



**綠色力量**  
GREEN POWER



**生態教育及資源中心**  
Eco-Education & Resources Centre

**BY EMAIL AND FAX**

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1 April, 2015

Dear Ms. Anissa Wong,

**Green Power and Eco-Education & Resources Centre's**  
**Joint Comments on Project Profile – Tung Chung New Town Extension (March 2015)**

1. On 31 December, 2014, Green Power and Eco-Education & Resources Centre, both being local charitable green groups, lodged a submission in response to Tung Chung New Town Extension (TCNTE) Project Profile (PP) released in December 2014. Based on this PP, the proponent launched the above-captioned amended PP in March 2015, with which Green Power and Eco-Education & Resources Centre would like to follow up, particularly on some of the newly proposed items.
2. We still have grave concerns about the long-term preservation of Tung Chung River-cum-Bay hydrological and ecological system although the proponent improved the PP by adopting part of public's comments.

**Long-term preservation of Tung Chung River-cum-Bay**

3. At present, the proponent (i.e. Civil Engineering and Development Department) is only responsible for the study, design and construction of the "Designated Projects" covered by PP (Section 1.5), who is not the legal management or enforcement authority for preservation of Tung Chung River-cum-Bay system after completion of project.
4. The present proponent will not be liable for the environmental vandalism under EIAO which is
  - (a) after completion of "Designated Projects" covered by PP,
  - (b) outside the work areas or construction sites of the "Designated Projects" covered by PP, EIA reports or Environmental Permit,
  - (c) not able to be proven by any admissible evidences to courts.
5. Also, preservation of Tung Chung River-cum-Bay system, in the context of the above-captioned proposed project under EIAO, is processed as a mitigation measure rather than a "conservation-orientated project" which only aims to gain granting of Environmental Permit under EIAO. No comprehensive and proactive conservation plan is formulated or proposed.
6. Therefore, under such institutional and statutory arrangement, long-term conservation for Tung Chung River-cum-Bay system is not guaranteed.

### **Foreseeable non-enforceable vandalism**

7. With these constraints, we are particularly concerned about the following foreseeable environmental vandalism which, according to current judicial and enforcement framework, are extremely difficult to prevent, enforce and reinstate:
  - (a) Discharge of domestic wastewater through stormwater drainage system to Tung Chung River-cum-Bay,
  - (b) Connection of outfall of stormwater drainage system to Tung Chung River-cum-Bay,
  - (c) Dumping, reclamation, eradication of vegetation in Tung Chung River-cum-Bay,
  - (d) Incompatible developments in Tung Chung West

### **Drainage system**

8. Sewage or stormwater generated from developments on these concrete-paved proposed residential zonings and villages will very likely be drained into Tung Chung River and Tung Chung Bay directly by conventionally designed stormwater drainage system, thus seriously declines the water quality of Tung Chung River and Tung Chung Bay and threatens the fragile ecology there.
9. We notice that “*upgrading of the existing Chung Mun Road sewage pumping stations (SPS) from existing capacity of about 3,500m<sup>3</sup>/day to a capacity over 4,500m<sup>3</sup>/day and a few sections of existing rising mains/ sewers ..... at Tung Chung West (TCW) (Section 1.4.3)*” is proposed. We regard this proposal should aim at collecting the domestic sewage of the village houses and stormwater (of normal flow at least) in TCW in order to protect the water quality for the preservation of ecology of Tung Chung River-cum-Bay system.
10. Without compromising the preservation of Tung Chung River-cum-Bay system, we welcome the “*sustainable urban drainage system*” and “*village sewerage system for the unsewered villages*” within TCW (Section 1.4.4) to maintain the “Excellent” water quality of Tung Chung River<sup>1</sup>, and establishment of a “river park” (Section 1.4.5) to make a wise use of local natural rivers.
11. Direct discharge of stormwater drainage, treated or untreated sewage should not be allowed upstream or within the courses of “Ecologically Important Streams” in Tung Chung designated by AFCD<sup>2</sup>.
12. A long-term, innovative and comprehensive drainage strategy and system should be formulated for Tung Chung West which must preserve the Tung Chung River intact. Resumption of private lands should be considered for proactive planning of an ecologically and environmentally friendly drainage system for Tung Chung River Valley.

### **Waste dumping**

13. We are disappointed that no proactive measures are proposed to prevent waste dumping in Tung West. Filling of the river banks and wetlands with wastes and/or soil debris are continually reported in Tung Chung West, particularly Shek Lau Po.
14. Tung Chung West will be highly vulnerable to dumping of construction and demolition (C&D) waste generated in future development in Tung Chung because of the long

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<sup>1</sup> *River Water Quality in Hong Kong in 2013*, EPD, HKSAR: <http://wqrc.epd.gov.hk/en/water-quality/river-2.aspx>

<sup>2</sup> Ecologically Important Streams, AFCD, HKSAR:

[https://www.afcd.gov.hk/english/conservation/con\\_wet/streams\\_rivers\\_hk/Con\\_NSR/Tung%20Chung%20Stream.pdf](https://www.afcd.gov.hk/english/conservation/con_wet/streams_rivers_hk/Con_NSR/Tung%20Chung%20Stream.pdf)

transport distance to waste facilities such as landfills, and the charging for vehicles travelling through North Lantau Highway. Such activities would destroy the natural habitats in Tung Chung River Valley and threaten the ecology and water quality of Tung Chung River.

15. Feasible measures to prevent uncontrollable vandalism and incompatible land use activities from encroaching Tung Chung West and damaging Tung Chung-cum-Bay include
- (a) restriction of construction trucks and similar machineries access to sections of Tung Chung Road and Yu Tung Road to the west of Chung Yan Road,
  - (b) mandatory collection of C&D wastes and provision of transportation of C&D wastes to other proper locations & facilities,
  - (c) completion of the construction of the “purposely designed sustainable urban drainage system” in prior to commencement of any other works,
  - (d) gazetting a statutory Development Permission Area plan for TCW in prior to commencement of new town extension works.

### **Air Pollution**

16. Ozone is the major air pollutant affecting Tung Chung’s air quality which had the longest hours of Air Pollution Index reaching of exceeding 101 during 1999 to 2013, and Air Quality and Health Index reaching 10 or 10+ in 2014 (Appendix F). EPD also admitted in the media in February 2015 that Tung Chung is one of districts with highest health risk in terms of air quality<sup>3</sup>.
17. In order to have an updated and accurate air quality assessment for the proposed project, the “Background pollutant values” of ozone, which is currently taken as annual average of daily hourly maximum values for year 1996, in the “Guidelines on Assessing the ‘TOTAL’ Air Quality Impacts” should be reviewed.
18. We agree with the direction to promote *regional energy efficiency system and environmentally friendly transport systems* such as cycling (Section 1.4.4.) to cope with the air pollution of Tung Chung.

### **New Ecological Finding**

19. Other than species of conservation concern such as Giant Mottled Eel (*Anguilla marmorata*), Crimson-tipped Flathead Gudgeon (*Butis butis*) and Hong Kong Paradise Fish (*Macropodus hongkongensis*), uncommon freshwater fish Spotted Band Goby (*Glossogobius olivaceus*) (Photo shown below) is recorded in Tung Chung River estuary in March 2015.



<sup>3</sup> 「臭氣濃度新高 屯門元朗東涌重災」:明報 A14 , 2015 年 2 月 25 日

20. We would also like to re-iterate our positions, comments and recommendations stated in our last submission to EPD on the PP of same proposed project on 31 December 2014.



## **REITERATION OF OUR OUTSTANDING COMMENTS**

21. Regarding the Draft Recommended Outline Development Plan (RODP) for Tung Chung West published in p.10, TCNTE Study – Stage 3 Public Engagement Digest (the Digest) on which the above-captioned PP is based, we are gravely concerned about the massive, irreversible and long-term adverse environmental and ecological impacts on Tung Chung River, Tung Chung Bay and the public.

### ***Hydrological Uniqueness of Tung Chung River***

1. The Tung Chung River-cum-Bay system is unique in the local context which is one of the few local rivers that have not been extensively channelized<sup>4</sup>. Amongst the local major rivers, Tung Chung River is the only one having retained its natural setting continuously from its headwater to river mouth - a complete natural river system running from the highest local upland in headwater to sea level at river mouth in Tung Chung Bay.
2. According to Hong Kong Planning Standards and Guidelines (HKPSG), “*development should preferably be located away from any natural streamcourse*” (Sec. 5.3.15, Ch.5) such as Tung Chung River-cum-Bay system in order to “*achieve and maintain the quality of inland waters, coastal waters, marine waters and ground waters so that they can be used for their legitimate purposes; e.g. bathing, other recreation, as a habitat for marine life, as a source for food or commercial fisheries, irrigation, navigation and shipping, etc*” (Sec. 5.1.1(a), Ch. 5).
3. With the massive residential areas proposed in the RODP for Tung Chung River Valley (Tung Chung West), we are concerned that the quality of Tung Chung River cannot be achieved and maintained according to the HKPSG.

### ***Ecological Value of Tung Chung River-cum-Bay System***

4. The Tung Chung River-cum-Bay ecosystem is unique in the local context (Please see Appendix A). From Green Power’s and other local conservation bodies’ ecological surveys, Tung Chung River-cum-Bay is of high ecological values.
5. The high connectivity and continuity along Tung Chung River’s whole length from mountain area to estuary make it exceptionally rich in its aquatic and coastal biodiversity, including many rare and endangered species, including Beijiang Thick-lipped Barb (*Acrossocheilus beijiangensis*), Romer’s Tree Frog (*Philautus romeri*), Hong Kong Newt (*Paramesotriton hongkongensis*), Tri-spine Horseshoe Crab (*Tachypleus tridentatus*), Mangrove Horseshoe

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<sup>4</sup> Cheng, L.K., Lui, H., Yau, H. & Chong, D.H., 2008. *Come from Rivers – Tung Chung River*. Green Power, Hong Kong.

Crab (*Carcinoscorpius rotundicauda*), Alligator Pipefish (*Syngnathoides biaculeatus*) and Pacific Seaweed Pipefish (*Syngnathus schlegeli*) and so on. (please refer to Appendix B for more details)

6. Being one of the local rivers with the richest freshwater fish species, Tung Chung River yields at least 23 fish species and designated as an “Ecological Important Stream/ River” by the Administration to protect its biodiversity of freshwater fish.
7. Seventy butterfly species are recorded in the Tung Chung Valley, four of them are of conservation importance including Oriental Striped Blue (*Leptotes plinius*), Peacock Royal (*Tajuria cippus*), Golden Birdwing (*Troides aeacus*) and Common Birdwing (*Troides helena*). (please see Appendix C for the butterfly species recorded in Tung Chung River, valley, estuary and Tung Chung Bay).
8. Twenty-seven species of dragonflies and damselflies, which comprise 23% of total species number of Hong Kong, were recorded in Tung Chung Valley by Green Power in 2012. Two locally uncommon dragonfly species, *Aethriamanta brevipennis* and *Anax immaculifrons* were also recorded. (Appendix D)
9. Based on the ecological surveys of local conservation bodies and the Administration, Tung Chung River-cum-Bay ecosystem is of unique, high conservation and ecological value in local context. In view of the intactness, uniqueness and intricate ecology of Tung Chung River-cum-Bay system, ecological damages would be irreversible and loss of biodiversity could hardly be mitigated (Appendix A) ecological damages would be irreversible and it is hard to mitigate the loss of biodiversity. It is thus important to avoid any adverse impacts of development or incompatible uses in these areas.
10. According to HKPSG, the principle of “retain significant landscapes, ecological and geological attributes and heritage features as conservation zones” (Sec. 2.2, Ch. 10) should be adopted to preserve the ecologically important and biologically diverse Tung Chung River-cum-Bay system. We are disappointed that this principle is not adequately manifested in the RODP of Tung Chung West and in the PP.

#### ***Fishery Value of Tung Chung River-cum-Bay System***

11. Green Power and the Eco-Education & Resources Centre conducted survey in Tung Chung Bay in 2012 and found that Tung Chung Bay is of high ecological importance for pipefish. Also, larvae of economic species were found including family Callionymidae, Clupeidae, Engraulidae, Gobiidae, Sciaenidae, Sillaginidae, Lutjanidae.
12. The Administration’s ecological and fisheries survey findings also confirm that Tung Chung Bay is an important spawning and nursery ground for sea horse, sea dragon and fisheries resources.
13. Thus, the entire Tung Chung Bay is a significant spawning and nursery ground for economically valuable fishes and crustaceans, and diverse marine life that are supported by the intact Tung Chung River and undisturbed Tung Chung Bay and Mangrove.
14. We are highly concerned about the impacts of proposed residential development in Tung Chung West on the water quality and ecology of Tung Chung Bay.

### ***Landscape and Cultural Value of Tung Chung River-cum-Bay System***

15. As stated by Joint Green Groups (Appendix B), Tung Chung has a special history and a unique setting. With Lantau Peak and Sunset Peak as the magnificent background, the area is a unique place for ecological and cultural tourism.<sup>5</sup>
16. Regarding the tranquil landscape of Tung Chung River-cum-Bay system, TCNTE “*should be carefully examined and supported by detailed assessment, without compromising the unique conservation areas and high quality landscape features*”<sup>6</sup>. We regret that the high quality landscape features will be spoilt by the RODP in Tung Chung West.
17. Any further development over the Tung Chung River and its valley, estuary and Tung Chung Bay may substantially alter its current environmental and ecological conditions. The survival of plants and wildlife of high ecological values will be seriously threatened if their habitats are fragmented or destroyed.

### ***Joint Green Group’s Concerns***

18. Green Power and other green groups announced a joint statement on protection and conservation of Tung Chung River, estuary, coastal areas and associated habitats on 19 June 2012. Please see Appendix B for the joint green groups’ statement together with the recommended DPA and part of highlighted key ecologically important species recorded in the Tung Chung River, valley, estuary and Tung Chung Bay.
19. Joint green groups urge the government to:
  - (a) Prohibit civil engineering work, channelization and reclamation in Tung Chung River courses and banks, estuary and the entire Tung Chung Bay.
  - (b) Prohibit any discharge of effluents and connection of outfalls to Tung Chung River channels and estuary. Any landuse and activity that brings about water pollution must be removed from Tung Chung River banks and the shores of Tung Chung Bay.
  - (c) Rehabilitate the channelized/ damaged artificial river sections.
  - (d) Adopt the green groups’ recommended DPA plan (please see Appendix B) to guide a sustainable planning and development in Tung Chung.
  - (e) Terminate the present planning and engineering study on the remaining development in Tung Chung and not to fast-track the landuse planning, engineering feasibility and EIA study processes. We consider that the present proposed plan to reclaim Tung Chung Bay, with new town development as the decided objective, pre-empts the landuse planning and EIA process.

### ***The Basic Principles to Preserve Tung Chung River-cum-Bay System***

20. Regarding the preservation of Tung Chung River and Tung Chung Bay, Green Power submitted a letter to the former Chief Executive of HKSAR, Mr. Donald Tsang Yam Kuen, on 21 September 2010 and the current Chief Executive, Mr. C. Y. Leung, on 8 January 2013, and Green Power and Eco-education & Resources Centre would like to reiterate that:
  - (a) river works should be avoided as far as possible, the natural river courses and estuary should not be altered in any scale;
  - (b) landuse planning for Tung Chung River basin and estuary should take into account of its

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<sup>5</sup> C.C. Pang. 2007. *New Faces of Lantau*. Friends of the Country Parks & Cosmos Books Ltd. & E. Stokes. 1999. *Exploring Hong Kong’s Countryside*. Hong Kong Tourist Association & Agriculture and Fisheries Department.

<sup>6</sup> Section 4.4, *South West New Territories Development Strategy Review – Recommended Development Strategy Executive Summary*, July 2001, Planning Department, HKSAR

- permeability, natural landscape and ecology;
- (c) sufficient vegetation cover should be maintained in the basin; and
- (d) no sewage or stormwater of developed areas should be drained into Tung Chung River channel and Tung Chung Bay.

21. Without any detailed analysis of the environmental carrying capacity (i.e., air, noise, water quality, ecology and etc.) of Tung Chung areas, we consider that it is inappropriate and outrageous to propose a target population of 220,000 for the Tung Chung New Town. The proponent needs to verify whether any further development in Tung Chung remaining natural areas is within the environmental and ecological carrying capacity of northern Lantau, and causes a net loss of biodiversity and any threat to the survival of concerned species.

### ***Sustainable Drainage System***

22. We appreciate that the Administration abandons the conventional “New Town Development” drainage design that downstream natural rivers were channelized for flood control reasons, which completely changed the natural physical geometry, removed the natural substratum of river courses, lowered the permeability of river basin and riparian zones, eradicated the vegetation on the river banks, deteriorated the water quality, destroyed the natural river landscape and hydrology and so on.
23. However, even with the proposed polder scheme mentioned in the Digest which retains the physical settings of Tung Chung River course and 30-metre wide river banks on each side, the proposed massive residential zonings in Tung Chung West would turn a large area of vegetated river basin into concrete surfaces.
24. In order to preserve the intricate and interconnected ecology and hydrology of all segments of Tung Chung River, the channelised downstream section of Tung Chung River near Shek Lau Po should be restored to natural state.

### ***Prevention of Foreseeable Eco-vandalism in TCNTE***

25. The countryside areas or agricultural lands in the Tung Chung River Valley have been continuously encroached by stockpiling, open storage, illegal dumping or back-up sites. These destructive and uncontrollable activities will further worsen during the construction phase of TCNTE.
26. Owing to the proliferating incompatible developments and environmental vandalism such as open storage, filling of farmlands and site formation in Tung Chung River Valley. We urge the government respond to Joint Green Groups’ request for publication of a Development Permission Area (DPA) Plan for Tung Chung West (dated 15 September 2104)<sup>7</sup> immediately to guide a sustainable planning and development in Tung Chung in order to protect the valuable environmental and ecological public assets for Hong Kong and stop any uncontrollable developments and unenforceable vandalism.

### ***Wise and Sustainable Landuse for Tung Chung River Valley and Tung Chung Bay***

27. There is/are no alternative option(s) provided in the PP. The proponent shall consider alternative development option(s) for the Project, provide justification regarding how the proposed scheme is arrived at, including the descriptions of the environmental factors

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<sup>7</sup> Joint Green Groups' Request for Publication of a Development Permission Area (DPA) Plan for Tung Chung West, 15 September 2014.

considered in the option selection. A comparison of the environmental benefits and dis-benefits of the alternative development options shall be made with a view to recommending the preferred option(s) to avoid adverse environmental effects.

28. Assessment of the possible alternative development options for Tung Chung West including “no development in Tung Chung River Valley”, “ecologically-friendly development” options and other alternative development options for Tung Chung Valley and Bay should be conducted.
29. Tung Chung River, valley, estuary, Tung Chung Bay and the associated habitats should be preserved for nature conservation, community use and enjoyment, and fisheries, and any adverse impacts or incompatible uses in these areas must be avoided.
30. Green Power and Eco-education & Resources Centre are disappointed that the RODP in Tung Chung West could not serve to promote and/or facilitate existing compatible landuses (e.g. agriculture), activities (e.g. hiking, stream trekking) or use of facilities (e.g. Ma Wan Chung Market, hiking trails, temples, campsites, etc)
31. The government should protect and conserve the natural resources in Tung Chung River Valley for compatible community use and enjoyment. Compatible landuse should also be recommended in TCNTE Study for further enhancement of the ecological and cultural value of Tung Chung Valley and Tung Chung Bay such as:
  - (a) an eco-tourist hub acting as an interchange and interconnection to connect different hiking and ancient trails in the area
  - (b) an stream trekking base for stream trekkers to explore the scenic spots along Tung Chung River
  - (c) open space and greening areas integrating original natural features such as river courses, estuary, mangrove and *fung shui woods*
  - (d) provision of educational facilities such as museums with the theme of fishery, river, aquatic life and fish, natural history of Lantau, incense industry at Sha Lo Wan, Tung Chung’s history, etc
  - (e) a visitor centre can be provided in the non-sensitive part of Tung Chung Valley to help the public to admire the ecological importance of Tung Chung River-*cum*-Bay system, and facilitate hikers and stream trekkers
  - (f) facilitating visitors to visit various tourist spots in the area, including: Ngong Ping Cable Car, Tian Tan Buddha Statue, Chek Lap Kok International Airport, Tung Chung Fort and etc, in an environmental-friendly way
  - (g) making use of the existing Tung Chung River landscape and cultural heritage to enhance the tourist appeals of Tung Chung River Valley and promote passive recreational activities (e.g., eco-trails linking to the surrounding country parks, biking, leisure fishing, etc.)
  - (h) Scientific research and education

#### ***Other Concerns***

32. We regret that the cumulative environmental and ecological impacts resulting from all neighbouring projects in North Lantau have not been addressed and assessed in the PP.
33. It is noted that the major sources of water quality impacts may arise from dredging, reclamation and construction of seawall, construction site runoff and wastewater generated from construction activities. The potential impacts on the water quality, hydrodynamics and ecology of Tung Chung River, estuary and Tung Chung Bay due to the captioned and other

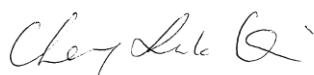


projects in the vicinity should be properly assessed.

34. To alleviate the Urban Heat Island Effect, sufficient vegetation should be retained to prevent from further deterioration of air quality and natural river courses should be preserved as breeze channel. Please see Appendix E for Green Power's "Report on Urban Green Island Effect in Hong Kong" published in January 2012.
35. We have grave concerns about the geotechnical aspects of the proposed high-rise residential development by local organisations in Tung Chung Valley. In particular, the eastern slope of Nei Lak Shan to the west of Tung Chung River Valley is composed of the extensive mantle of colluviums. Major destructive landslide incidents occurred in Tung Chung area on 17 July 1992, 5 November 1993 and 7 June 2008. Therefore, the future EIA should address the slope stability and the risks to public safety if residential development is located at downslope of Tung Chung River Valley, especially the eastern slope of Nei Lak Shan.
36. The above-captioned PP fails to include the EIA reports "Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha" (EIA-075/2002) approved by EPD on 4 July 2002 which stated clearly that Tung Chung River is of very high conservation value and any impacts to this river should be avoided.
37. Moreover, the above-captioned PP should list out clearly all the designated projects that will be covered by the captioned project. In fact, there are no details (e.g., location, scale, etc.) provided regarding the "construction of primary distributor roads and district distributor roads", "reclamation works", "possible dredging operation" and "sewage pumping station" in the project profile. The PP should state clearly whether the captioned project will include river channelization works and any other associated development/ works. Numerical information/ analysis should be provided to justify the need of all these associated development/ works and how the potential environmental impacts can be avoided should be fully addressed.
38. Green Power and Eco-Education & Resource Centre hope that EPD could address our environmental concerns stated above and should not compromise the remaining valuable natural Tung Chung River and Bay recklessly to ill-planned new town development. We recommends that the government should take a novel and environmental-friendly approach for TCNTE to demonstrate how natural heritage and development can coexist in Hong Kong, as an advanced and green city.

For any enquiries and questions, please do not hesitate to contact me at Green Power (T: 3961 0223; F: 2314 2661; E-mail: [lkcheng@greenpower.org.hk](mailto:lkcheng@greenpower.org.hk)).

For and on behalf of  
**Green Power and  
Eco-Education & Resources Centre,**



Dr. Cheng Luk-ki  
Division Head,  
Scientific Research and Conservation  
Green Power



Attachment:

- Appendix A - Evaluation of Tung Chung River-*cum*-Bay ecosystem
- Appendix B - Joint Green Groups' Statement on Protection and Conservation of Tung Chung River, Estuary, Coastal Areas and Associated Habitats (dated 19 June 2012)
- Appendix C - Butterfly species recorded in Tung Chung River, valley, estuary and bay
- Appendix D - Green Power's "Report on Odonata Survey in Tung Chung River Basin" released in 2012
- Appendix E - Green Power's "Report on Urban Green Island Effect in Hong Kong" published in January 2012
- Appendix F- Green Power's "A Brief Review of AQHI Data of Hong Kong for 2014" released in December 2014