

**Confirmed Minutes of the 29<sup>th</sup> Nature Conservation Subcommittee Meeting**  
**held on 19 October 2018 at 9:00 a.m.**  
**in Conference Room, 33/F, Revenue Tower, Wan Chai, Hong Kong**

**Present:**

Dr Michael LAU (Chairman)  
Prof Nora TAM, BBS, JP  
Ir Cary CHAN, JP  
Dr HUNG Wing-tat, MH  
Ms Julia LAU  
Prof Kenneth LEUNG, JP  
Mr Anthony LOCK  
Ir Conrad WONG, BBS, JP  
Ms Becky LAM (Secretary)

**Absent with Apologies:**

Dr Billy HAU  
Prof LAU Chi-pang, JP  
Prof John NG  
Ir Michelle TANG  
Dr Eric TSANG  
Prof Jonathan WONG, MH, JP

**In Attendance:**

*Environmental Protection Department*

Mrs Vicki KWOK	Deputy Director of Environmental Protection (2)
Ms Daisy LO	Assistant Director (Nature Conservation)
Ms Thebe NG	Senior Administrative Officer (Nature Conservation)
Mr Alex TANG	Senior Countryside Conservation Manager (Planning)
Dr Angel AU	Countryside Conservation Manager (Planning) 1
Miss Dora CHU	Executive Officer (CBD) 1
Miss Carman LEUNG	Executive Officer (CBD) 2

*Agriculture, Fisheries and Conservation Department*

Mr Simon CHAN	Assistant Director (Conservation)
Dr Jackie YIP	Senior Conservation Officer (Biodiversity)
Mr CHEUNG Ka-shing	Senior Wetland and Fauna Conservation Officer
Dr Evelyne KUO	Conservation Officer (Biodiversity) 1

**In Attendance for Items 3(i) & (ii):**

*Hong Kong Bird Watching Society*

Dr NG Cho-nam	Vice-chairman
Mr LO Wai-yan	General Manager
Ms Vicky YEUNG	Manager (Projects)
Mr Johnson CHUNG	Senior Project Officer

**In Attendance for Item 3(iii):**

*The Conservancy Association*

Mr Ken SO	Chief Executive
Miss Kami HUI	Conservation Manager
Mr LAU Sin-pang	Assistant Conservation Manager

*Hong Kong Bird Watching Society*

Mr LO Wai-yan	General Manager
Ms Vicky YEUNG	Manager (Projects)

**In Attendance for Item 3(iv):**

*The Conservancy Association*

Mr Ken SO	Chief Executive
Dr Angie NG	Conservation Manager

*The Hong Kong Countryside Foundation*

Ms Teresa LEUNG	Project Manager
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**In Attendance for Item 3(v):**

*Environmental Association Limited*

Dr YAU Wing-kwong	Chief Executive Officer
Dr Richard CHEUNG	Advisory Committee Fung Yuen Butterfly Reserve
Ms Colleen CHIU	Project Manager, Fung Yuen Butterfly Reserve (Nature Conservation)
Mr Gary CHAN	Senior Project Officer, Fung Yuen Butterfly Reserve (Nature Conservation)

Action

The Chairman welcomed Members to the meeting and informed that apologies of absence had been received from Dr Billy Hau, Prof Lau Chi-pang, Prof John Ng, Ir Michelle Tang, Dr Eric Tsang and Prof Jonathan Wong.

**Item 1 : Confirmation of the draft minutes of the 28<sup>th</sup> meeting held on 16 July 2018**

2. The draft minutes of the last meeting were confirmed without amendments.

**Item 2 : Matters Arising**

3. The Chairman reported that the Environmental Association (EA) had provided the following supplementary information as requested in the last NCSC meeting held on 16 July 2018:-

- (i) Butterfly species recorded during surveys from 2015 to 2017;
- (ii) Summary of number of butterfly species in the five families recorded from 2015 to 2017; and
- (iii) Trend plot of diversity of butterflies recorded.

4. The information was circulated to Members for reference on 10 October 2018.

5. Regarding the site visit to Sai Wan as suggested by Members at the NCSC meeting on 30 April 2018, the subject team of the Environmental Protection Department (EPD) advised that the site was damaged by the recent Super Typhoon Mangkhut. The meeting agreed to defer the site visit to the first half of 2019 with regard to the weather condition and the restoration progress of the site.

Secretariat

**Item 3 : Applications under Nature Conservation Management Agreement Scheme**  
***(ACE-NC Paper 5/2018)***

6. The Chairman informed Members that the following five Management Agreement (MA) applications had been considered by the Assessment Panel (the Panel):-

- (i) Fishpond Conservation Scheme in Ramsar Site 2019-21, Hong Kong Bird Watching Society (HKBWS);
- (ii) Hong Kong Got Fishpond – Eco-fishpond Management Agreement Scheme 2019-2021, HKBWS;
- (iii) Nature and Human in Harmony - Nature Conservation Management for Long Valley 2019 – 2021, Conservancy Association (CA);
- (iv) Management Agreement Scheme at Lai Chi Wo Enclave 2019-2021, Hong Kong Countryside Foundation (HKCF); and
- (v) Management Agreement on the Private Land with High Conservation Value at Fung Yuen Valley Site of Special Scientific Interest in Tai Po, Hong Kong 2019-21, Environmental Association Limited (EA).

7. In response to the invitation by the Chairman to declare interest, a Member declared that he was one of the directors of the CA and had direct involvement in the committee for handling the project on “Nature and Human in Harmony - Nature Conservation Management for Long Valley 2019 – 2021”. In addition, the CA was also involved in the MA Scheme at Lai Chi Wo Enclave 2019-2021. In accordance with paragraph 2.7 of the *Guide to Application under the Nature Conservation Management Agreement Projects*, the meeting agreed that the Member should refrain from taking part in the discussion of agenda item 3 about the MA application on “Nature and Human in Harmony - Nature Conservation Management for Long Valley 2019 – 2021” by leaving the venue where the deliberation took place. As the Member was not directly involved in the MA Scheme at Lai Chi Wo Enclave 2019-2021, Members agreed that he could participate in the discussion of this application.

8. A Member declared that she had provided consulting services to a project carried out by the EA which had no relevancy to the MA project to be discussed. The meeting agreed that the Member could stay on and continue participating in the discussion of the relevant MA application. The Chairman also informed the meeting that he was a member of HKBWS.

9. A Member suggested, with the agreement of the Chairman, that Members with direct involvement in the MA projects should not receive details of the Panel’s assessment results by informing the Secretariat beforehand.

10. As invited by the Chairman, Dr Jackie Yip briefed Members on the background, key objectives and scope of the five MA applications. She advised that the Panel considered that all five applications to be discussed were worth supporting. Nonetheless, due to the uncertainty in the schedule of the land resumption under the North East New Territories New Development Areas (NENT NDAs) project, the Panel recommended that the application on “Nature and Human in Harmony - Nature Conservation Management for Long Valley 2019 – 2021” be granted funding for 12-month operations only for sake of prudence.

*[Representatives of HKBWS joined the meeting at this juncture.]*

***(i) & (ii) Fishpond Conservation Scheme in Ramsar Site 2019-21 and Hong Kong Got Fishpond - Eco-fishpond Management Agreement Scheme 2019-21***

11. By way of a powerpoint presentation, Mr Johnson Chung briefed Members on the progress of the MA projects from 2017 to 2019, as well as the objectives of the current MA applications.

*Eco-fish programme*

12. A Member considered that there was potential for the Eco-fish programme to further develop and be self-sustainable by establishing and securing proper sales channels.

13. To establish sales channels for the Eco-fish, Ms Vicky Yeung explained that HKBWS had tried reaching out to local supermarkets but these supermarkets could only sell products supplied by companies with business license. Permits were also required for the storage, packaging, processing and online sales of the Eco-fish. With some 20 000 fishes cultivated in the eco-fishponds each year, there was inadequate demand and the income from the fish sales could not be guaranteed. Given the above challenges and constraints, she advised that the trial programme of Eco-fish would be suspended temporarily from 2019 to 2021. HKBWS would continue to explore ways to overcome the constraints and might reintroduce the programme at an opportune time.

14. A Member suggested and Ms Vicky Yeung responded that HKBWS had considered the possibility of selling fish through the mobile application “Local Fresh” launched by the Fish Marketing Organization (FMO). FMO advised that fish products would be drawn from a pool of accredited fish farms on the receipt of an order and thus the role of sellers on the application was rather passive. Furthermore, there were existing large accredited fish farms supplying freshwater fish on the application but the amount of sales was not high.

15. Ms Daisy Lo suggested with the support of a Member that HKBWS could make reference to the experience of Japan and consider collaborating with local restaurants to promote Eco-fish such as by launching seasonal promotions and offers. Having benefitted from the restaurants’ marketing gimmicks, it would be possible to enhance the demand for Eco-fish and generate more income through direct sales.

16. A Member further suggested organising major activities such as the New Territories Fishpond Festival and the Fishpond Sustainable Art Festival during the harvest time of the fishponds, such that participants of these activities could purchase directly and spread the word regarding Eco-fish.

17. Ms Vicky Yeung advised that the fish harvested in end 2018 could be sold at the Fishpond Sustainable Art Festival to be held in early 2019. However, Dr Ng Cho-nam pointed out that the number of participants to the festivals was limited to around 300 due to the inaccessibility of the fishponds and the lack of ancillary facilities. The increased visitor flow might also cause disruptions to the conservation work.

18. In reply to a Member's enquiry regarding the projected number of participants for the Fishpond Sustainable Art Festival, Mr Johnson Chung clarified that the projection of 10 540 participants included both on-site visitors as well as visitors to the exhibitions in urban areas which would display the fishpond artworks.

19. Dr Ng Cho-nam remarked that the success of the Eco-fish programme relied heavily on the synchronisation of many different factors, including the climate, cooperation of fishpond operators and market conditions. He pointed out that the sustainability of the local fish farming industry was in question given that there was low demand for freshwater fish, not to mention Eco-fish which was comparatively more expensive. Priority would be given to preserving the local fish farming industry and sustaining the traditional drain-down practice of fishponds before giving consideration to reintroduce the Eco-fish programme. He mentioned that organising eco-tours could help supplement the income of fishpond operators and at the same time engage and yield support from the public for fishpond conservation.

*Sustainability of the project*

20. As regards a Member's suggestion on offering eco-tours to overseas tourists at a higher price with a view of increasing revenue, Mr Johnson Chung mentioned that HKBWS had been collaborating with local travel agencies to organise eco-tours targeting overseas tourists, but the interest of overseas tourists on local fishponds was currently low. Given that local fishermen had to be involved in the eco-tours, provision of training and/or translation services would be a precondition for the delivery of eco-tours to overseas tourists.

21. In response to the Chairman's enquiry regarding the fee for eco-tours, Mr Johnson Chung said that a low price was set such that individuals from low-income groups could afford to join and the fee increase was limited to around 10% per year. Notwithstanding the above, given that the eco-tours were organised in small groups, the fee would be slightly higher than those organised by travel agencies. He shared that some participants had reflected in the survey that the eco-tours were too expensive.

22. Ms Vicky Yeung supplemented that the fee of eco-tours for business institutions was higher than that for schools and non-profit organisations with a view to balancing the cost and revenue. If there were any profits from the business, it would be used to finance the eco-tours.

23. Regarding a Member's enquiry on the financial incentives for drain-down of fishponds and whether volunteers could be involved in the drain-down operations in order to cut costs, Mr Johnson Chung explained that volunteers had been engaged as far as practicable and the financial incentives were mainly to cover the electricity charges and salary of the fishermen.

24. Addressing a Member's suggestion of engaging volunteers as guides for eco-tour with a view to cutting down operation costs, Mr Johnson Chung informed that a volunteer team with a pool of around 400 volunteers had been set up to provide assistance at events such as the New Territories Fishpond Festival.

25. With the rich experience accumulated over the years, a Member suggested that HKBWS review the cost-effectiveness of the various activities carried out under the project and propose possible improvements for the renewed term. She agreed with another Member on the importance of financial sustainability of the project and suggested to cut those activities with a low cost-effectiveness.

26. Mr Johnson Chung said that most public engagement activities done in the past were retained in the current application and new activities had also been introduced. Apart from organising a summer camp, a new activity "Get-into Community" would be organised for promoting freshwater aquaculture to nearby communities and enhancing their participation in fishpond conservation work. Furthermore, fish education involving indoor interactive lessons and outdoor field trips would be extended to primary schools to teach students about the fish they consume. Ms Vicky Yeung added that all public engagement activities held in the past were considered effective, and there had been some adjustments to the content of the activities with respect to the current trends in order to increase the appeal to different groups of people. For example, more workshops on making fishing nets and musical instruments had been held in place of photography workshops.

27. Regarding the ecological baseline studies, Ms Vicky Yeung informed that only the baseline survey for birds would be maintained for the new MA project given that the accumulated bird species was still increasing while the record for fish, herpetofauna and odonates had levelled off. Casual record for the levelled off taxa would be kept when new species were found during inspections of fishponds.

28. In response to the Chairman's enquiry regarding the difficulties encountered in fishpond conservation and sustaining the fish farming industry, Mr Johnson Chung shared that a survey conducted in 2014 showed that the average age of fishpond operators was about 63 and many younger ones abandoned their fishponds to look for other work opportunities elsewhere. With difficulty in attracting the younger generation to apply for the job, it was anticipated that the number of fishpond operators engaged in the project would keep decreasing.

29. Dr Ng Cho-nam added that in contrast to hobby farming, fishpond operation required full-time commitment and it would be difficult to involve the nearby community. The sustainability of the fish farming industry would be in question subsequent to the retirement of the fishpond operators and the area of

abandoned fishponds was anticipated to increase. With reference to the withdrawal of some area of fishponds in Fung Lok Wai from the project, he considered that the conservation of fishponds could not rely solely on the MA projects due to the influence of many external factors. Notwithstanding the above, he pointed out that it had become even more important to continue performing drain-down at the remaining fishpond area with a view to providing sufficient feeding ground to the waterbirds.

*Public education and engagement*

30. A Member considered that the effectiveness of the public engagement activities should be assessed mainly in terms of the impact on the participants and enquired whether the feedback collected from participants could be provided to Members for reference. She suggested enlisting the help of secondary school students with a view of reducing operational costs and at the same time enhancing the interest and knowledge of secondary school students on fishpond conservation. Surveys should be conducted to evaluate the knowledge, behavioural and attitude change of the participants.

31. A Member remarked that a large proportion of participants in public education and engagement activities had only attended public and school exhibitions, and some of the on-site activities had yet to reach the target in terms of the number of participants.

32. Mr Johnson Chung explained that only two or three villages in the Deep Bay area could be accessed directly by coaches and the size of the coaches for transporting visitors to the sites was constrained. Furthermore, the lack of ancillary facilities such as public toilets had further limited the number of participants in on-site activities. Notwithstanding the above, Ms Vicky Yeung anticipated that all targets could be met by the end of 2018.

*Conclusion*

33. With no further questions from Members, the Chairman thanked HKBWS for their presentation and detailed clarifications.

*[Representatives of HKBWS left the meeting at this juncture.]*

*Deliberation*

34. While expressing support for the two MA projects, a Member reiterated the importance for HKBWS to assign priority to activities with greater effectiveness, in particular for public engagement activities. She echoed the view of Dr Ng Cho-nam that the conservation of fishpond could not rely solely on the two MA projects given that the success of the projects depended heavily on the cooperation of the fishpond operators which was beyond the control of HKBWS. She suggested the Government review the minimum area



of fishpond within the Deep Bay Wetland to be maintained in order to conserve the Ramsar Site and hire fish operators as necessary to manage the concerned fishponds.

35. A Member expressed support for the renewal of the two MA projects and commended HKBWS for introducing new public engagement activities including the Fishpond Sustainable Art Festival and the “Get-into Community” programme to reach out to nearby local communities. Regarding the Eco-fish programme, he opined that HKBWS could make better use of the social media to promote and build the brand.

36. In reply to the Chairman’s enquiry concerning the sharing of data collected under MA projects with Members, Dr Jackie Yip advised that MA applicants were required to submit half-yearly progress reports and project completion reports to the secretariat of the Environment and Conservation Fund (ECF) for consideration, and AFCD would provide technical advice and seek additional information from the applicants as necessary. She agreed to liaise with the ECF and NCSC secretariats on whether and how the reports could be shared with respective Members for reference, if appropriate.

37. While showing appreciation towards the work of HKBWS in the Deep Bay, a Member agreed with another Member that there should be clear targets set for biodiversity conservation, achievement of self-sustainability and community engagement, and better planning was required to achieve these targets stage by stage. He suggested HKBWS consult relevant Government departments and experts on areas such as marketing and promotion strategies so as to increase the cost-efficiency.

38. A Member opined that the lack of younger generation entering the industry was anticipated to persist due to the absence of economic incentives. She suggested HKBWS provide training for teachers of liberal studies such that more eco-tours could be organised by schools and to increase the interest of the students for fishpond conservation.

39. Facing the challenges posed by land resumption and lack of new blood entering the industry, a Member suggested that the Government study the possible impacts on the biodiversity of the Deep Bay area should the MA projects could not be sustained, and propose measures to mitigate the impacts as far as possible.

40. The Chairman remarked that as the MA projects usually had to be renewed every two years, which posed challenges for applicants to make long-term planning and form long-term partnerships or collaboration with other organisations or individuals. With reference to the earlier discussion, he pointed out that there were many other issues that could not be dealt with by the applicant at the project level and requested the Countryside Conservation Office (CCO) to provide assistance as appropriate.

***(iii) Nature and Human in Harmony - Nature Conservation Management for Long Valley 2019 – 2021, Conservancy Association (CA)***

*[A Member refrained from discussion of this item and left the meeting temporarily. Representatives of CA and HKBWS joined the meeting at this juncture.]*

41. Mr Ken So briefed Members on the progress of the current project from 2017 to 2019, as well as the objectives of the application for renewal of the MA project from 2019 to 2021. He reported that there had been a decrease in the managed area within the current term of the project and the proposed managed area for shallow water habitat (SWH) and less intensive wet agricultural land could not be met. He explained that in anticipation of land resumption for the establishment of a Nature Park in the Long Valley area, some farmers had without prior notification converted SWH into orchards for the plantation of banana trees with a view to receiving higher ex-gratia allowance payment from the Government and the management agreements of concerned farmlands had to be terminated as they were no longer qualified. Furthermore, agreement could not be reached with one of the previously engaged landowners on the use of the farmland.

*Sustainability of project*

42. Addressing Mr Ken So's concern on the difficulty for the project to achieve an income equivalent to or more than 5% of the total budget, a Member suggested that the high demand for eco-tours might allow for setting a higher price to help increase the revenue. He considered that the project should try to develop a business model in order to become self-sustainable.

43. Ms Vicky Yeung explained that eco-tours had been arranged in Long Valley in previous projects. In view that Long Valley might become inaccessible after land resumption, a new tour route would be developed in the Ho Sheung Heung area which she considered as less attractive in terms of the diversity of wetland habitats as compared with Long Valley. They would try to enrich the contents of the route by incorporating historical and cultural elements in addition to introducing the biodiversity of the area.

44. A Member showed appreciation towards the work of the CA and HKBWS and suggested that consideration be given to developing secondary products such as rice wine to increase the revenue of the project.

45. Miss Kami Hui thanked a Member for his suggestion and informed that the CA had explored the making of secondary products, such as mooncakes and water chestnut cakes, in collaboration with GroundsWork which was a social enterprise under St. James's Settlement. The CA had also supplied rice to Kong Yeah, a small group that supported and promoted local agriculture.

46. In view of farmland resumption and farmers converting the farmlands for more profitable plantations, a Member asked whether there was any plan to prevent the further loss of managed area.

47. Mr Ken So explained that some farmers had resorted to plantations that did not comply with the terms laid down in the MAs, since they were concerned that lower ex-gratia allowance payment might be granted for managing the farmland as wetland habitats or growing wetland-associated crops in the event of land resumption. However, he informed Members that most MA farmers had continued to participate in the project. He supplemented that the CA had also allowed the farmers to grow Water Chestnut and Chinese Arrowhead in the SWH fields, so that the farmers could earn income from the crop sales while implementing the conservation management measures.

48. A Member showed her concern on the aged farmers involved in the project. Ms Vicky Yeung explained that the ages of most farmers ranged from 63 to 86 and the farmers in Ho Sheung Heung were relatively younger.

49. In response to the Chairman's enquiry on the management fees for various habitat types in Long Valley and Ho Sheung Heung, Ms Vicky Yeung explained that the management fees were adjusted upward annually in order to provide incentives attractive enough to the farmers involved. The rates at Ho Sheung Heung were set to be higher than those at Long Valley in order to attract more new farmers there to join the project.

#### *Public education and engagement*

50. In response to a Member's suggestion to assess the effectiveness of public engagement activities in terms of the knowledge, behavioural and attitude change of the participants, Ms Vicky Yeung explained that those activities that provided hands-on experience were the most effective in enhancing their knowledge on wetland habitats. She said that the Long Valley Ecopaddy Co-operative Society under the CA provided long-term engagement programmes to connect the urban community with the ecology and farmlands in Long Valley. While the effectiveness of such long-term programmes offering on-site experience was high, the capacity for participation was very limited. Miss Kami Hui further informed that around 100 to 200 people participated in the engagement programme of the Long Valley Ecopaddy Co-operative Society each year. They were glad to see that these participants had thereafter not only maintained a close communication with the CA and sustained high interest and involvement in matters relating to the local farming industry and ecological conservation, but also actively participated in other events and offered their assistance at farmlands in other locations such as Lai Chi Wo.

51. Ms Vicky Yeung supplemented that the project also helped provide basic knowledge and develop the interest of participants to become eco-tour

guides especially for those without prior experience in tour guiding and/or bird watching.

*Conclusion*

52. With no further questions from Members, the Chairman thanked the CA and HKBWS for their presentation and detailed clarifications.

*[Representatives of CA and HKBWS left the meeting at this juncture.]*

*Deliberation*

53. The Chairman drew Members' attention to the Panel's recommendation that the project be granted funding for 12-month operations to allow for greater flexibility to adjust to future developments in the land resumption process.

54. A Member supported the Panel's recommendation and considered that it would be more reasonable for the management fees of Long Valley and Ho Sheung Heung to be equal.

55. The Chairman expressed concern towards the sustainability of the project given that the costs of operating income-yielding activities such as the sale of eco-produce largely exceeded the revenue generated. He said that higher rate was being charged for eco-tours run by other organisations such as World Wide Fund for Nature - Hong Kong at Mai Po and the response was good.

56. A Member supported the Chairman's suggestion and opined that the applicant should consolidate its experience over the past years to achieve financial sustainability. He considered that the current target for earning an income equivalent to 5% of the total budget was too low and suggested the ECF impose a more stringent requirement on the applicant regarding the balance between income and expenditure.

57. A Member agreed and suggested that the applicant could explore whether the Education Bureau could provide subsidies for school eco-tours. She also considered that a review on the cost for organising eco-tours should be conducted.

58. Given that the project was recommended to be provided with funding for 12-month operations only, a Member asked whether the applicant should be reminded to make the necessary preparations for the potential termination of employment of the long-term staff.

59. Dr Jackie Yip explained that arrangements on termination of service would be carried out according to the prevailing legislative requirements and there were no specific requirements under the ECF mechanism. Any costs

associated with the laying off of employees should be accounted for in the budget of the application.

60. The Chairman further supplemented that for most project-based activities, contract staff were generally hired based on the project duration and funding availability, so that no layoffs would be necessary by the time of project completion.

61. A Member suggested that the Government should consider helping the applicants to learn from the chambers of commerce in setting up a business model to achieve financial sustainability. Another Member followed that there was a volunteering programme under the Asia Society dedicated to re-engineering the operations and business processes of non-governmental organisations (NGOs).

62. The Chairman recalled that Members had suggested in a previous NCSC meeting that the Government could organise regular meetings/workshops to facilitate the exchange of views amongst different MA project teams, stakeholders and interested parties. He suggested that representatives from chambers of commerce could also be invited to attend these meetings/workshops.

***(iv) Management Agreement Scheme at Lai Chi Wo Enclave 2019-2021***

*[A Member, representatives of the HKCF and the CA joined the meeting at this juncture.]*

63. With the aid of a powerpoint presentation, Mr Ken So briefed Members on the background and progress of the current project. He introduced the objectives, major conservation measures, and community engagement and public education of the new MA application.

***Budget of the project***

64. A Member observed that the staff and administrative costs of the project were on the high side and another Member opined that a significant amount of resources would be incurred in the employment of conservation staff members. In view that the major objective of the project was to promote biodiversity and habitat enhancement, both Members considered that more resources should be allocated to these areas with the aim of supporting conservation works and encouraging public participation.

65. Dr Angie Ng explained that no new conservation positions were created under the application and the CA would explore ways to enhance the operational efficiency and cost-effectiveness of the proposed project. Mr Ken So supplemented that with one full-time and two part-time staff, the number of conservation staff members involved in the proposed project was minimal. He

explained that a greater amount of resources was allocated to the employment of farmers in order to secure the manpower necessary to conduct the farming activities. Ms Teresa Leung added that manpower resources was required to carry out community engagement works and provide support to local villagers and community farmers to rehabilitate the farmland.

*Water supply for the project*

66. A Member opined that it was vital to solve the water supply problem at Lai Chi Wo, as it was not ideal that the areas intended to be managed as wetland habitats/wet agriculture fields had to be converted to dry farmland due to irrigation problems. She also suggested the project team to consider the ecological benefits gained from conserving butterflies in the dry farmland at Lai Chi Wo.

67. Ms Teresa Leung thanked the suggestion and said that while there was sufficient water supply, the water storage was unstable. They had sought advice from CCO of EPD and District Office under Home Affairs Department on solving water storage problem with a view to minimising the risks of flooding in rainy seasons as well as securing water supply during dry seasons.

*Re-introduction of Rice Fish*

68. A Member enquired about the reasons of selecting Rice Fish as the new target species in the project. She pointed out that Rice Fish was a species of conservation concern and opined that the ecological values of Rice Fish to the biodiversity and habitat enhancement at Lai Chi Wo was not clearly explained in the application.

69. Dr Angie Ng explained that despite Rice Fish could be still found in other villages near Lai Chi Wo, such as So Lo Pun and Sam A Tsuen, the species had not been found in Lai Chi Wo for many years and thus its re-introduction would have conservation value. The re-introduction study of Rice Fish, carried out by the University of Hong Kong (HKU) in 2017 in a site adjacent to Lai Chi Wo, moved the Rice Fish into the project area. With reference to the study result, Dr Ng opined that the re-introduction of Rice Fish in the project area would help establish a stable population of Rice Fish at Lai Chi Wo through monitoring and habitat maintenance works.

70. Dr Angie Ng further explained that studies and monitoring would be conducted to confirm the role played by Rice Fish in the food chain after the re-introduction. In addition, she said that since Rice Fish had conservation interest and the wet agriculture fields might be suitable for Rice Fish, it was therefore selected as the target group of conservation in the project for biodiversity enhancement.

*Land renting*

71. In response to a Member's concern on whether the farmlands could be secured from landowners, Ms Teresa Leung said that the farmland was directly rented from villagers of Lai Chi Wo who were the landowners. Given the opposition from some landowners at the beginning, the project team had spent much effort and time to negotiate with landowners on the lease. With the recent set-up of village governing committee at Lai Chi Wo (Pui Shing Tong Committee) and the beneficial results achieved from the revitalisation project, the villagers were now in general supportive of the project. Ms Leung therefore was confident that they were able to secure the farmland from landowners directly.

*Farmer Market*

72. In response to the Chairman's enquiry on the expected number of public participants in the Farmer Market outside Lai Chi Wo as it was stated "00 public participants" in the application form, Ms Teresa Leung explained that it was a typo and they would correct it into "200" accordingly. She added that Farmer Market would be held at Lai Chi Wo as well as outside Lai Chi Wo. Given the constraints on transportation as well as high manpower and operational cost due to remoteness of the location, the Farmer Market outside Lai Chi Wo would be organised for two Sundays within the project duration only.

*Conclusion*

73. With no further questions from Members, the Chairman thanked the HKCF and the CA for their presentation and detailed clarifications.

*[Representatives of the HKCF and the CA left the meeting at this juncture.]*

*Deliberation*

74. The Chairman considered that resources should be allocated to educational programmes, which should be more interactive. He said that the project would have a great potential for development. For example, after the revitalisation of "Hakka Life Experience Village" under the Hong Kong Jockey Club project, the traditional Hakka Houses could be served as guesthouses for visitors to experience the culture of Lai Chi Wo.

75. A Member considered that the staff cost was too high. She suggested that the project team should be recommended to review the staff cost.

76. In response, Dr Jackie Yip explained that the staff cost in the application was within the limit set by the ECF (below 50% of the approved total budget). She considered that the number of staff proposed reasonable in

view of the need to liaise with many local stakeholders and provide support for project management.

77. A Member considered that the wet agriculture was a unique feature in this project in respect of the cultural, historical and ecological values of Lai Chi Wo. She suggested with the support of the Chairman that the project team should solve the water problem at Lai Chi Wo with the help of the Government, and review the need to increase the wet agricultural fields at Lai Chi Wo.

78. A Member noticed that countryside revitalisation project at Lai Chi Wo was one of the initiatives of the Policy Address. Given the constraint of the MA scheme, he sought information on other initiatives by the Government to enhance the countryside conservation. Mrs Vicki Kwok said that the Lai Chi Wo project was one of the pilot projects of the CCO as announced in the 2017 Policy Address. The Government had set up the CCO in July 2018 and had earmarked \$1 billion for carrying out minor improvement works and subsidising NGOs to carry out countryside revitalisation projects.

79. Mrs Vicki Kwok further advised that subsequent to site visits to Lai Chi Wo by the CCO and communications with local NGOs and villagers, minor works would be carried out to improve the water flow of the stream. As the seagrass bed at Lai Chi Wo was designated as a Site of Special Scientific Interest, she pointed out that technical advice would be sought for the proposed works to be carried out. She added that EPD would report to the NCSC on the progress of the works as appropriate.

***(v) Management Agreement on the Private Land with High Conservation Value at Fung Yuen Valley Site of Special Scientific Interest (SSSI) in Tai Po, Hong Kong (2019-2021)***

*[Representatives of the EA joined the meeting at this juncture.]*

80. Dr Yau Wing-kwong gave an opening remark and by way of a powerpoint presentation, Ms Colleen Chiu briefed Members on the progress and latest situation of the current project. She introduced the background, objectives as well as major and supporting programmes of the new MA application.

*Experience and knowledge transfer*

81. In response to a Member's enquiries on whether there were any researches conducted by the EA to study the butterflies, Dr Yau Wing-kwong explained that the EA was collaborating with research institutions such as the HKU to analyse the data accumulated over the past years. The research was in progress and research papers would be published in due course.



82. Dr Yau Wing-kwong further explained that there were two main research directions, including the relationship between plants and butterflies which made use of data collected in the plant surveys, as well as the long-term study to investigate the relationship between the discovery of tropical butterflies in Hong Kong and climate change.

83. With a view to enhancing the biodiversity in urban areas and maximising social benefits, a Member suggested that the survey results on host plants could be shared with Leisure and Cultural Services Department (LCSD) so that recommendations could be made on planting to attract butterflies. In response, Dr Yau Wing-kwong advised that they had already exchanged views with LCSD on plant species for Tai Po Waterfront Park in order to attract more butterfly species.

84. Instead of publishing research papers, a Member considered that it was more important to make good use of the data collected to enhance the long-term habitat management and conservation works and improve the effectiveness of the MA project.

85. In addition to the publication of research papers, Dr Yau Wing-kwong advised that the data collected had been applied in different areas, for example, publication of books about the relationship between host plants and butterflies as well as provision of advice to about 20 schools on creating butterfly gardens. For the new MA application, he said that the previous experience gained would be applied to planting in the new conservation area to attract more butterfly species.

86. A Member expressed appreciation towards the conservation work and progress made by the EA. In view of rapid economic development, he opined that the successful integration of Fung Yuen and the nearby residential development in the project demonstrated the co-existence of nature and humans. He suggested that the EA could consider conducting researches to study the integration and relationship between butterflies and humans, which could serve as example for other residential development projects.

87. A Member suggested the EA to identify a clear direction and objective in the new MA project with reference to the previous experience and data. In response, Dr Yau Wing-kwong said that the EA would continue to enhance the diversity of butterfly species in Fung Yuen, and education would remain as a long-term strategy of the EA. As regards new target, he said that previous experience would be applied in the new conservation area in order to enrich the ecosystem of Fung Yuen. Ms Colleen Chiu supplemented that even though about 90% of butterfly species in Hong Kong could be found in Fung Yuen, they would continue to attract more rare butterfly species by planting appropriate host plants. The knowledge gained would be shared with other stakeholders, including the Government and schools.

88. In reply to a Member's suggestion on integrating natural elements into the green building design, Dr Yau Wing-kwong said that a win-win situation could be achieved for both the ecosystem and buildings if elements of biodiversity were integrated into green building. He said that the EA had provided advice in green building design to different organisations, including Hong Kong Science Park and Lee Woo Sing College of the Chinese University of Hong Kong.

89. A Member suggested that the EA could extend the scope of the project to include more public areas, such as parks and gardens, so that the general public could appreciate biodiversity in urban environment. Dr Yau Wing-kwong said that the EA had cooperated with various community organisations in conducting activities to encourage more plantings to attract butterflies in Tai Po District, and provided advice in creating butterfly gardens at Inspiration Lake and the Education University of Hong Kong. The EA would continue to collaborate with other government departments and organisations, such as the horticulture team under LCSD.

90. In response to a Member's enquiry on the target number of butterfly species to be recorded in Fung Yuen, Dr Yau Wing-kwong said that about 88% of butterfly species was attained. He said that while sustaining the number of butterfly species, the EA would try to attract more butterfly species by planting appropriate host plants.

#### *Publicity and public engagement*

91. A Member expressed appreciation towards the work of the EA and enquired on the way forward. In response, Dr Yau Wing-kwong said that a variety of education and publicity programmes were conducted to engage different groups of target audiences, from butterfly enthusiasts, tertiary students to primary and secondary students. "Golden age" seniors were the new target in recent years and they were recruited as volunteers to assist in the conservation works regularly. He further said that community programmes were organised to enable the nearby residents of Mont Vert to participate in the conservation work. In addition, the EA maintained close communication with other organisations, including uniformed groups and corporations which were the volunteers of Fung Yuen. He therefore said that apart from receiving funding from the ECF to support the conservation work, the EA was at the same time engaging and expanding the target audiences to be involved in the project to maximise the use of resources.

#### *Moth survey programme*

92. Considering that only 18% of Hong Kong moth species was recorded in the Fung Yuen Butterfly Reserve according to the ecological monitoring programme, a Member opined that the proposed moth survey programme might have limited relevance to butterfly conservation. She suggested that the EA

should consider the ecological values and roles played by moth to justify the need of conducting the moth survey in the new MA project.

93. Dr Yau Wing-kwong pointed out that due to limited resources and funding, the data of 18% of moth species in Hong Kong recorded in Fung Yuen was based on a short-term survey conducted in cooperation with Kadoorie Farm and Botanic Garden, and thus considered that the data might not be accurate. He believed that there should be more moth species in Fung Yuen and therefore proposed the moth survey programme in the new MA application. Ms Colleen Chiu explained that the study of moths could complement the study of butterflies for enhancing butterfly conservation, as both butterflies and moths belonged to the order Lepidoptera and shared similar habits and characteristics.

### *Conclusion*

94. With no further questions from Members, the Chairman thanked the EA for their presentation and detailed clarifications.

*[Representatives of the EA left the meeting at this juncture.]*

### *Deliberation*

95. The Chairman expressed appreciation towards the work of the EA regarding the organisation of various programmes to reach parties at all levels, which could serve as an example for other MA projects.

96. As regards the proposed moth survey programme, Dr Jackie Yip said that the Panel did not recommend this programme after preliminary evaluation, since the EA did not provide strong justification on the importance of moth survey to the butterfly conservation in the project. In view that the EA had explained the justifications at the meeting, she sought Members' views on the proposed moth survey programme. The Chairman and Members agreed that it would be worthwhile to conduct the moth survey programme in the new MA project.

## **Item 4 : Any Other Business**

### ***Management Action Plan for Wild Pigs***

97. Taking into consideration that the public had been overwhelmed by the increasing trend of wild pigs nuisance in urban areas in recent years including a few assault cases lately, Members were informed before the meeting that the AFCD would brief Members on proposed wild pig management strategies.

98. By way of a powerpoint presentation, Mr Cheung Ka-shing reported on the trend and distribution of wild pig reports, recent cases of injuries, past

management measures and briefed Members on the Management Action Plan for Wild Pigs (the Plan) which consisted of the following actions:

- (i) Manage wild pig nuisance;
- (ii) Monitor distribution, population density and movement;
- (iii) Establish dedicated response teams for more efficient actions;
- (iv) Reduce food attraction at public area;
- (v) Wildlife Smart Programme; and
- (vi) Reviewing and strengthening the management strategies.

99. Mrs Vicki Kwok stressed that both the EPD and AFCD attached high importance to enhancing the management of wild pigs in view of the increased nuisance and serious injuries caused by wild pigs. She mentioned that while innovative measures would be introduced, it remained a challenging task to impose full control over the population growth of wild pigs, given the limitations associated with each of the proposed measures and the high reproductive rate and adaptability of wild pigs. Considering that feeding was one of the main causes for the surge in wild pig nuisance report, a Wildlife Smart Programme would be introduced to promote public awareness and instil an appropriate attitude and behaviour towards wild pigs. As the case may be, the Government would not rule out the possibility of adopting necessary approaches such as culling of aggressive wild pigs. She informed that the Legislative Council and the public would be further consulted on the Plan.

*Causes for increased sightings*

100. A Member suggested conducting a study to find out the cause for the increased sightings of wild pigs in urban areas and whether there were any changes in the food chain such as the disappearance of a predator or competitor of wild pigs.

101. Mr Cheung Ka-shing advised that wild pigs had always been at the top of the food chain in Hong Kong with few competitors since tiger, their natural predator, disappeared in Hong Kong. Exception was their piglets which fell prey to pythons and feral dogs. With the number of pythons captured and sent to the Kadoorie Farm and Botanic Garden remained stable, the increased sightings of wild pigs could largely be attributed to a rising trend in the number of people feeding them with food of high nutritional value. With reference to a 50% drop in complaint numbers after a cold spell in 2011, he mentioned that climate change could also be one of the causes for the surge in wild pig population.

102. The Chairman pointed out that the proximity of human settlements to the country parks and the availability of food in the human settlements were the major reasons for the increase in sightings of and conflicts with wild pigs in urban areas.

*Terminology*

103. Addressing a Member's remark that the usage of "wild boar" was more common than "wild pig", Mr Cheung Ka-shing explained that there were added meanings to "boar" which could be used to refer to male pigs or pigs being hunted in game ranches. Therefore, "wild pig" was used to avoid any confusion.

*Monitoring and managing wild pig nuisance*

104. A Member opined that the complaint statistics was not a reliable indicator of the distribution of wild pigs given that people living in rural areas might be more accustomed to the sightings of wild pigs and would be less likely to file a complaint when they saw one.

105. Mr Cheung Ka-shing advised that there was more than 10 years data captured by infrared cameras installed in country parks which could indicate the distribution of wild pigs. The Government would explore ways to estimate the wild pig population more accurately given their free ranging nature.

106. In reply to a Member's enquiry regarding the difference in effectiveness in population control between contraception and hunting of wild pigs, Mr Cheung Ka-shing advised that hunting by civilian teams was less labour-intensive. Nonetheless, it was suspended in consideration of safety concerns and strong objection from individual organisations such as concern groups. Besides, the Capture, Contraception and Rehome/Release Programme (CCRP) was introduced which involved capturing wild pigs at nuisance sites, vaccinating them with an immunocontraceptive vaccine and releasing them to the remote countryside in the hope that they would resume to living in a natural environment. The released pigs would be monitored with the use of the Global Positioning System (GPS) in order to evaluate the effectiveness of CCRP. The capture rate of CCRP was also higher than hunting.

107. Addressing the Chairman's enquiry regarding the effectiveness of the immunocontraceptive vaccine, Mr Cheung Ka-shing advised that according to an overseas study which was conducted on two batches of captive wild pigs for a duration of four and six years respectively, it was found that the fertility of all but one wild pig was inhibited for the entire study duration. The vaccine would be administered on wild pigs reaching a weight of 26 kilograms which signified physiological maturity. Given that the vaccine was yet to be registered for use on wild pigs, the effectiveness was subject to further study and field trials.

108. The Chairman remarked that that it would require a certain percentage of the population to be vaccinated for the contraception method to take effect in controlling the wild pig population. He supported establishing dedicated response teams for better wild pig management and more efficient actions.

## Action

109. A Member suggested conducting trials at nuisance black spots to assess the effectiveness of different measures in managing wild pig nuisance. Mr Cheung Ka-shing advised that there had been a shift in the distribution of nuisance black spots in recent years which could be attributed to improvements in the design of refuse collection facilities that were prone to wildlife raids. However, the problem persisted at some locations due to feeding by some individuals and improper waste disposal together.

110. On top of publicising the negative consequences of feeding wild pigs through public education and promotion, the Chairman enquired whether feeding wild pigs could be banned via the enactment of legislation.

111. Mr Cheung Ka-shing advised that currently feeding of wild animals was prohibited at specified places under the Wild Animals Protection Ordinance (Cap. 170) with a view to containing the number of wild monkeys. Given the extensive distribution of wild pigs in Hong Kong, such a location specific feeding ban would be less effective. It would also not be feasible to impose a territory-wide feed ban given the difficulties in taking enforcement actions. Having said that, AFCD was currently providing footages of incompliances captured by infrared cameras to the Food and Environment Hygiene Department (FEHD) for their planning and undertaking of enforcement actions and there had been successful operations conducted.

112. There was no other business for discussion at the meeting.

## **Item 5 : Date of next meeting**

113. The Chairman informed that Members would be advised on the date of the next meeting and the agenda in due course.

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