

Urban Forestry Advisory Panel
(Notes of the 2nd Meeting)

Date and Time : 22 November 2021 (Monday) at 10:00 am

Venue : Conference Room 5, G/F, Central Government Offices, Tamar

Present

Mr. Robin Lee	Chairperson (H/GLTMS, DEVB)
Ir. Chan Yun-cheung	Member
Prof. Chau Kwai-cheong, JP	Member
Mr. Kingsley Choi	Member
Prof. Chu Lee-man	Member
Dr. Billy Hau	Member
Mr. Evans Iu	Member
Mr. Patrick Lau, JP	Member
Dr. David Lau	Member
Prof. Anthony Leung	Member
Dr. Wong Fook-ye	Member
Dr. Charles Wong	Member
Mr. Yiu Vor	Member
Prof. Leslie Chen, JP	Member (via video conferencing)
Mr. John Ho	Member (via video conferencing)
Mr. Chiky Wong	Member (via video conferencing)
Mr. Kevin Eckert	Member (via video conferencing at Hawaii, USA)
Mr. Ryan Lin	Member (H/TMO, DEVB)
Mr. Eric Liu	Member (SConO(TS), AFCD)
Mr. Sandy Tong	Member (SLA/VM(S), HyD)
Mr. Sunny Lo	Member (SLA/TD&C, HD)
Mr. David Chaiong	Member (CLM(PA), LCSD) (via video conferencing)
Mr. Hsu Ka-man	Secretary (AS(TM)3, DEVB)
Ms. Paula Chan	Note-taker (TMO5, DEVB)

Absent with Apologies

Dr. Paul Barber

Mr. Ian Shears

Mr. Mark Duntemann

In Attendance

Ms. Vina Wong

H/GLO, DEVB

UFAP Paper No. 06/2021

Mr. Evans Iu

Representative, Hong Kong Institute of
Landscape Architects (HKILA)

Mr. Ringo Lee

Director, Earthasia Ltd.

UFAP Paper No. 07/2021

Ms. Louisa Ngai

AS(GL)1, DEVB

Mr. Ringo Lee

Director, Earthasia Ltd.

UFAP Paper No. 08/2021

Ms. Josephine Yang

AS(TM)2, DEVB

UFAP Paper No. 09/2021

Mr. Edmond Lam

AS(TM)1, DEVB

Action

1. The Chairperson welcomed Members to the 2nd Urban Forestry Advisory Panel (UFAP) meeting of the 2021-2022 term, those who attended the meeting via video conferencing, and Mr. Ryan Lin, the new Head of Tree Management Office.

Item 1 : Confirmation of the minutes of the last meeting

2. The minutes of the last meeting were confirmed without amendment.

Item 2: Standard Specification of Nursery Plant Materials for Guangdong, Hong Kong and Macau (UFAP Paper No. 06/2021)

3. The Chairperson briefed Members that the Hong Kong Institute of Landscape Architects (HKILA) had recently completed a study to align the specification on plant materials for landscape projects among Guangdong, Hong Kong and Macau. He invited Mr. Evans Iu of HKILA, to share the objectives, findings and recommendations of the study.

4. Mr. Evans Iu briefed Members that the study provided a standard specification in unified terms, definitions, basic quality requirements, key selection guidelines and quality standard of commonly used nursery plant materials for ecological restoration and landscape greening projects in the Guangdong Province, Hong Kong and Macau, which was vital to unify the industry's standards and enhance the quality of works.
5. A Member enquired whether particular species and quantitative indicators had been taken into consideration in the study and there was a plan of adoption of the specifications among government departments in Hong Kong.
6. Mr. Evans Iu responded that the scope of the study included seven group classifications such as trees, palm, bamboo, etc. but excluding species specific. As different clients among the three locations had slight difference on the plant requirements, the study aimed at providing a set of specifications in unified terms and basic quality requirements. Mr. Ringo Lee supplemented that the specifications included a range of quantitative indicators with diagram to illustrate various tree standards.
7. A Member appreciated the study report which could serve as a guidance to the industry. He enquired on the subsequent promotion on the adoption of standard specification among government and private sectors.
8. Mr. Evans Iu responded that HKILA would promote the standard specification to HKILA's member first, then to the relevant government departments in Hong Kong. In Guangdong Province, the local government supported a certification procedure standard for accredited plant nursery.
9. A Member asked about the indicator of root ball size in the study.
10. Mr. Evans Iu responded that the root ball size to Diameter at Breast Height ratio was about 8:1.

11. SLA/TD&C raised concern on the implementation of providing the record of plant production history in the nursery by the suppliers, as mentioned in the acceptance criteria and supported the accreditation of the nursery to ensure plant quality.
12. Mr. Ringo Lee responded that the acceptance criteria were introduced to ensure the quality of plant materials and plant suppliers would sign a certificate on plant quality as a documentary record. Mr. Evans Iu supplemented that the plant nurseries in the Guangdong Province did not object the relevant arrangement.
13. Mr. Evans Iu informed that a bilingual study report was available in the website of HKILA.
14. The Chairperson thanked Members' comments on the study. He expressed appreciation to HKILA on their initiatives in carrying out the study for the benefits of the industry. DEVB would liaise with departments and HKILA on the way forward.

Item 3: Update of Street Ecology Study Stage II (UFAP Paper No. 07/2021)

15. The Chairperson remarked that Members had been briefed about the preliminary findings on Street Ecology Study Stage II (the 'Study') at the UFAP in November 2020. He invited AS(GL)1 and the consultant, Mr. Ringo Lee, Director of Earthasia Ltd. to present the latest progress of the study.
16. AS(GL)1 briefed Members on the two objectives of the Study, which are to study (a) the commercial availability of the 80 less commonly used species introduced in the Street Tree Selection Guide; and (b) measures to improve the underground growing environment of trees in urbanized areas. Mr. Ringo Lee then informed Members the findings of the three tasks under (b) above concerning application of innovative measures to increase soil volume, guidelines on soil improvement and monitoring of tree growth at pilot site.

17. A Member expressed support to the Study and suggested including the biological parameters in the guidelines in view of the nutrient benefits and soil texture improvement from microorganisms, and to consider adding test for the possible agents of the Brown Root Rot Disease in the root ball.
18. Mr. Ringo Lee responded that the biological parameters were included in the guidelines. For Brown Root Rot Disease, a detailed manual in dealing with the disease had been prepared by the GLTMS.
19. SLA/TD&C suggested providing a Chinese version and a simplified version of the guidelines to facilitate the use by frontline staff, and including some tree species specific observations in the guidelines as quick troubleshooting.
20. Mr. Ringo Lee responded that the guidelines in Chinese would be prepared for consideration by GLTMS. The indicators illustrated in the guidelines aimed at covering general soil problems summarized from desktop research and were not tree species specific. The guidelines were user friendly, with visual assessment as the first step, followed by handy quick test on the suspected soil problems.
21. A Member asked whether the recommended minimum soil volumes would apply to the existing trees or to the new tree planting sites.
22. Mr. Ringo Lee responded that due to the site constraints in the urban area, it would be difficult to improve the soil provision in existing planters. Open soil planting area was preferred for new planting sites. If this could not be achieved, measures such as soil cell and soil corridor were suggested increasing the soil volume.

23. A Member expressed that this was an important study and looked forward to the outcome. Regarding the guidelines, unsuitable soil texture might not be the cause of waterlogging at tree pit with confined space. It could be caused by the blockage of drainage filter or high compaction. He further asked for the number of tree species and the number of replicates involved in the Biochar trial, and whether a statistical test of results was conducted. He expressed that the Carbon to Nitrogen (CN) ratio of the soil mix would affect the tree growth due to competing of nitrogen with microorganisms. As tree growth was quite slow, shrubs could be considered for used in the Biochar trial.
24. Mr. Ringo Lee responded that waterlogging caused by unsuitable soil texture was used as an example to demonstrate the step-by-step procedures in the guidelines. In the guidelines, there were other possible problems listed under the visual indicator of waterlogging, including high compaction and poor drainage. Regarding the site trial, 15 trees of one tree species were involved, and no statistical test was conducted. As the Study focused on street trees, so trees instead of shrubs were used in the trial. Prof. Chu (as the soil consultant of the Study) supplemented that for CN ratio, the contractor was assumed to fulfill the contract requirements according to the specifications, and therefore, only nutrient like nitrogen was measured.
25. A Member enquired about the implementation of the recommendations of the Study among departments such as aligning the underground utilities to provide room for the growth of tree roots.
26. AS(GL)1 responded that according to the Study, if 1.2m soil depth was adopted, the current roadside planting provision in a continuous open soil planter could support the growth of trees up to 8m crown diameter. The minimum soil depth requirement was therefore the first measure to be promoted. To achieve the minimum soil volume for planting of larger trees, the use of load-bearing planting substrates would be required. As they were relatively new to Hong Kong, GLTMS planned to work with departments to carry out pilot trial projects to better understand their local performance and maintenance requirements.

27. A Member suggested that for waterlogging problem of tree pits, it could be improved by providing a small drain pipe in the open soil area to divert the water to the drainage system.
28. A Member opined that instead of adding soil amendments, maximizing the size of planting area was the ultimate solution to improve the soil quality in urban environment, especially in confined tree pit. In a larger planting area, the shrubs planting provided a healthy environment for microorganisms and lessened soil compaction.
29. AS(GL)1 responded that government departments were working along the same direction, for instance continuous roadside planters with open soil area were mandated for new infrastructure projects, and the use of tree pits would only be considered as a last resort. For tree pits, works departments had also increased their size recently to provide a better growing environment of trees.
30. The Chairperson thanked Members' comments and suggestions.

**Item 4: Infestation of *Phaуда flammans*
(UFAP Paper No. 08/2021)**

31. The Chairperson briefed that infestation of *Phaуда flammans* was observed in Hong Kong and invited AS(TM)2 to present the latest situation.
32. AS(TM)2 briefed Members the latest situation of *Phaуда flammans* infestation in Hong Kong, implemented control measures and their effectiveness, as well as the government's efforts in public education and collaboration with relevant experts to handle the pest problem.
33. A Member observed that wrapping tree trunk with hessian was not effective, and enquired on (a) the cost of soil or trunk injection using systemic pesticide; (b) the stage of the pest's life cycle deemed to be most vulnerable for effective control measure; and (c) the control measures for trees with high canopy.

34. AS(TM)2 responded that wrapping tree trunk with hessian served to trap the larvae which would be removed afterwards. The low-stickiness masking tape was however proven more effective for trapping larvae. Apart from the eggs which were laid high in the canopy, specific control measures could be adopted against larvae, pupae and adults. Spraying of the pesticide over tree with high canopy was not recommended as the chemical might drift to nearby area affecting others. The soil or trunk injection was nevertheless suggested in a small scale.
35. SLA/TD&C informed that Housing Department (HD) had conducted the trunk injection in few trees for trial. HD was closely monitoring the situation together with their contractor.
36. A Member suggested that during the outbreak of the pest infestation, application of the nitrogen based fertilizer should be avoided as the pest was usually attracted by nitrogen.
37. A Member reminded that wrapping tree trunk by hessian for a long time would create tree health problem.
38. AS(TM)2 thanked Members' comments and expressed that departments would be reminded to remove or replace the hessian or masking tape regularly, so as to avoid damaging the trunk enclosed in a prolonged humid environment. Proper use of fertilizer was also noted.
39. A Member worried about the potential impact arising from soil injection to the environment.
40. AS(TM)2 responded that the effect was mainly confined to the treated trees according to the trial undertaken by the Leisure and Cultural Services Department. Besides, organophosphate pesticide would degrade rapidly by hydrolysis on exposure to sunlight, air and soil, resulting in insignificant leaching problem. A Member showed support to the application of organophosphate in view of its less potential impact to the environment.
41. The Chairperson expressed that the GLTMS would take Members' comments into consideration when preparing further actions to handle the pest problem.

Item 5 : 3-year Pilot Study on Tree Stability Monitoring and Smart Sensor Monitoring System (UFAP Paper No. 09/2021)

42. The Chairperson informed that GLTMS would like to adopt the innovative technology in monitoring structural stability of trees especially in the high densely populated city like Hong Kong. He invited AS(TM)1 to present the pilot study, which involved the use of Smart Sensor Monitoring System (SSMS) in tree management.
43. AS(TM)1 briefed Members that the objectives of this 3-year pilot study were to assess the effectiveness and reliability of the SSMS in identifying tree at risk of collapse.
44. A Member expressed that SSMS was a good and time-saving method in tree management and asked for the information of the tree triggered alarms for the collapsed trees.
45. A Member enquired (a) the number of trees installed with smart sensors; (b) the frequency of data transfer to the system; (c) the storage system in the sensor to keep the data before the tree collapsed; and (d) any plan to share the data of study to the universities and public.
46. AS(TM)1 responded that GLTMS had just taken over 8,000 smart sensors installed under the City Tree Management Project in August 2021, which was supported by the Hong Kong Jockey Club. Analysing the previous data under the previous project were in process. Regarding the frequency of the sensors, the sensors uploaded data to the system in every six hours under general weather condition and in every 15 minutes under inclement weather conditions. Dr. Charles Wong (as the consultant of the study) supplemented that the smart sensors had been installed in phases since December 2020 and equipped with a storage card. Therefore, the data right before the tree was collapsed would be stored properly in the sensor for later retrieval. The study would analyse the tilt angle together with weather condition, wind speed and wind direction etc. in identifying the tree risk of collapse.
47. The Chairperson responded that as the 3-year study had just started, there was no intention to release data in this moment.

48. A Member asked whether tree risk assessment data would be available for selected trees with sensor installation to facilitate comparison and the tree selection criteria for installation of the sensors.
49. AS(TM)1 responded that sensors would be installed for some trees with tree risk assessment data and analysing the SSMS data with reference to the tree risk assessment data was included in the study. Different locations and species of trees were selected including roadside trees, trees in the housing estates, country parks and on the slopes to collect representable data set for further analysis.
50. A Member asked the feasibility to refine the tilt angle risk indicator and AS(TM)1 responded that the refinement of risk indicator was one of the main tasks of the study.
51. SLA/TD&C suggested to use the sensors in identifying not only a whole tree failure risk but also the branch failure risk.
52. AS(TM)1 responded that the branch failure was not included in the pilot study. Dr. Charles Wong supplemented that using the sensors for monitoring the branch failure might result in huge amount of false alarm due to the wind and branch growth factors.
53. A Member asked for the manpower resource deployed for the SSMS and AS(TM)1 responded that GLTMS and government departments had deployed their existing manpower resource to take up the SSMS.
54. The Chairperson thanked for Members' comments and remarked that about one million trees were in areas of high pedestrian and vehicular traffic flow. GLTMS was looking for a reliable and effective method to assist in monitoring the stability of trees through the study.

Item 6 : Any Other Business

55. There being no other business, the meeting was adjourned at 12:45 pm.

**Greening, Landscape and Tree Management Section
Development Bureau
January 2022**