Confirmed Minutes of the 195th Meeting of the Advisory Council on the Environment held on 9 September 2013 at 2:30 pm

Present:

Prof Paul LAM, JP (Chairman)
Prof CHAU Kwai-cheong, JP (Deputy Chairman)
Dr Dorothy CHAN, BBS
Dr Gary ADES
Mr Oscar CHOW
Prof FUNG Tung
Dr Billy HAU
Dr HUNG Wing-tat, MH
Prof LI Xiang-dong
Mr Anthony LOCK
Prof John NG
Miss Yolanda NG, MH
Prof Nora TAM, BBS, JP
Dr Alfred TAM
Dr Eric TSANG
Dr Carrie WILLIS, SBS, JP
Prof Jonathan WONG, MH
Mr Luther WONG
Ms Pansy YAU
Dr Eric YIP
Prof Ignatius YU
Mr Andrew LAI (Secretary)

Absent with Apologies:

Prof Ray YEP

In Attendance:

Ms Anissa WONG, JP	Permanent Secretary for the Environment/ Director of Environmental Protection
Mr Y K CHAN	Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Mr LING Chi-tack	Assistant Director of Planning/Technical Services, Planning Department (PlanD)

Dr Albert AU	Senior Medical and Health Officer (Environmental Health and Toxicovigilance), Department of Health (DH)
Ms Esther LI	Principal Information Officer, Environmental Protection Department (EPD)
Miss Evelyn LEUNG	Chief Executive Officer (CBD), EPD
Ms Joanne CHIN	Executive Officer (CBD), EPD

In Attendance for Item 3:

Mr K F TANG	Assistant Director (Environmental Assessment), EPD
Mr H M WONG	Principal Environmental Protection Officer (Strategic Assessment), EPD
Mr Maurice YEUNG	Principal Environmental Protection Officer (Assessment and Noise), EPD
Mr Terence TSANG	Senior Environmental Protection Officer (Assessment and Noise)5, EPD
Mr K W CHEUNG	Senior Nature Conservation Officer (North), AFCD
Dr Michael HUI	Assistant Director/Development, Civil Engineering and Development Department (CEDD)
Mr LAW Man-tim	Chief Engineer/P2 (NTN&W), CEDD
Mr Lawrence CHAU	Ag. Chief Town Planner (Studies & Research), PlanD
Mr Davis LEE	Project Manager, Ove Arup and Partners Hong Kong Ltd. (ARUP)
Mr Thomas CHAN	Environmental Consultant, ARUP
Prof T W WONG	ARUP's expert consultant
Dr Michael LEVEN	Director, AEC Ltd. (ARUP's expert consultant)
Mr Desmond WONG	Study Coordinator, ARUP

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The Chairman said that he had received feedback from green groups and residents from the North East New Territories that the Environmental Impact Assessment Report (EIA report) on the "North East New Territories New Development Areas" (NENT NDAs) was prepared in English only while the bilingual version was only available in respect of the Executive Summary of the EIA report. This had caused difficulties for them to fully understand the EIA

study and to give their views on the report. In light of public concerns over the language issue, the Chairman suggested and Members agreed that the open sessions of this meeting would be conducted in Chinese to facilitate the public who observed the meeting proceedings in the Public Viewing Room. Simultaneous interpretation (SI) service had been arranged for the meeting.

Item 1 : Confirmation of the draft minutes of the 194th meeting held on 15 July 2013

2. The draft minutes were confirmed without amendments.

Item 2 : Matters arising from the minutes of the 194th meeting held on 15 July 2013

3. The Chairman informed that the proposed new administrative arrangements for Council meetings, including the use of language, would be discussed under Any Other Business.

Item 3 : Report on the 124th Environmental Impact Assessment Subcommittee meeting
(ACE Paper 11/2013)

4. The Chairman asked Members if they had any interest to declare. Three Members advised that the organisations/green groups which they belonged to had submitted comments to EPD. A Member further advised that he had an indirect interest in Kwu Tung North (KTN) NDA as he had properties in Ho Sheung Heung but the area did not fall within the NDA plan. Another Member also declared indirect interest as her family had a property in Sheung Shui north. The meeting agreed that the four Members concerned could stay on and participate in the discussion.

5. The Chairman informed Members that the ACE paper reported on the recommendations of the Environmental Impact Assessment Subcommittee (EIASC) on two EIA reports, namely "NENT NDAs" and "Development of Lok Ma Chau Loop" (LMC Loop). Both reports were submitted by the Civil Engineering and Development Department (CEDD) and discussed at the EIASC meeting on 19 August 2013.

6. The Chairperson of EIASC informed Members that, during the

Subcommittee meeting on 19 August 2013, she received requests for SI service from members of the public observing the open sessions as they had difficulties in understanding the discussion because the EIA report and the meeting proceedings were all in English. The ACE Secretariat had explained to them that SI service could not be arranged without advance notification. The Subcommittee agreed to reflect their concerns to the Council for consideration.

7. The Chairperson of EIASC reported that EIASC had recommended endorsement of the EIA report on NENT NDAs with conditions, recommendations and comments/observations as detailed in paragraphs 13 and 14 of the ACE paper. CEDD and its consultant team should be invited to attend the Council meeting to explain the feasibility and practicability of the mitigation measures proposed for the project. For the LMC Loop EIA report, EIASC had asked for further information from CEDD before the Subcommittee could make further recommendation to the Council on the report. She advised that CEDD had just provided the supplementary information and EIASC would deliberate the EIA report on LMC Loop further at the meeting on 13 September 2013.

8. The Chairman advised Members that EIASC was tasked to discuss EIA reports impartially and come up with its recommendation to ACE. The recommendation could be either to ask for additional information from the project proponent for further consideration, to propose endorsing the EIA report with or without conditions as well as recommendations for the project, or to propose rejecting the report. The Council had full power to decide whether to accept the EIASC's recommendation. It could also decide whether to vary/add to the conditions of endorsement and recommendations by EIASC for the project concerned.

9. As EIASC had a detailed discussion on the NENT NDAs EIA report before coming up with the list of proposed endorsement conditions and recommendations, the Chairman asked Members to focus the discussion on the key mitigation measures proposed by CEDD relating to the following four aspects –

(a) Conservation of the uncommon fish species Rose Bitterling (RB);
(b) Management and treatment of arsenic-containing soil in KTN NDA;
(c) Conservation plan for the egretry at Man Kam To Road; and
(d) Compensatory tree planting plan.

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10. In respect of a Member's concern on the impact of imposing conditions on EIA projects, the Chairman clarified that if certain mitigations/ measures were considered as vital by Members and were practicable, the Council could endorse the EIA report with condition(s), for instance, to request the project proponent to devise a plan to conserve a rare species to the satisfaction of EPD or relevant authorities before commencement of the project. As such, the project proponent had to satisfy the EIA authority of compliance and fulfillment of the conditions as set in the relevant Environmental Permit (EP) before kick starting the project.

11. The Chairman informed that the discussion of the NENT NDAs EIA report would be divided into the following three sessions –

(a) Presentation Session
(b) Question-and-Answer Session
(c) Internal Discussion Session

The Presentation Session and Question-and-Answer Session would be opened to the public. The Internal Discussion Session and other parts of the meeting would remain closed.

[The project proponent team joined the meeting at this juncture.]

Presentation Session (Open Session)

12. Dr Michael Hui advised that CEDD's presentation would focus on response to the proposed endorsement conditions and recommendations as set out in the ACE paper and further questions from a Member which were received before the meeting. Mr M T Law explained the environmental principles and benefits of the NENT NDAs project. He continued that CEDD would submit detailed proposals/plans on the proposed endorsement conditions at the detailed design stage before commencement of construction works. Mr Law, Dr Michael Leven and Mr Thomas Chan briefed the meeting on the following aspects:

(a) Reviewing the design/alignment of the section of Fanling Bypass at Sheung Shui Wah Shan with a view to avoiding the meander at Ng Tung River;
(b) Adjusting the alignment of Road R1 and the design of the Sports

Ground to avoid diverting Ma Tso Lung Stream;

(c) Relocation and conservation plan of RB identified at Ng Tung River

(d) Reviewing the design of the road junction at Man Kam To Road to minimize the potential impacts to egrets;

(e) Considering the recommendation of zoning the farmland at the north of the Long Valley Nature Park (LVNP) as "Conservation Area" (CA) instead of agricultural use (AGR) as recommended in the Recommended Outline Development Plan (RODP) for the NDAs;

(f) Impact on existing farming activities;

(g) Management and treatment of arsenic-containing soil in KTN NDA; and

(h) Conservation of trees and woodlands.

Question-and-Answer Session (Open Session)

Impact on existing farming activities

13. A Member suggested that suitable rehabilitation farmland should be provided for those affected farmers who wished to continue with their farming practices. He further asked about the ecological value of farmland and whether greening features would be incorporated in the design of the proposed road infrastructure.

14. Another Member echoed the concern and pointed out that when drawing up the rehabilitation plan, it would be meaningful for CEDD to take into practical considerations such issues as the distance between the farmland, residence of the farmers and the storage area for farming tools and equipment.

15. In response to the question on the ecological value of farmland, Mr Y K Chan explained that farmland indicated the land use in general. In an EIA context, farmland was an ecological habitat which required assessment, and its ecological value might vary. Artificial/agricultural activities such as weeding, use of pesticides and fertilizers would change the ecological value of farmland. For the current study, results of the ecological impact assessment on farmland and respective mitigation measures had been included in the EIA report.

16. As regards greening features for the proposed road infrastructure, Dr Michael Hui assured Members that the Government was committed to promoting green initiatives for roads and bridges. Respective designs would be

submitted to an advisory committee comprising members with urban design, landscape and architectural backgrounds to ensure that aesthetic standards would be given a balanced consideration.

17. Mr Lawrence Chau pointed out that a special agricultural land rehabilitation scheme would be introduced for the affected farmers, regardless of whether they were non-indigenous villagers. These farmers would be allowed to build on-farm domestic structures. He advised that 34 ha of land with potential for agricultural rehabilitation in Kwu Tung South had been identified.

18. A Member was concerned that the affected farmers might not be able to find suitable farmland in their preferred localities to sustain their farming practices. Another Member echoed the concern and remarked that details of the rehabilitation scheme should be incorporated in the EIA report for information to the public. He opined that social impacts regarding the resumption of farmland and affected farmers should also be taken into account in the EIA study. Mr Lawrence Chau noted Members' concerns. He advised that the provision of land for agricultural rehabilitation was not part of the EIA study. Affected farmers could also look for suitable farmland on their own to continue with their farming activities, whilst the Government would put in place a special agricultural rehabilitation scheme to facilitate the matching process for those farmers who would need assistance. Dr Michael Hui supplemented that the proposed social impact assessment was beyond the scope of the EIA report under the prevailing EIA framework.

19. To follow up on the enquiries raised by two Members about the criteria for assessing the ecological value of a site, Mr Y K Chan advised that farmland was classified as a man-made habitat under ecological impact assessment. A habitat would be evaluated based on the list of criteria set out in Annex 8 of the Technical Memorandum on EIA Process (TM) such as naturalness, size, diversity and rarity of a habitat. Dry agricultural land generally was considered of a lower ecological value when compared with wet agricultural land.

Conservation of Rose Bitterling (RB)

20. A Member proposed that CEDD should compare the RB species found in the retained and affected meanders at Ng Tung River. If they were found to be identical, CEDD could relocate the affected species to the retained meanders without the need to create a new habitat in the LVNP. Dr Michael Hui assured

Members that they would prepare a detailed report on the relocation plan on RB prior to commencement of the relevant works. The Chairman suggested CEDD to consider creating a new habitat for accommodating other freshwater species other than RB in order to cater for unpredictable situations.

21. A Member enquired about the protection status of the sites where RB was found. The Chairman suggested that exact locations of the sites should not be disclosed in order to forestall any possible undue disturbance. Dr Michael Leven replied that two key sites with significant RB population were located in reservoir areas and were well protected. Another site was passively protected as it was located within the "CA" zoning near Deep Bay with limited development potential. The remaining sites were more vulnerable in view of presence of human activities.

22. A Member was concerned about whether RB was an invasive species which would affect the appropriate conservation policy in the long term. Dr Michael Hui replied that while AFCD was reviewing the need to conduct the proposed phylogenetic study of RB, CEDD would submit the relevant study results and conservation plan to EPD for approval before commencement of construction works. Mr Y K Chan suggested the RB issue to be considered in two fronts. From Hong Kong's context, a long-term conservation plan was necessary to conserve important species and maintain biodiversity in Hong Kong. Since RB was classified as "uncommon", AFCD had yet to decide whether further conservation measures would be required. From the EIA's perspective, the key issue was to formulate appropriate mitigation measures for the affected RB at Ng Tung River proposed by CEDD under the current study. He supplemented that RB was unlikely an invasive species. If RB was to be relocated to the LVNP, it was unlikely that the species would populate beyond that habitat.

Arsenic-containing soil in Kwu Tung North New Development Area (KTN NDA)

23. The Chairman asked for confirmation from CEDD that the treated materials were planned to be backfilled on site after treatment processes. A Member requested more details about the treatment method(s) as the estimated volume increase of treated materials seemed to be on the low side. Another Member echoed the concern and enquired about the scope of soil treatment and the anticipated impact to the environment.

24. In reply, Mr Thomas Chan informed Members that the proposed "cement solidification/stabilization" treatment process was an internationally recognized method. He advised that the treatment involved mixing cement with the arsenic-containing soil where cement would be a binding agent. The volume of treated materials should not be increased by more than 10% and could be backfilled in-situ.

25. Mr Thomas Chan supplemented that a soil profile survey of different depths had been conducted in KTN NDA to locate sites with high concentration of arsenic when preparing the EIA report. The survey scope was restricted as some of the sites were privately owned. CEDD was committed to conducting a detailed survey on the soil profile in KTN NDA to mark out the hotspots with high levels of arsenic. He further explained that arsenic-containing soil in KTN NDA should be a natural feature and not caused by contamination due to human activities.

26. Mr Thomas Chan replied to the Member's question that basement and foundation design of the development in KTN NDA would take the soil arsenic profile into consideration in the detailed design stage. Replacement piles and deep basements would be avoided where practicable so as to minimize and avoid excavation of arsenic-containing soil. They had also adopted a conservative approach in estimating the total volume of arsenic- containing soil which would require treatment (i.e. 1.2M m^3), and stated that the actual quantity should be less than the estimated volume.

27. Mr Thomas Chan further pointed out that, based on academic research, arsenic would not be volatilized into the air unless under high temperature. A health risk assessment was conducted to evaluate the risk of inhaling arsenic-containing dust generated in the course of excavation works. The assessment findings suggested the risk level was low. He confirmed that a detailed arsenic treatment and management plan would be prepared in the next stage and the solubility of arsenic in water would be assessed. He advised that groundwater samples had been collected during the EIA study and the arsenic content in most groundwater samples was below detectable level. Mr Chan added that the criteria of pH value and redox potential would be included in future study to investigate their effect on the solubility and mobility of arsenic. The results would be reported to EPD and DH for review.

28. In response to the Chairman's question on the effectiveness of the proposed "cement solidification/stabilization" treatment method, Mr Thomas Chan said that the method had been adopted in the US and was considered effective in treating arsenic-contaminated soil.

29. A Member pointed out that for the case of Cheoy Lee Shipyard at Penny's Bay quoted by the consultant, dioxin had been removed from the soil before cementation and hence largely reduced the volume of the treated materials and the potential risk of leakage. This was different from the present case as no plan was proposed to extract arsenic from the soil before treatment. He opined that the treated materials could not be backfilled on site in view of the large volume of arsenic in KTN NDA to be treated. The Member further commented that CEDD must consider the impact on the volatility of different forms of arsenic arising from excavation works which might pose potential risks of arsenic exposure to human health. Mr Thomas Chan explained that the soil in Cheoy Lee case was contaminated by both dioxin and metals. The dioxin was firstly extracted from the contaminated soil and the dioxin-free contaminated soil was then treated by cement stabilization/ solidification to stabilize the metals in the soil.

30. A Member enquired about the source of arsenic in soil as well as whether CEDD would adopt the avoidance approach and change the site boundary of the project. He suggested CEDD to conduct physical tests on site materials instead of relying on the literature review and theoretical calculation. There should also be a long-term ecological study to assess the risk of disposal of the treated materials. He further proposed CEDD to adopt different approaches to deal with different levels of concentration of arsenic in the NDA. Another Member reiterated his concern over the high level of concentration of soil arsenic in the project area as compared to the general level of arsenic in Hong Kong.

31. A Member suggested avoiding excavation on sites identified with high arsenic level. Referring to the findings of a recent research article regarding arsenic content in groundwater, he pointed out that the arsenic content in the treated materials after cement solidification/stabilization process might be washed out by groundwater under a strong alkaline environment. While Prof T W Wong assured that leaching of arsenic should not occur as the soil arsenic had been solidified/stabilized in the process, the Member appealed CEDD to adopt more prudent measures and conduct further tests to reduce risks of leaching of

arsenic to underground water. A Member echoed this suggestion and stressed that the volume increase of treated materials should not be underestimated.

[Post-meeting notes: Three relevant research articles were sent to Members and CEDD for reference via emails on 13 and 15 September 2013 respectively.]

32. Mr Thomas Chan informed Members that findings of the geological survey indicated that soil arsenic in KTN NDA should be due to natural geological formation. CEDD would collect further soil samples covering more sites in KTN NDA when drawing up a detailed treatment and management plan. Regarding the concern on leaching of arsenic from the treated materials, Mr Chan informed that contractors would be required to conduct two tests which had to comply with the relevant international standards, namely the Toxicity Characteristic Leaching Procedure (TCLP) and Unconfined Compressive Strength (UCS) test on the treated materials before they were backfilled on site. He continued to state that the location where a very high concentration of soil arsenic was found had been proposed for road building. This should not pose health risks to the community.

33. In reply to the Member's enquiry on the detailed findings on soil survey profile on arsenic in KTN NDA, Mr Thomas Chan acknowledged that site investigations conducted in the past years were constrained by access problems to private land. CEDD would conduct further site investigations to confirm the distribution and volume of soil with high levels of concentration of arsenic. These hotspots should be avoided and not be disturbed as far as practicable. Should avoidance of construction works in these hotspots not be feasible, CEDD would draw up a detailed arsenic treatment and management plan for these sites to reduce potential impact to human health and the environment. He advised that among the 437 soil samples taken in KTN NDA, only one sample of exceptionally high level of concentration of arsenic at 10 000 mg/kg was recorded. The second highest arsenic concentration was 1 200 mg/kg, with the average at approximately 180 mg/kg. Mr Chan informed that the acceptable level of 571 mg/kg in the EIA report was taken after detailed literature review and with reference to the risk assessment criteria of the US Environmental Protection Agency.

34. A Member remarked that concentration of arsenic at 571 mg/kg was very high and had to be dealt with carefully. He advised that farming practices could contribute to a high level of concentration of arsenic as arsenic substance

was found abundant in chicken droppings, and CEDD should take that into account when assessing the arsenic soil profile. Prof T W Wong clarified that arsenic in KTN NDA should be of natural occurrence. The content was principally Inorganic Arsenate As(V) and non-volatile by nature. Its toxicity was much lower than the more well-known form of Inorganic Arsenite As(III) (砒霜). With regard to the adoption of an acceptable arsenic level of 571 mg/kg, he explained that it referred to intake of arsenic through accidental ingestion mainly by kids. They had adopted the US statistics on exposure of kids to arsenic-contaminated soil as there was no similar reference in Hong Kong. It was a conservative assumption as accidental ingestion of soil by kids was unlikely due to the highly urbanized environment in Hong Kong.

35. A Member enquired on a possible different threshold for treatment of the arsenic-containing soil in respect of intake through inhalation, as compared to a threshold at 571 mg/kg for arsenic intake through accidental ingestion. Mr Thomas Chan said that the three intake pathways of arsenic were accidental ingestion, inhalation and dermal pathway. The main source of intake was accidental ingestion whereas inhalation would mostly connect to site formation phase when arsenic soil was excavated. Literature review also showed that the risk of intake through inhalation was low, and there was no yardstick on this in other developed countries. They had drawn reference to the World Health Organization on the suggested level of 6.6 nanogram per cubic metre ($6.6ng/m^3$) in air when assessing the risk of intake through inhalation. In simulating the distribution of arsenic-containing dust during site formation, they had adopted a conservative assumption of an arsenic concentration of 1 200 mg/kg in the soil, which was the second highest level of concentration detected. The result showed that with mitigation measures like water spraying in work sites, the risk of arsenic intake through inhalation should be much below than the acceptable level.

Conservation and alternative sites for Man Kam To Road Egretry

36. Members noted CEDD's assessment that the existing Man Kam To Road Egretry would likely to have mortality impact on young birds and that there were high chances the egretry would be abandoned by birds due to habitat changes. The Chairman suggested CEDD to consider retaining the existing egretry while establishing alternative egretry sites so that the birds could choose the most suitable one themselves for roosting/foraging. A Member welcomed the proposal of turning the retained meanders at Ng Tung River to serve as an

egretry. Another Member echoed that CEDD should take practical steps to enhance the existing egretry site at Ho Sheung Heung and/or its vicinity.

37. Dr Michael Leven explained that inexperienced young birds in their first flights might bump into the fast-moving vehicles and the heavily trafficked Man Kam To Road. They had assessed the benefits of clearing the existing egretry in consideration of the potential impacts on young egrets. In reply to a Member's suggestion on buffering the road section for the benefits of young birds, Dr Leven explained that young birds tended to drop lower than their take-off height when coming out of the egretry on their first flights as they could not master flying skills well. The provision of alternative egretry sites at the retained meander at Ng Tung River and in the LVNP could ensure that there would be suitable egretry sites for birds after the clearance of the existing Man Kam To Road Egretry.

38. A Member enquired about the feasibility of providing a canopy to reduce conflicts between Man Kam To Road and the egrets. Another Member echoed that CEDD could make the artificial structures look more natural by greening measures. Dr Michael Leven said that the erection of an artificial structure around the egretry would result in a significant ecological change of the environment and might result in the egrets abandoning the site altogether.

Compensatory tree planting plan

39. Concerning compensatory planting plan, Dr Michael Hui confirmed, in response to the Chairman's enquiry, that compensatory woodland planting to the area affected was approximately at a 2:1 ratio.

40. A Member suggested that trees to be compensated should be in the form of mature trees rather than seedlings. The compensatory tree planting plan should include the establishment of fire breaks particularly around the burial grounds to prevent potential hill fires spreading to the green belts. The plan should also include regular removal of weeds around the fire breaks to ensure healthy growth of trees and hence assure effectiveness the fire breaks.

41. A Member suggested that local plant species should be adopted for the fire breaks. Another Member suggested that considerations should be given to the choice of compensatory tree species with a mix of different tree species for achieving a good balance between the local community and the ecological

system as a whole. A Member opined that CEDD should incorporate greening features in the design of road infrastructure which should be in harmony with the surrounding natural environment.

Other issues

42. A Member requested CEDD to seriously consider zoning the farmland at the north of the LVNP as "CA" instead of "AGR" in view of its ecological importance.

43. A Member remarked that CEDD should make best endeavour to sustain the ecology of the NDAs, promote co-existence of urban and rural environments, and protect the livelihood of the affected local residents and farmers. There were public concerns on the provision of EIA reports in Chinese and for project proponents to proactively reach out to stakeholders, concerned groups and affected parties. These issues should also be addressed. Another Member echoed that CEDD should give more attention to the rural interests under the theme of "co-existence of urban and rural areas".

44. A Member said that the proposed Fanling/Sheung Shui/Kwu Tung New Town should complement and revitalize the existing Fanling and Sheung Shui old towns. Another Member echoed that a green neighbourhood should be sustainable. There should be closer integration amongst residents, local communities and the natural environment.

45. The Chairman thanked CEDD for the presentation and answering the questions from Members. He urged CEDD to consider the views of Members seriously including those outside the current EIA regime.

[The project proponent team left the meeting at this juncture.]

Internal Discussion Session

46. The Chairman advised Members to follow the TM and the EIA study brief of the project when considering whether to approve the EIA report and recommend the conditions of endorsement. Issues which were outside the ambit of the EIAO should be put as recommendations.

47. Three Members considered that the information and methodologies

provided by CEDD were generally satisfactory. They recommended endorsing the report with conditions. This was agreed by other Members.

Management and treatment of arsenic-containing soil

48. A Member appreciated that at this early planning stage, CEDD could not give a detailed answer to address Members' concerns on the initial site investigation, detailed management/treatment method and disposal of the treated materials. He noted that the general principle of avoidance and minimization would be followed on the arsenic issue. He pointed out that CEDD had to provide clear information on the origin or distribution profile of arsenic soil in KTN NDA. A detailed site investigation had to be conducted to identify the hotspots where high levels of arsenic could be identified.

49. A Member echoed that CEDD should be required to carry out a detailed survey on arsenic soil in the NDA and to avoid excavation of the sites noted with high concentration of arsenic as far as practicable. If avoidance was not feasible, CEDD should draw up a detailed arsenic treatment plan including different treatment methods in addition to the proposed cement solidification/ stabilization process, exploring the possibility of leaching after treatment and advising how to handle the treated materials in view of the increased volume after treatment.

50. A Member said that findings of soil profiling in KTN NDA would affect the decision on whether and what development could be allowed in areas identified with high levels of arsenic. He considered it prudent to first ascertain the arsenic situation in the NDA. A Member said that CEDD must fulfill all the conditions imposed under the EP before commencing the construction works. EPD would be the enforcement authority to safeguard that the conditions had been fulfilled and complied with. She supported endorsing the report with a condition on monitoring the arsenic issue.

51. The Chairman concluded Members' views that CEDD should conduct a detailed survey on the soil profile in KTN NDA to locate the hotspots where high levels of arsenic could be identified. These hotspots should be avoided and not be disturbed as far as practicable. Should avoidance of construction works in these hotspots not be feasible, CEDD would have to submit a detailed arsenic management plan(s) for such sites which required soil treatment. CEDD should identify and adopt appropriate treatment methods/processes to

reduce the potential risk of arsenic exposure to human health to an acceptable level, and advise on the proper handling and disposal of the treated materials, prior to commencement of construction works.

Conservation of Rose Bitterling (RB)

52. The Chairman enquired if CEDD could be required to study the RB species in the six identified sites. Mr K W Cheung said that the Chinese University of Hong Kong had completed a phylogenetic study on six freshwater fish species in 2013. The study found that different species had different degrees of genetic variations. As such, the proposed study on RB might not be conclusive as to the origin and relationship of the species in the six sites. A Member agreed that it was difficult to conclude whether RB was a native or exotic species. In view of these uncertainties, she supported CEDD's proposal of retaining the two meanders at Ng Tung River (i.e. in Fu Tei Au and Sheung Shui Wah Shan) as habitats for RB instead of relocating the species to the LVNP, lest it would bring in an introduced species to Long Valley that might affect the biodiversity of the area.

53. The meeting concurred with the proposal of retaining the two meanders at Ng Tung River as habitats for RB. Members also recommended that a phylogenetic study of RB should be conducted for the purpose of confirming the origin and conservation status of the species and its populations in Hong Kong. A Member suggested that a comparison could be considered with the DNA of the RB Taiwan populations.

Alternative egretry sites

54. A Member drew Members' attention to CEDD's assessment on the potential risks particularly to young birds if the existing Man Kam To Road Egretry was to be retained. He quoted the experience of the Mai Po Village Egretry where the number of nests dropped significantly after the construction of a highway nearby. He pointed out that the existing Man Kam To Road Egretry could be transient given its small colony of nests and short history. As for the alternative egretry at the retained meander at Ng Tung River, he considered that setting up a plantation there would have minimal effect for attracting birds. Among the three egretries at Man Kam To Road, Long Valley and Ho Sheung Heung, the one at Ho Sheung Heung was the largest with the longest history and its conservation value was much higher. Since the Ho

Sheung Heung Egretry was mainly on private land and could be subject to changes, resources should be provided to enhance that egretry from an ecological point of view. In response to another Member's enquiry on whether the Government was allowed to invest in the egretry which primarily fell on private lots, the Member said that some government land was around the Ho Sheung Heung Egretry. He proposed enhancing the egretry by planting appropriate tree species in its surroundings.

55. The Chairman concluded Members' views that CEDD should submit, prior to commencement of construction works, a detailed proposal for the establishment of alternative egretry sites and a monitoring programme to confirm the effectiveness of the relevant mitigation measures. It should also take practical steps to enhance the existing egretry site at Ho Sheung Heung and/or its vicinity.

Compensatory tree planting

56. A Member supported endorsing the proposal with conditions, which should include a requirement on planting trees of native species that had been proven to be beneficial to wildlife as well as to the local community and ecological system as a whole.

57. On compensatory tree planting, a Member suggested that CEDD should use native species and a good mix of different tree species as far as practicable. They should also plant fruit-bearing trees to attract wildlife. Consideration should be given to establishing effective fire breaks for the purpose of hill fire prevention.

58. A Member reiterated that the trees to be removed should be compensated by mature trees rather than seedlings. A Member said that for other projects in Hong Kong, trees removed were compensated by trees of the same diameter at breast height. Otherwise, the project proponent had to monitor the survival rate of the newly planted trees for a stated period, say 3-5 years.

59. Mr K W Cheung advised that under the existing technical circular on tree preservation, trees lost due to developments had to be compensated by planting trees with the aggregated girth size similar to that of the trees to be felled. This requirement was mainly applicable for urban developments in

compensating loss of greenery. In an EIA context, compensation for woodland loss was in terms of area to be compensated. For the present study, CEDD would plant some 20 ha of woodland as compensation for the loss of around 0.26 ha of secondary woodland and 8 ha of hillside plantation. The compensation ratio was higher than the general 1:1 standard to cater for anticipated failure of some seedlings and loss of trees as a result of thinning (i.e. cutting down weak trees to promote growth of healthy trees).

Monitoring of compliance of conditions of endorsement

60. In view of the public concerns on this project, a Member proposed to set up an Environmental Monitoring Committee under ACE to regularly review the progress of the project. This could enhance public confidence on the work of ACE and effectiveness of the EIA system. Ms Anissa Wong said that it was the responsibility of EPD to monitor compliance of the EP conditions by individual project proponents, namely CEDD on the present NENT NDAs EIA project. If ACE so requested, EPD could make regular progress reports to the Council in this regard. Members agreed to make this regular progress reporting by EPD a condition for the project.

Other recommendations

61. Members agreed that the Council should pursue the first three recommendations proposed by EIASC on the report, namely –

(i) CEDD should consider zoning the farmland at the north of the LVNP as "CA" instead of "AGR" in view of the ecological importance of the area;
(ii) CEDD should consider adjusting the design and alignment of Road R1 linking up to the proposed stadium to avoid diverting Ma Tso Lung Stream; and
(iii) CEDD should introduce greening design/initiatives for transport infrastructure in the project area so that the structures could mingle well with the surrounding natural environment.

62. Members concurred that the original EIASC's recommendation on reviewing the design of Man Kam To Road Roundabout was no longer necessary as that had been incorporated as part of the respective condition for the project.

63. As regards the EIASC's recommendations to the Government on provision of rehabilitation farmland for affected farmers and synergy of the NDAs with the existing Fanling/Sheung Shui New Town, the meeting agreed to incorporate the comments as part of the respective recommendation to DEP for CEDD to follow up.

64. The Chairman proposed, and the meeting agreed that the NENT NDAs EIA report could be endorsed with the following proposed conditions –

(a) CEDD will retain two meanders at Ng Tung River (i.e. in Fu Tei Au and Sheung Shui Wah Shan) as habitats for the uncommon fish species Rose Bitterling. It will submit a detailed proposal on the relocation plan of the species and subsequent monitoring to demonstrate that the mitigation measures proposed are effective prior to commencement of construction works;

(b) CEDD will conduct a detailed survey on the soil profile in KTN NDA to locate the hotspots where high levels of arsenic can be identified. These hotspots shall be avoided and not be disturbed as far as practicable. Should avoidance of construction works in these hotspots not be feasible, CEDD will submit a detailed arsenic management plan(s) for such sites which require soil treatment to (i) double-check and confirm validity of the bioavailability predictions derived from the survey findings; (ii) identify and adopt appropriate treatment methods/processes to reduce the potential risk of arsenic exposure to human health and the leachability to the surrounding ecosystems to an acceptable level; and (iii) advise on the proper handling and disposal of the treated materials, prior to commencement of construction works.

(c) CEDD will submit, prior to commencement of construction works, a detailed proposal for the establishment of alternative egretry sites, which should include the location and design of the alternative egretry sites and a monitoring programme to assess and confirm the effectiveness of the relevant mitigation measures. It will also take practicable steps to enhance the existing egretry site at Ho Sheung Heung and/or its vicinity;

(d) CEDD will submit, prior to commencement of construction works, a compensatory tree planting plan in consultation with the relevant authorities, including the Agriculture, Fisheries and Conservation

Department, to the satisfaction of DEP. The plan should include details of implementing and managing the proposed compensatory planting areas, especially on hill fire prevention. Measures for protecting trees potentially to be affected by the project as well as for those to be transplanted should be adopted. Topping of trees should be avoided. As far as practicable, CEDD should also use native species and a good mix of different tree species that have been proven to be beneficial to wildlife as well as to the local community and ecological system as a whole; and

(e) CEDD will submit regular progress reports to EPD regarding the fulfillment of the above conditions and requirements of the Environmental Monitoring and Audit (EM&A) Manual. EPD will keep ACE informed of the outcome on a regular basis.

65. The meeting also proposed the following recommendations to CEDD –

(a) CEDD should consider adjusting the design and alignment of Road R1 linking up to the proposed stadium at Ma Tso Lung to avoid the need to divert Ma Tso Lung Stream;
(b) CEDD is strongly recommended to propose zoning the farmland at the north of the proposed LVNP as "CA" instead of agricultural uses (AGR) as recommended in the RODP for KTN NDA and the Fanling North (FLN) NDA. The proposed "CA" zoning can provide better protection of the ecologically important habitat/birds flight path in the area;
(c) CEDD should introduce greening initiatives/designs for the transport infrastructure in the project area so that the structures can mingle well with the surrounding rural environment;
(d) There should be a comprehensive phylogenetic study of RB for the purpose of confirming the origin and conservation status of this species and its populations in Hong Kong. This information should be used to enhance/refine the corresponding guideline/ policy on its conservation;
(e) It is strongly recommended that the Government should take initiatives to identify suitable farmland and to proactively match the farm sites for those affected practising farmers who want to continue with their farming practices in the NDAs in view of the importance of farmland in maintaining the ecological integrity in the area; and

Action

(f) There should be a good synergy of the NDAs with the existing Fanling/Sheung Shui New Town for development into a coherent green community/ neighbourhood to also serve the NENT hinterland.

Item 4: Any other business

"Proposed Extension of Broadcasting Arrangements for Meetings of ACE"

66. The Chairman recapped the proposal on extending the broadcasting arrangements for ACE meetings discussed at the last Council meeting on 15 July 2013 as follows –

(i) the broadcasting would be extended to include presentation and question-and-answer sessions on discussions relating to environmental policy matters; and

(ii) the Council would continue holding closed-door sessions on internal discussions on EIA reports and policy matters as well as other issues which the Council regarded as confidential/restricted in nature.

67. The Chairman said that since quite a number of Members could not attend that meeting, he had advised the Secretariat to prepare a report on the meeting logistics which was issued to Members via email on 5 September 2013. He invited Members' comments on the proposal.

68. Having regard to the recent interests on the language issue of Council meetings, the Chairman informed that the following improvement measures were also proposed by the ACE Secretariat –

(i) to upload a Chinese version of the agenda for meetings of ACE and its subcommittees on the ACE's website for public information; and

(ii) to arrange SI service if there was a registered demand for the service in advance, i.e. three working days before the meeting.

69. Members agreed to the proposed broadcasting arrangements and the enhanced meeting logistics. The Chairman suggested EPD to further look into the feasibility of providing EIA reports and discussion papers in both Chinese and English. EPD

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*[Post-meeting note: **EIASC report on non-selected EIA reports***
Since the last Council meeting held on 15 July 2013, EIASC had received the Executive Summary of the EIA report on "Trunk Road T2" submitted by CEDD. The project was not selected by EIASC for discussion. The Executive Summary had been circulated to EIASC Members for comments. The relevant hyperlink had also sent to non-EIASC Members. Individual Members had been reminded to submit their comments, if any, on the EIA report directly to DEP within the public inspection period between 24 July and 22 August 2013.]

Item 5 : Date of next meeting

70. The Chairman informed Members that the next meeting was scheduled on 7 October 2013. Members would be informed of the agenda in due course.

[Post-meeting note: The meeting on 7 October 2013 was cancelled. The next Council meeting is scheduled on 11 November 2013.]

ACE Secretariat
October 2013