in any commercial operation of the restaurants (para. 4.19).

17. ***Need to ensure that geosites are covered by routine patrols/inspections.*** According to AFCD guidelines, the patrol routes of the geopark wardens must cover all geosites of Hong Kong Geopark. Audit noted that two geosites (i.e. Kau Sai Chau and Yim Tin Tsai) were not included in AFCD's patrol plan (revised in August 2018 and July 2022). According to AFCD, while no routine patrols were conducted for geosites such as Kau Sai Chau and Yim Tin Tsai, which were outside the boundary of country parks and marine parks, it would monitor the general site condition simultaneously during inspection of signage or story rooms (para. 4.28).

18. ***Patrols and inspections not conducted according to required frequency.*** Audit examination revealed that: (a) the number of land-based patrols conducted for 6 and 5 geosites in 2020 and 2021 respectively did not meet the required frequency stipulated in the patrol plan, with the shortfall ranging from 4% to 46% (averaging 19%); (b) the number of sea-based patrols conducted for 9 geosites did not meet the

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required frequency in both 2020 and 2021, with the shortfall ranging from 12% to 98% (averaging 69%); and (c) the number of inspection of signage conducted for 5 and 4 geosites in 2020 and 2021 respectively did not meet the required frequency of two inspections per year (i.e. actual frequency was one or nil per year) (para. 4.30).

19. ***Violation of codes and guidelines for visiting geopark.*** Audit conducted site visits to seven geosites with land-tour routes in the period from April to August 2022 and noted behaviours violating the “Code for Visiting Geosites in Hong Kong”, guidelines for visiting geopark and rules shown in warning signs including: (a) getting ashore a geosite classified as a core protection area with no visitor facilities provided; (b) leaving behind litters in geosites; (c) camping at geosites which were not designated campsites; and (d) collecting clams from a geosite (para. 4.33).

20. ***Need to keep under review safety incidents in geosites.*** AFCD does not maintain official statistics on incidents involving injuries or deaths in Hong Kong Geopark. Audit conducted research on media reports published in the period from 2020 to 2022 (up to June) and noted that there were 27 incidents (involving 18 injuries and 12 deaths) in geosites of Hong Kong Geopark. According to AFCD, it had checked the incidents referred by Audit and noted that: (a) 14 (52%) incidents happened outside officially maintained trails/visitation areas of both Hong Kong Geopark and country parks; (b) 10 (37%) incidents were related to heat stroke or the victim’s own body condition; and (c) 3 (11%) incidents happened during water activities (paras. 4.38 and 4.39).

21. ***Scope for improving the provision of safety information to visitors.*** AFCD has included on its Enjoy Hiking website trail difficulty level reference. The high-risk locations with records of fatal and serious accidents in country parks are also included on the Enjoy Hiking website. Audit noted that as of August 2022: (a) the geopark website did not include the list of high-risk locations, the levels of difficulty of trails for hiking, or link to the Enjoy Hiking website for accessing the relevant information; (b) there were inconsistencies between the levels of difficulty of 5 (out of 9) geo-trails stated in a geopark leaflet and those on the Enjoy Hiking website; and (c) while trail distance and hiking time were stated in some of the information boards installed at the geosites, the level of difficulty was not stated in any of the information boards (para. 4.41).

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Audit recommendations

22. Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:

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- (a) lay down guidelines on the mechanism in selecting geosites for promotion (para. 2.16(a));

Visitor services

- (b) review the methodology in calculating the visitor numbers of Hong Kong Geopark with a view to improving the accuracy of the figures (para. 3.23(a));
- (c) keep under review the number of visitors to visitor centres and the opening schedule of visitor centres (para. 3.23(b) and (c));
- (d) clearly set out the service requirements in the operation contracts of visitor centres in future to cater for situations where the required services cannot be provided in the midst of the COVID-19 epidemic, and take measures to ensure that guided tour services of Volcano Discovery Centre are provided as far as practicable (para. 3.23(d) and (e));
- (e) conduct regular visitor surveys to gauge visitors' feedback on Hong Kong Geopark and make better use of information technology to facilitate the conduct of visitor surveys (para. 3.23(f));
- (f) provide geopark facilities in geosites as required by AFCD guidelines, and explore alternative means to provide important information at key geological and ecological heritage attractions without interpretation panels (para. 3.35(a));

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- (g) **step up efforts in repairing or replacing damaged geopark facilities (para. 3.35(b));**
- (h) **take measures to ensure that the information disseminated in visitor centres, information boards, leaflets and websites is accurate and up-to-date, and set out the criteria for displaying leaflets at visitor centres and on the geopark website in AFCD guidelines (para. 3.35(d)(i) and (e));**
- (i) **take measures to ensure that recruitment exercises and re-assessment of geopark guides are conducted in a timely manner (para. 3.54(b));**

Other related issues

- (j) **strengthen actions in organising educational activities for Hong Kong Geopark (para. 4.11(a));**
- (k) **conduct inspections of the geopark hotels according to the frequency stipulated in the guidelines (para. 4.24(b));**
- (l) **specify clearly the relationships between Hong Kong Geopark and geopark partners in promotional materials and timely update the materials to reflect any changes (para. 4.24(d));**
- (m) **take measures to ensure that all geosites are covered by routine patrols and/or inspections as appropriate, and routine patrols of geosites and inspection of signage are conducted in accordance with the frequency stipulated in the guidelines (para. 4.35(a) and (b));**
- (n) **continue to strengthen actions against inappropriate activities in geosites (para. 4.35(c)); and**
- (o) **keep under review safety incidents in Hong Kong Geopark and enhance the completeness and accuracy of geo-route information to visitors (para. 4.43(a) and (b)).**

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23. **Audit has also *recommended* that:**
- (a) **the Commissioner for Transport should:**
 - (i) **in collaboration with the Director of Agriculture, Fisheries and Conservation, keep under review the provision of public transport services to geosites and enhance the services as necessary (para. 2.34); and**
 - (ii) **in collaboration with the Director of Agriculture, Fisheries and Conservation and the Director of Water Supplies, keep under review the provision of GMB services at East Dam (para. 2.35); and**
 - (b) **the Commissioner for Tourism, in collaboration with the Director of Agriculture, Fisheries and Conservation and the Director of Water Supplies, should conduct a review on the scheme of granting coach permits to East Dam for promoting green tourism (para. 2.36).**

Response from the Government

24. The Director of Agriculture, Fisheries and Conservation, the Commissioner for Transport, the Commissioner for Tourism and the Director of Water Supplies agree with the audit recommendations.