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**Panel on Environmental Affairs**

**Special meeting on 25 June 2014**

**Background brief on  
"Impact of construction works on important species, marine ecology and  
the fisheries industry"  
prepared by the Legislative Council Secretariat**

**Purpose**

This paper provides background information on the impact of construction works on important species, marine ecology and the fisheries industry, and gives a brief account of the views and concerns expressed by Members on the subject.

**Background**

2. Members have expressed concern on the environmental impact of the following construction works on important species, marine ecology and the fisheries industry, and would like to be briefed on the corresponding measures taken by the Administration –

- (a) the impact of construction works on endangered species, including the impact of the construction of the third runway on Chinese white dolphins;
- (b) the impact of village construction works on butterflies in Fung Yuen;
- (c) the impact of submarine engineering works including the laying of submarine cables on marine ecology and the livelihood of fishermen;

- (d) the impact of the large-scale reclamation in the waters of Lantau Island and Lung Kwu Tan on the living environment of Chinese white dolphins; and
- (e) the impact of the Hong Kong boundary crossing facilities ("HKBCF") island of the Hong Kong-Zhuhai-Macao Bridge ("HZMB") on marine ecology.

### **Nature Conservation**

3. In 2004, the Government announced the New Nature Conservation Policy ("the NNCP") to regulate, protect and manage natural resources that are important for the conservation of biological diversity of Hong Kong in a sustainable manner, taking into account social and economic considerations and for the benefit and enjoyment of the present and future generations of the community. Under this policy, the Administration undertakes the work on nature conservation through various measures, including the provision of nature conservation advice on development proposals, planning studies and environmental impact assessments, as well as subsequent monitoring and auditing of ecological mitigation measures for these projects if approved under the Environmental Impact Assessment Ordinance (Cap. 499) ("EIAO"). Besides, the Administration pursues to enhance the conservation of ecologically important sites in private ownership through the Management Agreement ("MA") and Public-Private Partnership schemes. The Administration has undertaken to continue to consult stakeholders on the draft Biodiversity Strategy and Action Plan under the Convention on Biological Diversity in 2014-2015.

#### The Fung Yuen Butterfly Reserve

4. The Fung Yuen Butterfly Reserve ("the Reserve") is managed by the Tai Po Environmental Association ("TPEA") as a MA project under the NNCP. Under the MA Scheme, non-governmental organizations ("NGO"), including green groups, educational institutions and community organizations, may apply for funding from the Environment and Conservation Fund ("ECF") for entering into MAs with landowners. The NGOs can provide landowners with financial incentives in exchange for management rights over their land or for their cooperation in enhancing conservation of the sites concerned. In 2005, with the funding from ECF, TPEA established the Reserve on two hectares of private land at Fung Yuen for butterfly conservation. The establishment of the Reserve has enhanced the habitat and diversity of species of butterflies at the site. The Agriculture, Fisheries and Conservation Department ("AFCD") meets with TPEA regularly to review the conservation work and changes in butterfly abundance at the Reserve, as well as to offer advice to TPEA on their

conservation work.

5. The Reserve is located within Fung Yuen Valley and occupies less than 5% of the total area of the Valley. Fung Yuen Valley has been listed as a Site of Special Scientific Interest ("SSSI") since 1980 to reflect its importance as a major breeding site for butterflies. The Fung Yuen Valley SSSI covers an area of about 43 hectares. AFCD has been regularly monitoring the butterfly habitats and changes in butterfly abundance within SSSI.

6. As advised by the Administration, the total number of butterfly species in Fung Yuen has increased from 162 in 2005 to over 210 in 2013, covering about 90% of the butterfly species in Hong Kong.

### **Marine Conservation**

7. All marine mammals found in Hong Kong are protected locally by the Wild Animals Protection Ordinance (Cap. 170). Import, export and possession of these animals are restricted under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).

#### Conservation status of the Chinese white dolphin

8. The Chinese white dolphin is listed as "Near Threatened" in the International Union for the Conservation of Nature and Natural Resources Red List of Threatened Species, and is also listed in the Convention on International Trade in Endangered Species of Wild Fauna and Flora Appendix I (i.e. highest protection). In the Mainland, it is listed as a "Grade 1 National Key Protected Species".

#### Environmental Impact Assessment Ordinance

9. The purpose of EIAO is to avoid, minimize and control the adverse impact on the environment of designated projects through the application of the Environmental Impact Assessment ("EIA") process and the environmental permit system. The Government exercises stringent control on marine works including mud dredging and disposal. Under EIAO, EIA is required for all marine dredging operations of designated projects in Hong Kong, such as the laying of submarine sewage pipelines and gas pipelines, in order to provide in-depth assessment of the potential environmental impacts of the projects and recommend mitigation measures and environmental monitoring programme. Project proponents are required to implement the mitigation measures and environmental monitoring programme as recommended in EIA reports.

### Fisheries impact assessment and preservation of fisheries resources

10. Fisheries impact assessment ("FIA") will be conducted as part of an EIA study for a proposed development project that may affect fishing and aquaculture activities, fisheries resources and habitats, as well as aquaculture sites. On matters related to FIA, the Technical Memorandum on EIA Process ("TM") stipulates that the Director of Environmental Protection shall take the advice from the Director of Agriculture, Fisheries and Conservation.

11. The TM under EIAO sets out the guidelines for FIA. FIA shall predict the potential fisheries impacts of the proposed development project based on the project profile and fisheries baseline information gathered. The nature and extent of the impacts on aquaculture and capture fisheries shall also be described and quantified. The significance of the predicted impacts of the proposed development project on aquaculture and capture fisheries shall be evaluated in accordance with the criteria for evaluating fisheries impact set out in the TM. These criteria include the nature of impact, the size of affected area, the loss of fisheries resources and production, the destruction and disturbance of nursery and spawning grounds as well as the impact on fishing and aquaculture activity. The relevant experts and departments shall make use of scientific methods and objective information to conduct the study and analysis, with a view to determining whether FIA meets the above-mentioned requirements.

12. The guidelines for FIA set out in the TM also stipulate that consultation of the local fishermen and fish farmers could help project proponents to obtain useful baseline information for conducting fisheries impact study. Moreover, AFCD urges the project proponent to comprehensively consult the relevant fishermen and fish farmers at the early stage of the EIA study, with a view to understanding their concerns.

### Rehabilitation of local fisheries resources

13. Trawling activities in Hong Kong waters have been banned since the end of 2012. The registration of local fishing vessels is under way to control fishing effort and prohibit non-local fishing vessels from engaging in fishing activities in Hong Kong waters. The measures will help reduce fishing effort in Hong Kong waters and help rehabilitate local fisheries resources. The Administration is making preparations for designating fisheries protection areas ("FPAs") to protect important fish nursery and spawning grounds in Hong Kong waters. The Administration will collect comprehensive data to carry out analysis. The areas that should be designated as FPAs will be decided after thorough consultation with the trade. Appropriate management measures will be devised for each FPA.

### Marine works

14. According to the Administration, marine works that are being developed or under planning in the coming five years include dredging and reclamation to the south western coast of Shek Kwu Chau for the Integrated Waste Management Facilities ("IWMF") Phase I, a third runway at the airport, and the Tung Chung New Town Development Extension. The works are concentrated in the Western Waters of Hong Kong and cover an area of 7.96 square kilometres.

15. Fishermen affected by marine works are in principle not entitled to statutory compensation since they have no legal rights over the relevant waters. Nonetheless, the Administration has all long been granting ex-gratia allowance ("EGA") to fishermen affected by marine works to help them re-align their operations. Restricted areas that are set up to ensure the safety of marine channels and aviation safety generally do not cause additional adverse impact on fisheries resources. Hence, EGA is not payable under the current policy.

### **Third runway project**

16. In March 2012, the Chief Executive-in-Council approved in-principle the recommendation of the Airport Authority Hong Kong ("AAHK") to adopt the three-runway system as the future development option for the Hong Kong International Airport ("HKIA") for planning purposes. AAHK should proceed with the planning related to the development of the third runway, which includes specifically EIA, the associated design details and the financial arrangements. Upon completion of the planning work, AAHK should report to the Administration which will make a final decision on whether to proceed with the implementation of the three-runway system.

17. The Administration has briefed the Panel on Economic Development ("the EDEV Panel") on the progress of EIA, scheme designs, funding proposals as well as public engagement initiatives in relation to the third runway project at the EDEV Panel meeting on 23 June 2014.

### Discussion by the Panel on Economic Development

18. The EDEV Panel received a briefing by the Administration and AAHK on the outcome of the consultation conducted earlier on HKIA Master Plan 2030 and the way forward at its meeting on 26 March 2012. The Panel noted the views of the public that while there was an impending need for expanding HKIA with a third runway to maintain Hong Kong's competitiveness as an aviation hub in the region, there were various concerns on the three-runway option, including the Pearl River Delta ("PRD") airspace issue, capital

investment, funding arrangement, environmental impact such as the preservation of marine life and noise nuisance to residential communities in Tung Chung, Tuen Mun and Ma Wan. The EDEV Panel supported the three-runway option but urged that the Administration and AAHK should continue to conduct the relevant public consultation and engagement exercise to involve all stakeholders. Better still, local and international experts should be engaged in the consultation process.

### *Impact on marine life*

19. Some EDEV Panel members questioned whether the relevant EIA could be conducted properly because the environmental impacts concerned were complicated, involving not only aircraft noise pollution but also air and water pollution, as well as impact on the Chinese white dolphin, and that the criteria for assessing such impact were unclear and lenient. They were concerned that even though the location of the third runway would seriously affect the habitat of the Chinese white dolphin, the EIA report might still be approved.

20. There was also the concern about the impact of the large-scale reclamation required on marine ecology (especially the Chinese white dolphin) and fisheries. In response to members' enquires, the Administration advised that local and international specialist consultants on marine ecology would be engaged to advise on how to mitigate the impact.

### Discussion by the Panel on Environmental Affairs

21. At the joint request of nine environmental groups, the Panel on Environmental Affairs ("the EA Panel") held a meeting on 23 April 2012 to discuss the environmental impacts associated with the development of the three-runway system under the HKIA Master Plan 2030. The relevant environmental groups were also invited to express their views. The EA Panel noted that there was a general consensus among environmental groups that social return on investment ("SROI") assessment and strategic environment assessment ("SEA") should be conducted before EIA to ascertain the social and environmental costs associated with the three-runway system. Given the scale of the third runway project and the many infrastructural projects being/to be carried out at Lantau (notably HZMB and the proposed IWMP), members stressed that an EIA on the cumulative impact rather than the standalone effect of the third runway should be conducted. A scientific and objective approach should also be adopted to assess the threshold for tolerance of environmental impact of development projects since not all environmental impacts could be mitigated. As a consolidated view of the EA Panel, members passed a motion demanding AAHK to conduct environmental studies on the third runway project, including SEA, SROI assessment and carbon audit, in order to protect the environment of Hong Kong and the areas in its vicinity.

## **Topside development at the Hong Kong boundary crossing facilities island**

22. HZMB is a cross-boundary cross-sea road infrastructure project providing direct land transport connection between the two shores of PRD, linking Hong Kong in the east and Macao and Zhuhai in the west. HKBCF is one of the key HZMB-related local infrastructure projects which will provide facilities for cross-boundary cargo processing and passenger clearance. It will be located on an artificial island ("the HKBCF island")<sup>1</sup> constructed by reclamation in the waters off the northeast of HKIA. In November 2011, the Finance Committee ("FC") approved, on the recommendation of the Public Works Subcommittee ("PWSC"), a funding of \$30,433.9 million for the construction of the HKBCF reclamation and the superstructures<sup>2</sup> which, according to the Administration, is anticipated to be completed in 2016 to tie in with the commissioning of HZMB.

23. Under the initiatives of the Development Bureau in the 2014 Policy Address and Policy Agenda, a planning, engineering and architectural study ("the Study") will be conducted in 2014-2015 with the objectives of optimizing the scale of the topside development at the HKBCF island. In his Budget Speech for 2014-2015, the Financial Secretary has announced that \$60 million had been earmarked for a preliminary feasibility study on the topside and underground space development of HKBCF for commercial purposes such as shopping, dining, entertainment and hotels as well as on providing the necessary supporting infrastructure.

24. Subject to funding approval of FC, the Study is scheduled to commence in August 2014 for completion in September 2016. The Study will investigate the feasibility of providing commercial development through utilizing the topside and underground space on the artificial island while maintaining smooth and safe operation of HKBCF during construction and operation of the proposed commercial development. The Study will also work out an implementation programme to optimize the utilization of the available space on the island by phased development.

25. The Administration consulted the Panel on Development at its meeting on 25 March 2014 for upgrading PWP Item No. 770CL to Category A for carrying out the Study for the topside development at the HKBCF island. Members were supportive of the funding proposal. At the meeting on 18 June 2014, PWSC endorsed that the funding proposal should be submitted to FC for

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<sup>1</sup> The artificial island is about 150 hectares ("ha") in area, of which about 130 ha are for the provision of HKBCF and about 20 ha are for the southern landfall of the Tuen Mun-Chek Lap Kok Link.

<sup>2</sup> The scope of works for HKBCF covers the construction of cargo and passenger clearance facilities, a public transport interchange, transport drop-off and pick-up areas, car parks, etc. (LC Paper No. PWSC(2011-12)30).

consideration.

### Members' deliberation

26. Members have expressed concerns about the environmental and ecological impacts of the HZMB projects. The major views and concerns expressed by Members at various meetings are summarized in the ensuing paragraphs.

#### *Impact on the fisheries industry*

27. FC discussed the funding proposals on the HZMB-related local projects at its meeting on 18 November 2011. At the meeting, some members expressed grave concerns about the impact of the reclamation and related marine works of HZMB and HKBCF on the fishing industry. They called on the Administration to consult the fisheries sector and to agree on mutually acceptable measures to minimize the loss of fishing grounds and damage on fisheries.

28. Some members were particularly concerned that the reclamation works might affect the mariculture operations in Ma Wan and that the operators were not offered reasonable compensation. These members reflected that Ma Wan mariculturists had grave concern about the pollution caused by the HZMB reclamation works but the Administration had dismissed their claims because mariculture operations in Ma Wan were not covered in the EIA study of HZMB.

#### *Handling of claims made by fishermen affected by HZMB related projects*

29. At its meeting on 4 December 2013, the Establishment Subcommittee considered the staffing proposals related to the HZMB projects. At the meeting, members conveyed the concern of fishermen organizations that due to delay in works caused by the judicial review case of the HZMB projects, the Administration might not have adopted sufficient measures to protect the sea environment to enable local fishermen to continue operation in the waters in the vicinity of project sites of HZMB.

30. Citing an accident involving damage to a local fisherman vessel caused by defective silt curtains installed at the project sites of HZMB, members enquired how the Administration could ensure safe operation of fisherman vessels in nearby waters and the handling of claims from fishermen affected by the HZMB projects. The Administration responded that it had established a mechanism for monitoring the quality of sea water around the sites of the HZMB projects and the relevant data had been uploaded onto the website of the HZMB projects. The Administration was satisfied with the present marine environment in the vicinity of project sites as evidenced by the relevant data



collected so far. Besides, the Administration also maintained close liaison with green groups and local fisherman organizations on environmental issues and measures to enhance safe operation of fishermen and protection of marine life in the vicinity of the project sites. Regarding the incident cited by members, the Highways Department had already instructed the contractor concerned to step up inspection of the silt curtain for ensuring that it would be structurally secure and effective in containing sediment generated during the works.

### *Concern about Chinese white dolphins*

31. There was also the concern about the Administration's liaison work with green groups on the protection of Chinese white dolphins in waters covered by the project sites of HZMB. The Administration advised that it maintained regular contact with environmental organizations to discuss measures to protect Chinese white dolphins. The relevant information including quality of sea water around the project sites had been uploaded onto the website of the HZMB projects to facilitate public monitoring.

### **Council questions**

32. Hon Andrew CHENG, Hon CHEUNG Hok-ming, Hon WONG Yung-kan, Hon Steven HO, Hon Frederick FUNG, Hon WONG Ting-kwong, Hon LAU Kong-wah and Hon CHAN Han-pan raised questions relating to nature conservation, fisheries impact and conservation of marine resources, third runway project and HZMB related issues at various Council meetings. Details of the Council questions are hyperlinked in the **Appendix** for ease of reference.

### **Latest development**

33. The Administration will brief the EA Panel on the subject of impact of construction works on endangered species, marine ecology and the fisheries industry at the special meeting on 25 June 2014.

### **Relevant papers**

34. A list of relevant papers is set out in the **Appendix**.

**Third runway project in the Hong Kong International Airport  
List of relevant papers**

<b>Council/ Committee</b>	<b>Date of meeting</b>	<b>Paper</b>
Panel on Economic Development	26 March 2012	<p>The Legislative Council Brief on "Hong Kong International Airport Master Plan 2030" issued by the Transport and Housing Bureau (LC Paper No. THB(T)CR 3/930/08)  <a href="http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea0423-thbtr393008-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea0423-thbtr393008-e.pdf</a></p> <p>Administration's paper on Staffing proposal relating to the establishment of the Airport Expansion Project Coordination Office in the Transport and Housing Bureau (LC Paper No. CB(1)1368/11-12(01))  <a href="http://www.legco.gov.hk/yr11-12/english/panels/edev/papers/edev0326cb1-1368-1-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/edev/papers/edev0326cb1-1368-1-e.pdf</a></p> <p>Background brief on the development of a third runway at the Hong Kong International Airport prepared by the Legislative Council Secretariat (LC Paper No. CB(1) 1368/11-12(02))  <a href="http://www.legco.gov.hk/yr11-12/english/panels/edev/papers/edev0326cb1-1368-2-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/edev/papers/edev0326cb1-1368-2-e.pdf</a></p> <p>Minutes of meeting (LC Paper No. CB(1)2513/11-12)  <a href="http://www.legco.gov.hk/yr11-12/english/panels/edev/minutes/edev20120326.pdf">http://www.legco.gov.hk/yr11-12/english/panels/edev/minutes/edev20120326.pdf</a></p>
Panel on Environmental Affairs	23 April 2012	<p>The Legislative Council Brief on "Hong Kong International Airport Master Plan 2030" issued by the Transport and Housing Bureau (LC Paper No. THB(T)CR 3/930/08)  <a href="http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea0423-thbtr393008-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea0423-thbtr393008-e.pdf</a></p> <p>Minutes of meeting (LC Paper No. CB(1)1992/11-12)  <a href="http://www.legco.gov.hk/yr11-12/english/panels/ea/minutes/ea20120423.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ea/minutes/ea20120423.pdf</a></p>

**Topside development at the HKBCF island**  
**List of relevant papers**

<b>Council/ Committee</b>	<b>Date of meeting</b>	<b>Paper</b>
Finance Committee	18 November 2011	Minutes of meeting (LC Paper No. FC74/11-12) <a href="http://www.legco.gov.hk/yr11-12/english/fc/fc/minutes/fc20111118.pdf">http://www.legco.gov.hk/yr11-12/english/fc/fc/minutes/fc20111118.pdf</a>
Establishment Subcommittee	4 December 2013	Minutes of meeting (LC Paper No. ESC24/13-14) <a href="http://www.legco.gov.hk/yr13-14/english/fc/esc/minutes/esc20131204.pdf">http://www.legco.gov.hk/yr13-14/english/fc/esc/minutes/esc20131204.pdf</a>  Administration's supplementary information on the retention of three supernumerary posts and extension of the redeployment of one permanent post in the Hong Kong-Zhuhai-Macao Bridge Hong Kong Project Management Office of the Highways Department (LC Paper No. ESC22/13-14(01)) <a href="http://www.legco.gov.hk/yr13-14/english/fc/esc/papers/esc1204esc-22-1-e.pdf">http://www.legco.gov.hk/yr13-14/english/fc/esc/papers/esc1204esc-22-1-e.pdf</a>
Panel on Development	28 January 2014	Administration's paper on "Initiatives of Development Bureau in the 2014 Policy Address and Policy Agenda" (LC Paper No. CB(1)741/13-14(03)) <a href="http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0128cb1-741-3-e.pdf">http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0128cb1-741-3-e.pdf</a>

<b>Council/ Committee</b>	<b>Date of meeting</b>	<b>Paper</b>
Panel on Development	25 March 2014	<p>Administration's paper on 770CL - Planning, engineering and architectural study for topside development at Hong Kong boundary crossing facilities island of Hong Kong–Zhuhai–Macao Bridge (LC Paper No. CB(1)1100/13-14(07)) <a href="http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0325cb1-1100-7-e.pdf">http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0325cb1-1100-7-e.pdf</a></p> <p>Background brief on the topside development at the Hong Kong Boundary Crossing Facilities Island of the Hong Kong–Zhuhai–Macao Bridge prepared by the Legislative Council Secretariat (LC Paper No. CB(1)1100/13-14(08)) <a href="http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0325cb1-1100-8-e.pdf">http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0325cb1-1100-8-e.pdf</a></p>
Public Works Subcommittee	7 May 2014	<p>Funding proposal on Head 707 – New Towns and Urban Area Development</p> <p>770CL - Planning, engineering and architectural for topside development at Hong Kong boundary crossing facilities island of Hong Kong–Zhuhai–Macao Bridge (LC Paper No. PWSC(2014-15)10) <a href="http://www.legco.gov.hk/yr13-14/english/fc/pwsc/papers/p14-10e.pdf">http://www.legco.gov.hk/yr13-14/english/fc/pwsc/papers/p14-10e.pdf</a></p>

Hyperlinks to relevant Council Questions:

<b>Particular issues</b>	<b>Date</b>	<b>Council Question</b>
Nature conservation	10 March 2010	Council question raised by Hon Andrew CHENG <a href="http://www.info.gov.hk/gia/general/201003/10/P201003100143.htm">http://www.info.gov.hk/gia/general/201003/10/P201003100143.htm</a>
	18 January 2012	Council question raised by Hon CHEUNG Hok-ming <a href="http://www.info.gov.hk/gia/general/201201/18/P201201180313.htm">http://www.info.gov.hk/gia/general/201201/18/P201201180313.htm</a>
Fisheries impact and conservation of marine resources	18 April 2012	Council question raised by Hon WONG Yung-kan <a href="http://www.info.gov.hk/gia/general/201204/18/P201204180350.htm">http://www.info.gov.hk/gia/general/201204/18/P201204180350.htm</a>
	20 November 2013	Council question raised by Hon Steven HO <a href="http://www.info.gov.hk/gia/general/201311/20/P201311200317.htm">http://www.info.gov.hk/gia/general/201311/20/P201311200317.htm</a>
Third runway project	8 June 2011	Council question raised by Hon Frederick FUNG <a href="http://www.info.gov.hk/gia/general/201106/08/P201106080081.htm">http://www.info.gov.hk/gia/general/201106/08/P201106080081.htm</a>
	23 October 2013	Council question raised by Hon WONG Ting-kwong <a href="http://www.info.gov.hk/gia/general/201310/23/P201310230259.htm">http://www.info.gov.hk/gia/general/201310/23/P201310230259.htm</a>
HZMB	19 May 2010	Council question raised by Hon LAU Kong-wah <a href="http://www.info.gov.hk/gia/general/201005/19/P201005190216.htm">http://www.info.gov.hk/gia/general/201005/19/P201005190216.htm</a>
	11 December 2013	Council question raised by Hon CHAN Han-pan <a href="http://www.info.gov.hk/gia/general/201312/11/P201312110311.htm">http://www.info.gov.hk/gia/general/201312/11/P201312110311.htm</a>