

**PREPAREDNESS AND RESPONSE PLAN FOR
ZIKA VIRUS INFECTION
THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION**

I. INTRODUCTION

Zika virus infection is a mosquito-borne disease caused by Zika virus. The virus was first isolated from a rhesus monkey in Zika forest of Uganda in 1947, in mosquitoes (*i.e. Aedes africanus*) in the same forest in 1948 and in humans in Nigeria in 1954. It is primarily transmitted to humans through bites from *Aedes* mosquitoes. Most people infected with Zika virus are asymptomatic. People infected with Zika virus may develop symptoms including mild fever, rash, muscle pain, joint pain, headache, retro-orbital pain and conjunctivitis which last for a few days. There is no specific medication for the disease and symptomatic treatment is given to relieve discomfort. Most people recover fully without severe complications.

2. The current major concern is the association with adverse pregnancy outcome (microcephaly) and neurological and autoimmune complications such as Guillain-Barré syndrome. According to the World Health Organization (“WHO”), based on a growing body of research, there is scientific consensus that Zika virus is a cause of microcephaly, Guillain-Barré syndrome and other central nervous system foetal malformations. On 1 February 2016, WHO declared that the cluster of microcephaly cases and other neurological disorders reported in Brazil, following a similar cluster in French Polynesia in 2014, constituted a *Public Health Emergency of International Concern* (“PHEIC”). WHO issued a statement on 18 November 2016 which indicated that Zika virus and associated consequences remain a significant enduring public health challenge requiring intense action but no longer represent a *PHEIC*.

3. In Hong Kong, the principal vector, *Aedes aegypti*, is not found but *Aedes albopictus*, which is also capable of transmitting the Zika virus, is widely present so there is a risk of secondary spread for imported infections. Zika virus infection is gazetted to be included under Schedule 1 of the Prevention and Control of Disease Ordinance (Cap. 599) on 5 February 2016.

4. There is currently no proven vaccine to prevent Zika virus infection at present or approved medication to treat Zika virus infected patients. The mainstay of prevention is to prevent the proliferation of mosquitoes and avoid mosquito bites. Laboratory testing for Zika virus infection is available at the Public Health Laboratory Services Branch (“PHLSB”) of Centre for Health Protection (“CHP”). Together with the absence of population immunity in newly affected countries, Zika virus infection is therefore a cause for concern. The Department of Health (“DH”) will liaise with the WHO and relevant experts on the latest development on vaccine and recommendations on medical treatment for Zika virus infection.

5. To ensure that the Government of the Hong Kong Special Administrative Region (“HKSARG”) is equipped with the core capacities to prevent, detect, characterise and respond quickly, efficiently and in a coordinated manner to the Zika virus infection threats in order to prevent disastrous complication and unnecessary burden to the society, this document sets out the preparedness and response plan of the HKSARG (“the Plan”) when Zika virus infection may have significant public health impact to Hong Kong. According to the generic framework of preparedness and response measures to combat emerging communicable diseases, the following factors will be considered in activating various response levels:

- (a) clinical severity of the illness such as its clinical course and any serious consequences leading to hospitalisations and deaths;
- (b) transmissibility of the infection, and the capability of sustaining community level outbreaks;
- (c) geographical spread of the Zika virus infection in humans, such as the global distribution of affected areas, the volume of trade and travel between the affected areas and Hong Kong;
- (d) vulnerability of the population; risk of serious consequences;
- (e) availability of preventive measures, such as medication and vaccination;
- (f) impact on healthcare infrastructure in Hong Kong, risk of transmission in healthcare settings; and
- (g) recommendations by international health authorities, such as the WHO.

6. Although the clinical presentation of Zika virus infected persons is not severe, the complication of microcephaly of the off-springs of infected mothers causes grave concern to society. The presence of the *Aedes*

albopictus in Hong Kong makes our population vulnerable and the explosive outbreaks could not be neglected if mosquito control is inadequate. Hence, mosquito control is most important. In addition, WHO has announced that Zika virus infection becomes a *PHEIC*. These considerations would be taken into account on top of the epidemiological situation when activating and deactivating the preparedness and response levels.

7. The Plan defines the response levels and the corresponding command structures to be set up at each response level. A three-tier response level is used. The Plan aims to provide a framework of response system for agreed and coordinated efforts amongst different government departments and organisations with a view to reducing the public health impact on Hong Kong population due to Zika virus infection. It also serves as a tool for clear communication of the level of risk with the public. Relevant agencies, companies and organisations should take note of this plan in devising their contingency plans and response measures. The Plan includes the following key features –

- (a) three-tier response level system with each level representing a graded risk of the Zika virus infection affecting Hong Kong and its health impact on the community;
- (b) key factors to be considered in the risk assessment;
- (c) activation and standing down mechanism;
- (d) public health actions to be taken at each response level; and
- (e) key bureaux and departments (“B/Ds”) to be involved.

II. GOVERNMENT'S RESPONSE LEVELS

8. The Plan includes three response levels – **Alert, Serious and Emergency**. These response levels are based on risk assessment of the Zika virus infection that may affect Hong Kong and its health impact on the community.

9. It should be noted that facts and knowledge about Zika virus infection are still limited, including its spread, clinical presentation and epidemiology. As the situation evolves, crucial information on the aforesaid factors to support the risk assessment will gradually come to light. The risk will be assessed and reviewed from time to time, having regard to the most updated scientific knowledge and the latest situation, to ensure that the appropriate response level is **activated** and corresponding measures are adopted.

Alert Response Level

10. Alert Response Level corresponds to a situation where the immediate health impact caused by the Zika virus infection on local population is **low**. **Generally, it depicts a situation when there are human cases occurring in countries where there are possibilities of significant travel and trade with Hong Kong, while WHO is maintaining global alert for this disease; OR where there are imported case(s).**

11. Secretary for Health (“S for Health”) may activate or stand down this response level upon the advice of Director of Health (“DoH”). DoH will consider the key factors mentioned in paragraph 5 in conducting the risk assessment for formulation of the advice.

Serious Response Level

12. Serious Response Level corresponds to a situation where the risk of health impact caused by the Zika virus infection on local population in Hong Kong is **moderate**. **Generally, it depicts a situation when there is a sporadic local case, or a single cluster of local cases in Hong Kong.**

13. S for Health may activate or stand down this response level upon the advice of DoH. DoH will consider the key factors mentioned in paragraph 5 in conducting the risk assessment for formulation of the advice.

Emergency Response Level

14. Emergency Response Level corresponds to a situation where the risk of health impact caused by the Zika virus infection on local population in Hong Kong is **high and imminent**. **Generally it depicts a situation where there is more than one cluster of local cases or widespread local transmission.**

15. Chief Executive (“CE”) or a delegate may activate or direct stand down from this response level upon the advice of S for Health. DoH will consider the key factors mentioned in paragraph 5 in conducting the risk assessment to support S for Health in the formulation of advice.

Adjustment of Response Levels

16. Information about Zika virus infection is still limited. Risk assessment under these circumstances requires flexibility and possibly erring on the side of caution. The response level will be suitably adjusted when better risk assessment can be made in light of more available information.

17. When the situation scales down, DoH will advise S for Health and / or S for Health will advise the CE on the **standing down** of response level or a complete stand-down.

III. COMMAND STRUCTURE

Alert Response Level

18. At the Alert Response Level, a simplified response command structure will be put in place. The Health Bureau (“HHB”) will coordinate and steer government response with main parties assessing the nature and level of risks. These parties include but not limited to the following –

- (a) DH;
- (b) Food and Environmental Hygiene Department (“FEHD”); and
- (c) Hospital Authority (“HA”).

Serious Response Level

19. At the Serious Response Level, a **Steering Committee chaired by S for Health** will be set up to coordinate and steer government response with HHB providing secretariat support.

20. The Steering Committee will have the following as its core members –

- (a) Permanent Secretary for Environment and Ecology (Food) (“PS(F)”);
- (b) Permanent Secretary for Health;
- (c) Permanent Secretary for Commerce and Economic Development;
- (d) Permanent Secretary for Education;
- (e) Permanent Secretary for Security;
- (f) Permanent Secretary for Culture, Sports and Tourism;
- (g) Under Secretary for Health;
- (h) Director of Agriculture, Fisheries and Conservation;
- (i) Director of Food and Environmental Hygiene (“DFEH”);
- (j) DoH;
- (k) Director of Home Affairs;
- (l) Director of Information Services (“DIS”);
- (m) Director of Leisure and Cultural Services;
- (n) Director of Social Welfare;
- (o) Controller, CHP;
- (p) Commissioner for Tourism; and
- (q) Chief Executive of HA.

21. The Steering Committee will co-opt other senior officials and non-government experts as circumstances warrant. Members may send their representatives to attend the meetings as appropriate.

Emergency Response Level

22. At the Emergency Response Level, the **Steering Committee will be chaired by the CE** with HHB providing secretariat support.

23. As the situation warrants, the Steering Committee will have the following as its core members –

- (a) Chief Secretary for Administration;
- (b) Financial Secretary;
- (c) Secretary for Justice;
- (d) Deputy Secretaries of Departments;
- (e) Director, CE's Office;
- (f) All Directors of Bureaux;
- (g) DoH;
- (h) DFEH;
- (i) DIS;
- (j) Controller, CHP; and
- (k) Chief Executive of HA.

24. The Steering Committee may co-opt other senior officials and non-government experts as members. Members may send their representatives to attend Steering Committee meetings as circumstances warrant.

25. Sub-committees chaired by S for Health may be set up under the Steering Committee, as appropriate, to look after operational matters and specific issues and to make recommendations to the Steering Committee. Representatives from DH and HA should be the core members of the sub-committees. S for Health may invite members from relevant B/Ds and non-government experts to join the sub-committees.

IV. PUBLIC HEALTH RESPONSE MEASURES

26. **All relevant government B/Ds** are advised to draw up contingency plans in response to Zika virus infection to ensure coordinated responses and essential services in the government and in major business sectors. All relevant B/Ds should also periodically conduct exercises and revise related contingency plans.

27. DH will closely monitor the global and regional situation and experts' views. DH will maintain close networking with private hospitals, professional medical organisations and other non-governmental organisations (“NGOs”) to mobilise community resources when needed. DH, FEHD, with the assistance of Home Affairs Department (“HAD”) and other relevant government departments if necessary, will organize health education activities and provide health advice on Zika virus infection prevention, personal hygiene and environmental hygiene, targeting the general public as well as specific sectors of the community. HHB and DH will ensure legislation and communication mechanisms are put in place to ensure smooth responses under the International Health Regulations (2005). HA will communicate with clients on health advice on the virus. The Hong Kong Red Cross Blood Transfusion Service (“BTS”) will review the existing policy on donor screening, infectious disease testing, as well as update in donor deferral policy, in response to Zika virus infection outbreak in the Americas.

28. FEHD will –

- (a) step up its mosquito control work including during the winter period.
- (b) review the number of surveillance areas with gravidtrap for *Aedes albopictus* across the territory and strengthen the surveillance as necessary.
- (c) step up surveillance operations for *Aedes albopictus* in all port areas as necessary.
- (d) increase the number of out-sourced pest control roving teams in winter.
- (e) step up mosquito control work during the year-end cleanup campaign.

- (f) implement the Anti-mosquito Campaign and Thematic Mosquito Prevention and Control Special Operations.
 - (g) having regard to the fact that works sites are prone to the breeding of mosquitoes, advise relevant departments to remind their contractors on the importance of mosquito prevention, as well as enhance the efforts to eliminate mosquitoes particularly in works sites.
29. **All relevant government B/Ds** are also advised to perform respective prevention and control measures on a continuous basis, and to step up vector control and provision of specific advice particularly targeted at persons in reproductive age groups. For example,
- (a) The Education Bureau (“EDB”) will disseminate information to schools on preventing the spread of Zika virus infection in the premises.
 - (b) HAD will disseminate information to hotels, guesthouses, bedspace apartments, property management companies, owners’ corporations and mutual aid committees through District Offices network on Zika virus infection prevention measures.
 - (c) The Housing Department (“HD”) will conduct regular cleaning and implement mosquito prevention and control measures (at least weekly) in the public areas of public rental housing estates, encourage residents to maintain good hygiene practices including mosquito prevention, and take enforcement action against hygiene offences.
 - (d) The Lands Department (“LandsD”) will conduct regular inspection (at least weekly) and take necessary actions to ensure the cleanliness and tidiness of government land sites under their control and enhance supervision of site contractors to step up frequency and intensity of anti-mosquito work.
 - (e) The Labour Department (“LD”) will disseminate information to employers, employees and associations on preventing the spread of Zika virus infection in the workplace.

- (f) The Social Welfare Department (“SWD”) will disseminate information to child care centres, community care and support services units for persons in the reproductive age groups and elderly persons, residential care homes for the elderly and persons with disabilities, drug treatment and rehabilitation centres, and other residential units on preventing the spread of Zika virus infection in the centres.
 - (g) SWD and other NGOs will alert vulnerable persons in the reproductive age groups, elderly persons and needy persons and assist them to improve their home living environment and hygiene conditions as appropriate in the context of prevention of Zika virus infection.
 - (h) relevant works departments will enhance supervision of site contractors to step up frequency and intensity of anti-mosquito work including protection of the personnel from infection with Zika virus.
 - (i) The Tourism Commission (“TC”) will disseminate information targeting tourist and travel sector on the hygiene and infection control.
 - (j) The Transport Department (“TD”) will disseminate information to the transport sector on preventing the spread of Zika virus infection on public transport service vehicles and ferries.
30. Depending on the different Response Levels, different levels of the public health response measures would be taken. In general, response measures should include the following key areas –
- (a) surveillance;
 - (b) investigation and control measures;
 - (c) laboratory support;
 - (d) infection control measures;
 - (e) provision of medical services;
 - (f) review of vaccination and medication guidelines;
 - (g) port health measures; and
 - (h) communication.

Alert Response Level

31. At the Alert Response Level, the following **response measures** will be implemented –

- (a) DH will actively collaborate with relevant stakeholders, WHO and overseas health authorities to formulate the case definitions for local surveillance.
- (b) Controller, CHP will convene the Interdepartmental Coordinating Committee on Mosquito-borne Diseases to brief relevant government departments of the situation and advise respective government departments for targeted interventions, e.g. health protection measures against mosquitoes at schools.
- (c) Environment and Ecology Bureau (“EEB”) will convene meeting of the Pest Control Steering Committee chaired by USEE to provide policy steer as necessary.

31.1 Surveillance

- (a) As the Zika virus infection is a notifiable disease in Hong Kong (Schedule 1 of Cap. 599), all medical practitioners are required to report cases to DH according to the latest reporting criteria.
- (b) DH will –
 - (i) keep in view any new surveillance definitions issued by WHO and modify local surveillance activities and communicate with relevant stakeholders.
 - (ii) conduct media / rumours surveillance to monitor the local and global situation.
 - (iii) work with HA and private hospitals to enhance other surveillance activities on Zika virus infection whenever necessary.
 - (iv) exchange information on Zika virus infection with the National Health Commission (“NHC”) of the People’s Republic of China, the Guangdong and Macao health authorities and other health authorities as appropriate on a timely basis.

- (v) liaise with WHO and international health authorities to monitor the global spread and impact of Zika virus infection.

31.2 Investigation and control measures

- (a) DH will –
 - (i) conduct epidemiological investigation within 24 hours of notification of confirmed cases and relay the epidemiological findings to Pest Control Advisory Section of FEHD for appropriate vector control measures.
 - (ii) share the information pertaining to individuals confirmed with Zika virus infection with BTS to prevent transmission of Zika virus infection through blood transfusion and conducts contact tracing as appropriate.
 - (iii) regularly review and update the investigation protocol on Zika virus infection according to the latest situation and available scientific evidence from WHO and other health authorities.
 - (iv) request that the confirmed case with Zika virus infection should be hospitalized during viraemic phase and be required to stay in a vector-free (mosquito-free) environment; and that isolation order will be issued by a health officer from CHP for this purpose.
 - (v) advise cases and contacts on other necessary precautions relevant to the mode of transmission of the disease as appropriate.

31.3 Laboratory support

- (a) DH will –
 - (i) review laboratory diagnosis strategy and enhance capacity in laboratory diagnostic services.
 - (ii) conduct laboratory testing for the Zika virus for any suspected case.
 - (iii) liaise between the Public Health Laboratory Centre (“PHLC”) and HA’s Laboratory Network and transfer test technology to HA as necessary.
 - (iv) strengthen liaison with WHO and overseas counterparts to obtain updated information.

31.4 Provision of medical services

- (a) DH will –
 - (i) liaise with the Council on Human Reproductive Technology to advise licensed centres to take note of and implement the deferral policy for gamete donation and human reproductive technology procedures.
- (b) HA will –
 - (i) formulate clinical management guidelines on Zika virus infection.
 - (ii) monitor daily bed occupancy, and review bed mobilisation and compliance with admission guidelines; Assess and plan for scaling down non-emergency activities.
 - (iii) liaise with relevant colleges and experts on latest development of relevant clinical guidelines for suspected and confirmed cases, as well as on recommendations on treatment whenever necessary.
 - (iv) liaise with the Hong Kong College of Obstetricians and Gynaecologists and issue guidelines on management of pregnant women and women preparing for pregnancy with travel history to areas with Zika virus transmission.
 - (v) continue to adopt the screening procedures and donor deferral policy for blood donation with an updated list of affected countries.
 - (vi) review implications for organ donation and organ transplant policy.

31.5 Vector Control

- (a) FEHD will –
 - (i) convene monthly mosquito control task force meetings at district level.
 - (ii) regularly update protocols and oversee vector surveillance, in particular, Gravidtrap Indices. The findings will regularly be sent to DH and relevant departments for the implementation of respective anti-mosquito measures.
 - (iii) boost mosquito prevention by strengthening the manpower to conduct intensive mosquito prevention work, and redeploy adequate manpower for the supervisory work.

- (iv) strengthen inspections to potential mosquito breeding grounds and take stringent law enforcement actions.
- (v) carry out appropriate targeted anti-mosquito measures on receiving reporting of imported Zika virus infection from DH. For imported cases, obtain information from DH on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of Zika virus infection. The patient(s)'s residence, workplace, sites visited during the infectious period of the disease and the hospital to which the patient(s) was / were admitted would be investigated for prompt control measures.
- (vi) carry out vector control actions cover an area within a radius 250 meters around the patient's residence, workplace, hospital admitted and any other places visited by the patient locally during the infectious period of the disease.
- (vii) carry out prompt mosquito control work including larviciding weekly for a total four rounds and fogging once every five days for a total of five rounds starting from Day 1 to sustain suppression of adult vector density.
- (viii) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free.
- (ix) advise relevant B/Ds and relevant stakeholders¹ to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and / or contingency plans.

(b) Agriculture, Fisheries and Conservation Department ("AFCD") will

- (i) step up inspection and increase cleansing frequency of recreation sites, trails, toilets and works sites at country parks to eliminate potential mosquito breeding grounds.
- (ii) pay additional efforts to remove discarded containers particularly in country parks and morning walkers' garden hotspots and give advice to visitors and morning walkers not to store water, keep containers and dispose of containers properly in country parks.

¹ The relevant B/Ds and organisations include Airport Authority ("AA"), AFCD, Architectural Services Department ("ArchSD"), Civil Engineering and Development Department ("CEDD"), DH, Development Bureau ("DEVB"), Drainage Services Department ("DSD"), EDB, Electrical and Mechanical Services Department ("EMSD"), Environmental Protection Department ("EPD"), HAD, Highways Department ("HyD"), HA, HD, Information Services Department ("ISD"), LandsD, Leisure and Cultural Services Department ("LCSD"), Marine Department ("MD"), SWD, TD, TC, Water Supplies Department ("WSD"), etc.

- (iii) advise World Wide Fund for Nature Hong Kong to step up inspection, cleansing and removal of discarded containers in Mai Po Nature Reserve to eliminate potential mosquito breeding grounds.
 - (iv) step up inspection, cleansing and removal of discarded containers in the Hong Kong Wetland Park to eliminate potential mosquito breeding grounds.
 - (v) liaise with management staff of the pig farms in the vicinity of the patient(s)'s residence to enhance mosquito prevention work and promotion activities.
 - (vi) distribute leaflets and work closely with FEHD and DH to give talks on anti-mosquito measures to farmers, market users, fish traders and fishermen associations.
 - (vii) re-issue notices at government wholesale food markets putting stronger emphasis on the need to implement anti-mosquito measures, and reinforce the message in the Department's Market Management Advisory Committee meetings with market traders.
 - (viii) ensure weekly application of larvicide against mosquito at government wholesale food markets.
 - (ix) organize "Market Clean-up Days" for the Cheung Sha Wan Wholesale Vegetable Market and Wholesale Fish Markets.
- (c) AFCD will also –
- (i) advise the Fish Marketing Organization to display posters and distribute leaflets and letters to fish traders and market users in its seven wholesale fish markets for promotion of market cleanliness and anti-mosquito measures.
 - (ii) issue advisory letters together with anti-mosquito leaflets to fishermen associations.
 - (iii) advise Cheung Sha Wan Wholesale Vegetable Market under the Vegetable Marketing Organization ("VMO") to continue conducting regular inspections, surprise checks and cleansing of the wholesale vegetable market and issuing advisory notices to market users advising them of the importance of maintaining the cleanliness of the market and removal of stagnant water.
 - (iv) remind VMO to maintain close contact with FEHD to eliminate potential mosquito breeding sites directly adjacent to the VMO market premises.

- (v) strengthen liaison with operators and concerned parties of the agriculture industry regarding the publicity and mosquito prevention work in wholesale markets, farms and their working environment. Specifically, field officers will give verbal reminders to livestock farmers, requesting them to keep farms in good hygiene condition to prevent mosquito-borne diseases, during routine inspections.
 - (vi) issue letters on prevention of Zika virus infection to livestock farmers.
 - (vii) issue letters on prevention of Zika virus infection to all Vegetable Marketing Co-operative Society and Pig Raising Co-operative Society.
- (d) EDB will –
- (i) closely work with DH and FEHD to disseminate information to schools on preventing the spread of Zika virus in the school premises.
 - (ii) remind schools to implement appropriate hygienic measures, particularly in mosquito control, to prevent the spread of mosquito-related and other communicable diseases in schools.
 - (iii) remind schools to seek advice from DH / FEHD if necessary.
- (e) EPD will step up preventive measures against Zika virus infection in landfills and refuse transfer stations.
- (f) HAD will liaise with the District Offices of 18 Districts to enhance if required, measures that may contribute to vector control.
- (g) HD will enhance supervision of contractors to step up frequency and intensity of anti-mosquito work in public rental housing estates and works sites.
- (h) HA will –
- (i) inform DH on confirmed cases of Zika virus infection.
 - (ii) closely monitor the contractor providing mosquito control services in the premises of hospitals.
 - (iii) remind staff and visitors of hospitals the importance of mosquito prevention in the compound of hospitals
 - (iv) enhance education for the staff of hospitals on mosquito prevention and control.

- (i) LandsD will –
 - (i) enhance the inspection frequency (at least weekly) of government land sites under their control.
 - (ii) promptly conduct necessary cleaning and grass cutting work on government land sites.
 - (iii) enhance supervision of site contractors to step up frequency (at least weekly) and intensity of anti-mosquito work.
- (j) LD will disseminate information to employers, employees and associations on preventing the spread of Zika virus infection in the workplace.
- (k) LCSD will enhance supervision of site contractors to step up frequency and intensity of anti-mosquito work.
- (l) MD will –
 - (i) assist in the publicity amongst the owners / coxswains / agent of local vessels to prevent Zika virus infection.
 - (ii) enhance supervision / monitoring of cleansing services and anti-mosquito work in the port areas under its management.
- (m) SWD will strengthen monitoring on residential care homes for the elderly, residential care homes for person with disabilities and child care centres to step up preventive work against Zika virus infection, and also remind other residential care units to prevent Zika virus infection.
- (n) works-related departments (including CEDD, ArchSD, DSD, WSD, EMSD and HyD) will enforce the guidelines and enhance supervision regarding the basic requirements for site contractors and clients' site supervisory staff. Details on the enhanced roles of the works-related departments in the prevention and control of Zika virus infection are set out at **Annex** to this plan.

31.6 *Port health measures*

- (a) DH will –
 - (i) remind the public, particularly pregnant women, those planning pregnancy and immune-compromised patients, to adopt strict anti-mosquito measures during travel.

- (ii) assess inbound travellers with fever or other symptoms of the infection at the border control points (“BCPs”) to make referrals for medical consultation if necessary.
- (iii) work with FEHD on the anti-mosquito measures at the BCPs, and step up the frequency and intensity of vector control measures in collaboration with FEHD at the BCPs as necessary.
- (iv) step up inspection at the BCPs to maintain strict environmental hygiene with effective mosquito control.
- (v) reinforce training for contractors of the BCPs, including the airport, harbour ports and ground crossings, on port hygiene and pest control for effective vector prevention.
- (vi) follow up with the BCPs and airline concerned on necessary disinsection and vector control measures, for example, to conduct follow-up inspection when the aircraft concerned next arrives in Hong Kong.
- (vii) enhance risk communication and dissemination of health message to travellers (e.g. announcement or message display at the BCPs, distribution of leaflets and promulgating travel health news on its website).
- (viii) keep the travel sectors and the BCPs stakeholders updated of the disease situation.
- (ix) closely follow the latest situation overseas and WHO’s recommendation on port health measures.

31.7 *Communication*

- (a) DH will –
 - (i) keep local stakeholders (e.g. doctors, private hospitals, Chinese Medicine Practitioners, schools, ethnic groups, etc.) and the general public informed of latest developments.
 - (ii) disseminate information and step up health advice to public through various means including press releases, pamphlets, announcements in the public interest, website, and incorporate health messages in ongoing health education activities, and if necessary, set up a dedicated mini-webpage on Zika virus infection and upload to the CHP website and upload information onto the 24-hour DH Health Education Hotline.

- (iii) issue guidelines and health advice to residential institutions, schools, relevant sectors and the general public, with the support of EDB, SWD and relevant government departments.
 - (iv) arrange briefings for government departments and other relevant sectors.
 - (v) maintain close liaison with overseas healthcare authorities and WHO to obtain latest information and expert advice (e.g. travel advice).
 - (vi) provide materials to inform doctors, private hospitals and institutions and the public of the latest situation.
 - (vii) promulgate management guidelines developed by HA and the Hong Kong College of Obstetricians and Gynaecologists.
 - (viii) provide health advice to clients attending the ante-natal service of Maternal and Child Health Centres.
 - (ix) maintain close contact with the health authorities of Guangdong, Macau, the NHC and other health authorities as appropriate to monitor possible Zika virus infection cases occurring in the region.
- (b) HA will promulgate health advice to clients, and provide psychological support and counselling services for women / couples pending diagnosis or confirmed to bear foetus with microcephalic, if indicated.
- (c) EDB will disseminate information to schools on preventing the spread of Zika virus infection in the premises.
- (d) FEHD will –
- (i) advise relevant departments to remind their contractors the importance of mosquito prevention as well as to enhance the efforts to eliminate mosquitoes particularly within works sites.
 - (ii) liaise with relevant neighbouring health authorities such as the Guangdong Centre for Disease Control and Prevention and Shenzhen Entry-Exit Inspection and Quarantine Bureau and approach them as necessary to obtain information on their relevant vector prevention and control measures which have been implemented.
- (e) HAD will gauge community concerns with regard to the local situation.

- (f) ISD will –
 - (i) assist individual B/Ds to disseminate publicity materials on prevention of Zika virus infection via the channels of ISD.
 - (ii) advise B/Ds on reallocation of the airtime of Announcement in Public Interest and identification of a channel to publish the publicity materials speedily during the outbreak of Zika virus infection.
- (g) SWD will disseminate information to child care centres, community care and support services units for elderly persons, residential care homes for the elderly and persons with disabilities, drug treatment and rehabilitation centres, and other residential units on preventing the spread of Zika virus infection in the centres.
- (h) TD will –
 - (i) step up publicity with public transport industry to prevent Zika virus infection.
 - (ii) request the public transport operators to enhance cleansing of facilities under their management.

Serious Response Level

32. At the Serious Response Level, the following **response measures** will be implemented.

32.1 Surveillance

- (a) DH will –
 - (i) notify WHO and other health authorities as appropriate when locally acquired cases are detected.
 - (ii) liaise and communicate with HA for further actions, such as update on Community Disease Information System.
 - (iii) inform HA and private hospitals of the latest situation.
 - (iv) consider setting up special surveillance system with HA / private doctors according to the latest epidemiological situation.

- (b) HA will –
 - (i) implement and update as necessary contingency plans and guidelines related to the prevention and control of Zika virus infection.

32.2 *Investigation and control measures*

- (a) DH will –
 - (i) conduct epidemiological investigation within 24 hours of notification of confirmed cases and relay the epidemiological findings to FEHD for appropriate vector control measures.
 - (ii) request that the confirmed case with Zika virus infection should be hospitalized during viraemic phase and be required to stay in a vector-free (mosquito-free) environment; and that isolation order will be issued by a health officer from CHP for this purpose.
 - (iii) advise cases and contacts on other precautions relevant to the mode of transmission of the disease as necessary.
 - (iv) liaise with FEHD for information on vector surveillance and control findings.
- (b) FEHD will further enhance vector control measures within 250 meter radius in the locality when mosquitoes collected in relation to Zika virus infection cases are found to be carrying Zika virus.
- (c) Relevant B/Ds to disseminate messages to frontline staff and activate respective departmental contingency plans (e.g. adequate supplies) wherever appropriate.

32.3 *Laboratory support*

- (a) DH will –
 - (i) review laboratory testing strategy to enhance effectiveness and timeliness of laboratory diagnosis of suspected cases of Zika virus infection.
 - (ii) liaise between the PHLC and HA's Laboratory Network and share technology with HA as appropriate.
 - (iii) conduct molecular characterization studies for positive specimens.

- (iv) liaise with WHO and overseas authorities for further analysis and discuss on diagnostic development as appropriate.
- (b) DH and HA will increase laboratory capacity as appropriate for testing to assist diagnosis.

32.4 *Infection control measures*

- (a) DH and HA will enhance and / or review infection control measures according to the latest knowledge on the transmission route of Zika virus infection.
- (b) HA will liaise with relevant colleges and experts on latest development of relevant clinical guidelines for suspected and confirmed cases, as well as on recommendations on treatment whenever necessary.

32.5 *Vector control*

- (a) FEHD will, in the neighbourhood of affected cases, –
 - (i) convene monthly mosquito control task force meetings at district level.
 - (ii) obtain information from parties concerned on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of Zika virus infection (the target areas may involve two or more districts including areas within a radius of 250 meters from the patient(s)'s residence, workplace, sites visited during the incubation period and infectious period of the disease and the hospital to which the patient(s) was / were admitted).
 - (iii) carry out mosquito (egg, larval and adult) control actions covering an area within a radius of 250 meters around the patient's residence, workplace, hospital admitted and any other places visited by the patient locally during the incubation period and infectious period of the disease. The findings will be sent to DH
 - (iv) conduct trapping of mosquitoes by gravidtraps and light traps, within a radius of 100 meters from the sites where the patient has visited during the incubation period and infectious period, and send the collected vectors (both larvae and adult) to DH

for viral examination.

- (v) send the Zika virus vectors collected from locations epidemiologically-linked to the local case to DH for viral examination.
- (vi) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free.
- (vii) advise relevant B/Ds and relevant stakeholders² to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and / or contingency plans.
- (viii) step up mosquito control by fogging in appropriate areas such as those scrubby areas in the vicinity of high human activities (e.g. housing estates and schools).
- (ix) identify the ownership of the source of breeding, and advise the relevant parties to eliminate the source of breeding (e.g. to remove the stagnant water) or take out enforcement actions, as appropriate.
- (x) carry out prompt follow-up mosquito (larvae and adult) control measures at the target areas (areas with positive Area Gravidtrap Indices (AGI) detected).
- (xi) immediately convene meetings with the inter-departmental task forces on anti-mosquito work to discuss measures to strengthen mosquito prevention and control at the headquarters level.
- (xii) offer technical advice on mosquito control and prevention to other departments and the public.
- (xiii) convene mosquito control task force meetings at district level of concerned districts.
- (xiv) larval control including larviciding will be carried out weekly for a total of five rounds starting from Day 1. To prevent Zika virus infection from establishing a foothold in Hong Kong, eradication of infective vectors is the prime target and as such, fogging will be carried out on alternate days for 16 days followed by fogging once every 5 days for another three rounds.

² The relevant B/Ds and organisations include AA, AFCD, ArchSD, CEDD, DH, DEVB, DSD, EDB, EMSD, EPD, HAD, HyD, HA, HD, ISD, LandsD, LCSD, MD, SWD, TD, TC, WSD, etc., and other public sectors such as utility companies and the MTR Corporation Limited (“MTRCL”).

- (b) HAD will, in the neighbourhood of affected cases, –
- (i) liaise with local residents and stakeholders through HAD's normal liaison network in Districts with a view to assisting other departments to take forward their efforts on mosquito control.
 - (ii) liaise closely with DH and FEHD to monitor local developments.
 - (iii) assist in the publicity for mosquito prevention and control, including distribution of anti-mosquito promotional leaflets and items through District Offices' liaison network, and to assist in achieving wider participation by local communities in health seminars, workshops, talks and other activities organised by relevant departments.
 - (iv) assist in the government-wide efforts to intensify publicity through distribution of anti-mosquito leaflets, posters and souvenirs by District Offices to local residents and building management companies.
 - (v) intensify anti-mosquito related minor works in areas under the purview of HAD including grass cutting and drainage cleaning as and when necessary.
- (c) HD will, in the neighbourhood of affected cases, –
- (i) provide support in vector control by strengthening vector prevention and control in housing estates managed by HD.
 - (ii) step up regular inspection (at least weekly) and to conduct surprise visits to estates and commercial properties, construction and maintenance sites to demonstrate commitment and to ensure adequate alertness and preventive measures in place.
 - (iii) for estates and construction sites located in areas where Area Gravidtrap Index exceeds 20%, to take the following measures –
 - carry out inspections in estates and construction sites.
 - clear floor drains, roof gutters, sand traps, manhole covers and surface channels.
 - apply larvicidal pesticide to stagnant water at potential blackspots.
 - apply pesticide by fogging in appropriate areas with dense vegetation for killing adult mosquitoes.

- (iv) For estates, to take the following measures –
 - encouraging tenants to report on mosquito breeding hotspots through HD's hotline.
 - arousing tenants' awareness and participation in combating against Zika virus infection through social media, such as Facebook and Instagram posts.
 - arranging articles in estate newsletters appealing concerted effort in eliminating mosquito breeding places.
 - broadcasting educational video inside lobbies of estate offices.
 - put up posters on mosquito prevention at prominent places of housing estates.

- (d) LandsD will, in the neighbourhood of affected cases, –
 - (i) conduct grass cutting and tidy up government land blackspots sites with elimination of mosquito breeding places under LandsD's responsibility. To apply larvicidal oil or pesticide as and when necessary and take action to level the uneven ground where stagnant water is easily accumulated. If grass cutting cannot be carried out in a few days, immediate fogging shall be carried out.
 - (ii) step up clearance of the identified hillside illegal cultivation blackspots to eliminate potential mosquito breeding grounds.
 - (iii) take prompt inspection and appropriate follow-up action at government land sites under control upon receipt of public enquiries / referrals.
 - (iv) issue advisory letters to tenants (Short Term Tenancies) and licensees (Government Land Licences) urging them to take anti-mosquito measures.
 - (v) assist in distribution of educational materials to the public through the District Lands Offices.

- (e) LCSD will, in the neighbourhood of affected cases, –
 - (i) disseminate information to staff of all districts and sections on preventing the spread of the Zika virus infection in LCSD venues such as parks, playgrounds, sitting-out areas, sports grounds, sports centres, swimming pools and beaches, etc;
 - (ii) provide support in vector control by strengthening vector prevention and control in LCSD venues such as parks, playgrounds, sitting-out areas, sports grounds, sports centres,

- swimming pools and beaches, etc.
 - (iii) Step up special anti-mosquito and cleansing operations in LCSD venues.
 - (iv) Provide venues for conducting roving exhibitions on the control and prevention of mosquito-borne diseases and Zika virus infection.
 - (v) Install mosquito trapping devices in outdoor venues.
 - (vi) Display and distribute anti-mosquito publicity materials.
 - (vii) Step up enforcement action against littering in LCSD venues.
- (f) works-related departments will promptly disseminate the advice given by FEHD and Interdepartmental Coordinating Committee on Mosquito-borne Diseases during outbreaks of Zika virus infection. They will also refer to their respective contingency plans and make reference to FEHD's investigation report and risk assessment as checklist during such outbreaks, and step up their respective monitoring system based on the gravidtrap survey result as necessary.

32.6 *Port health measures*

- (a) DH will review and modify existing port health measures and enact legislation, where necessary, in the light of, e.g. WHO's latest recommendations.

32.7 *Communication*

- (a) DH will –
 - (i) activate relevant centres (e.g. Emergency Response Centre, Outbreak Intelligence Centre and Emergency Hotline Centre) for information, monitoring and response, if necessary.
 - (ii) communicate with and disseminate information to public and private hospitals and medical professionals in the private.
 - (iii) issue letters to doctors and promulgate guidelines developed by HA and the Hong Kong College of Obstetricians and Gynaecologists.
- (b) DH will also–
 - (i) together with HAD, monitor community response and concerns.

- (ii) brief consulates and relevant businesses about the local situation.
 - (iii) liaise with WHO, Mainland authorities (such as NHC and the relevant Customs in Mainland), Macao and other health authorities on the local situation.
 - (iv) liaise with WHO on international practice regarding travel advice and stay alert of possible travel advisories.
 - (v) update the public and the media on the global and local situations.
 - (vi) update guidelines and arrange briefings and community education activities to various community sectors (e.g. District Councils and Area Committees).
 - (vii) update information of Zika virus infection on the 24-hour DH Health Education Hotline.
- (c) HHB and DH will conduct regular briefings to the press and legislators.
- (d) HAD will help disseminate information to public through District Offices network.
- (e) HA will liaise with the Hong Kong College of Obstetricians and Gynaecologists and issue guidelines on management of pregnant women and women preparing for pregnancy with travel history to areas with Zika virus transmission.

Emergency Response Level

33. At the Emergency Response Level, the following **response measures** will be implemented –

33.1 Surveillance

- (a) DH will –
 - (i) monitor daily the number of detections of the Zika virus from PHLSB of CHP.
 - (ii) adjust surveillance mechanisms as appropriate to detect clustering for early intervention.
 - (iii) assess the burden of disease.

- (iv) collaborate with HA / private hospitals to monitor complications of Zika virus infection such as neurological complications and congenital malformations.
- (v) monitor trends in terms of the overall picture and the geographic distribution over time.
- (vi) activate the Emergency Response Centre as necessary.

33.2 *Investigation and control measures*

- (a) DH will –
 - (i) seek advice from Department of Justice (“DoJ”), when necessary, on the legal authorities for implementation of the enhanced measures and on acquiring emergency public health power to enable enforcement of the control measures.
 - (ii) scale down epidemiological investigation of individual cases to an extent that efficient collection of individual case information will be sufficient for monitoring of complications and the progress of the outbreak. Insect repellent may be considered to be distributed for cases in out-patient settings.
 - (iii) patient in viraemic phase will be required to stay at vector-free environment if compulsory hospital admission is not feasible.
 - (iv) advise on other necessary precautions relevant to the mode of transmission of the disease as appropriate.
- (b) HHB and DH will enact legislation as appropriate to enable enforcement of control measures.

33.3 *Laboratory support*

- (a) DH will –
 - (i) undertake virus detection and characterisation at appropriate scope and scale, in support of clinical management and public health measures.
 - (ii) liaise with HA laboratories, FEHD and other local laboratories for effective laboratory service provision for Zika virus infection.
 - (iii) liaise with WHO and universities on epidemiological and academic aspects as necessary.

- (iv) inform relevant parties on any significant laboratory findings requiring follow-up actions.

33.4 Provision of medical services

- (a) HA will –
 - (i) consider to closely monitor the territory-wide utilisation of public hospital services.
 - (ii) consider to review and promulgate updated guidelines and protocols on diagnosis, treatment and admission criteria.
 - (iii) monitor the consumption of drug supply.
 - (iv) put in place special arrangements and protocol for pregnant women and women preparing for pregnancy to follow up at ante-natal clinics.
- (b) DH and HA will review and update protocols on research projects in collaboration with academia, private sectors and international organisations, if necessary.
- (c) DH and HA will reprioritise their non-urgent and non-essential services.
- (d) HA will increase surge capacity for Obstetrician and Gynaecology services, and liaise with private hospitals for increased surge capacity as necessary.

33.5 *Vaccination and medication*

- (a) given the lack of vaccines and rapid and reliable diagnostic tests, and the absence of population immunity in newly affected countries were cited as further causes for concern, DH will liaise with WHO and relevant experts on the latest development and recommendations on the use of vaccines and / or medication. In case of emergency and when the use of unregistered drug is clinically indicated, DH would process the application from doctors for the import of unregistered drug for the use of their particular patient via the established mechanism as provided under the Pharmacy and Poisons Ordinance (Cap. 138).

33.6 *Port health measures*

- (a) DH will review and modify existing port health measures and enact legislation, where necessary, in the light of, e.g. WHO's latest recommendations.

33.7 *Communication*

- (a) DH will –
 - (i) activate the Emergency Response Centre as necessary.
 - (ii) provide daily updates of the course of the epidemic and governmental response plans and actions.
 - (iii) educate the public regarding relevant symptoms and when and how to seek medical attention or treatment.
 - (iv) contact WHO on the subject of possible travel advisory against Hong Kong.
 - (v) prepare material to provide clear guidance on extra preventive measures to be taken and inform doctors, public and private hospitals, institutions, tourist agencies, and the public of such measures.
 - (vi) update other government departments of the updated situation.
 - (vii) engage community NGOs and professional groups as partners in risk communication and health education.
- (b) HA will –
 - (i) activate HA Emergency Operation Command Centre / Head Office Major Incident Control Centre for information, monitoring and response, if necessary.
 - (ii) communicate with DH / expert / academia for sharing of expertise and diversion of workload.
- (c) HHB will facilitate the steering and implementation of a joint government public relations strategy.

33.8 *Vector control*

- (a) FEHD will monitor latest developments and seek advice from WHO as necessary on new technologies with regard to vector control.

- (b) FEHD will strengthen the vector prevention and control measures in areas with Area Gravidtrap Indices at and above 20% in the current and last months.
- (c) FEHD will convene monthly mosquito control task force meetings at district level until the Emergency Response Level has been stepped down.
- (d) FEHD will also, in the neighbourhood of affected cases, –
 - (i) obtain information from parties concerned on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of Zika virus infection (the target areas may involve two or more districts including areas within a radius of 250 meters from the patient(s)'s residence, workplace, sites visited during the incubation period and infectious period of the disease and the hospital to which the patient(s) was / were admitted).
 - (ii) carry out mosquito (egg, larval and adult) control actions covering an area within a radius of 250 meters around the patient's residence, workplace, hospital admitted and any other places visited by the patient locally during the incubation period and infectious period of the disease. The findings will be sent to DH.
 - (iii) conduct trapping of mosquitoes by gravidtrap and light traps, within a radius of 100 meters from the sites where the patient has visited during the incubation period and the infectious period, and send the collected vectors (both larvae and adult) to DH for viral examination.
 - (iv) send the Zika virus vectors collected from locations epidemiologically-linked to the local case to DH for viral examination.
 - (v) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free.
 - (vi) advise relevant B/Ds and relevant stakeholders³ to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and / or contingency plans.

³ The relevant B/Ds and organisations include AA, AFCD, ArchSD, CEDD, DH, DEVB, DSD, EDB, EMSD, EPD, HAD, HyD, HA, HD, ISD, LandsD, LCSD, MD, SWD, TD, TC, WSD, etc., and other public sectors such as utility companies and MTRCL.

- (vii) step up mosquito control by fogging in appropriate areas such as those scrubby areas in the vicinity of high human activities (e.g. housing estates and schools).
- (viii) identify the ownership of the source of breeding, and advise the relevant parties to eliminate the source of breeding (e.g. to remove the stagnant water) or take out enforcement actions, as appropriate.
- (ix) carry out prompt follow-up mosquito (larvae and adult) control measures at the target areas (areas with positive Area Gravidtrap Indices detected).
- (x) immediately convene meetings with the inter-departmental task forces on anti-mosquito work to discuss measures to strengthen mosquito prevention and control at the headquarters level.
- (xi) offer technical advice on mosquito control and prevention to other departments and the public.
- (xii) convene mosquito control task force meetings at district level of concerned districts.
- (xiii) larval control including larviciding will be carried out weekly for a total of 5 rounds starting from Day 1. To prevent Zika virus infection from establishing a foothold in Hong Kong, eradication of infective vectors is the prime target and as such, fogging will be carried out on alternate days for 16 days followed by fogging once every 5 days for another three rounds.

33.9 *Other Measures*

- (a) works-related departments will promptly disseminate the advice given by FEHD and Interdepartmental Coordinating Committee on Mosquito-borne Diseases during outbreaks of Zika virus infection. They will also refer to their respective contingency plans and make reference to FEHD's investigation report and risk assessment as checklist during such outbreaks, and step up their respective monitoring system based on the gravidtrap survey result as necessary.
- (b) SWD will provide relief measures, counselling and other support services for needy persons especially those needy pregnant women.

- (c) HHB will prompt all government agencies to respond according to their respective contingency plans.

34. The actions to be taken at Emergency Response Level will be reviewed and the strategy revised as appropriate to ensure the most efficient use of health resources.

Health Bureau
Department of Health
July 2024

List of Abbreviations

| | |
|----------|---|
| AA | Airport Authority |
| AFCD | Agriculture, Fisheries and Conservation Department |
| ArchSD | Architectural Services Department |
| BCPs | Border Control Points |
| B/Ds | Bureaux and departments |
| BTS | Hong Kong Red Cross Blood Transfusion Service |
| CE | Chief Executive |
| CEDD | Civil Engineering and Development Department |
| CHP | Centre for Health Protection |
| DEVB | Development Bureau |
| DFEH | Director of Food and Environmental Hygiene |
| DH | Department of Health |
| DIS | Director of Information Services |
| DoH | Director of Health |
| DoJ | Department of Justice |
| DSD | Drainage Services Department |
| EDB | Education Bureau |
| EMAC | Estate Management Advisory Committee |
| EMSD | Electrical and Mechanical Services Department |
| EPD | Environmental Protection Department |
| FEHD | Food and Environmental Hygiene Department |
| HA | Hospital Authority |
| HAD | Home Affairs Department |
| HD | Housing Department |
| HHB | Health Bureau |
| HKSARG | Government of the Hong Kong Special Administrative Region |
| HyD | Highways Department |
| ISD | Information Services Department |
| LandsD | Lands Department |
| LD | Labour Department |
| LCSD | Leisure and Cultural Services Department |
| MD | Marine Department |
| NGOs | Non-governmental organisations |
| NHC | National Health Commission of the People's Republic of China |
| PAHO/WHO | Pan American Health Organization of the World Health Organization |

| | |
|--------------|---|
| PHLC | Public Health Laboratory Centre |
| PHLSB | Public Health Laboratory Services Branch |
| PS(F) | Permanent Secretary for Environment and Ecology (Food) |
| S for Health | Secretary for Health |
| SWD | Social Welfare Department |
| TC | Tourism Commission |
| TD | Transport Department |
| VMO | Vegetable Marketing Organization |
| WHO | World Health Organization |
| WSD | Water Supplies Department |

Enhanced Roles of Works-Related Departments in the Prevention and Control of Zika virus infection

- **Architectural Services Department**
- **Civil Engineering and Development Department**
- **Drainage Services Department**
- **Electrical and Mechanical Services Department**
- **Highways Department**
- **Water Supplies Department**
- **Contractors**

Basic Requirements

- (1) Conduct thorough inspection of the site and its surroundings at least once per week to ensure the best outcome of the anti-mosquito measures implemented on site.
- (2) Pay particular attention to housekeeping, cleanliness and anti-mosquito works of the site and its surroundings. Watch out for any hollowware or voids in the open that can collect water, such as carts, tyres, cans, buckets, bamboo scaffolding ends, wells, pits, construction materials stored at outdoors etc.
- (3) If stagnant water is observed on the site, adopt the following hierarchy of control to ensure that the stagnant water will not become a mosquito breeding place:
 - Why is there stagnant water? Where does the water come from? Can the water be prevented from coming into the site or accumulating at that area?

- Can the water at that area be removed or drained? If not, can the area be filled up to avoid accumulation of water?
 - If the above measures are not practical, can the stagnant water area be minimized, e.g. providing sump and pump, or sand bags to confine the spillage?
 - Apply mosquito oil and larvicides to irremovable patches of stagnant water at least once per week. Consider providing fish to large bodies of water or ponds to prevent mosquitoes.
- (4) Prepare a list of potentially mosquito problematic areas, map their location on a site plan or floor plan, and add in the Weekly Mosquito Inspection Programme to facilitate subsequent monitoring. One good opportunity to identify such locations / areas is to carry out a site inspection on the next working day following a rainfall.
 - (5) Include an agenda on the effectiveness of anti-mosquitoes of the site in monthly site meetings.
 - (6) Include the topic of anti-mosquitoes in toolbox training, and provide the training to every staff and worker on the site at a frequency of not less than once in a quarter.
 - (7) Review the cause of the summons issued by FEHD where mosquito larvae are found on the site, and avoid recurrence.

For sites falling within areas at AGI Level 3

- (8) Increase the thorough inspection frequency of the site and its surroundings to at least twice per week.
- (9) Increase the frequency of applying larvicides or mosquito oil to potentially mosquito problematic areas / locations to twice per week.
- (10) Extend the inspection of site surroundings to cover a larger area to identify the problematic areas, and report to FEHD or other appropriate department for follow-up action should such an area be identified.
- (11) Assign competent person independent of the site to conduct auditing of the site and its surroundings at least once per month to ensure proper implementation of anti-mosquito measures, and to recommend new measures or areas for improvement.
- (12) Demand all staff and workers when working in the open to wear long sleeve shirts and trousers, and to spray insect repellent on all exposed part of the body to prevent mosquito bites. The best time to spray the insect repellent should be in the morning before work commences, and in the evening 2 hours before the sunset (i.e. around 4 p.m.). To ensure the spraying, enlist Safety Supervisors and Safety Representatives to bring along the insect repellent for spraying of staff or workers at the appropriate time of a day, and maintain a record of doing so for auditing.
- (13) If a summons is received from FEHD about discovery of mosquito larvae on site, immediately conduct a thorough review of all the anti-mosquito measures implemented on the site, and the effectiveness of these measures to ensure no prosecution again for the site.
- (14) Install indoor or outdoor mosquito killing devices if feasible. Count up and record the number of dead mosquitoes so trapped to monitor the severity of the mosquito problem on the site.
- (15) Include an agenda on the effectiveness of anti-mosquitoes of the site in the weekly site meetings.
- (16) Increase the frequency of toolbox training on anti-mosquitoes to not less than once in a month for every staff and worker on the site.

For sites falling within areas at AGI Level 4

- (17) If the AGI of that area suddenly jumps to Level 4, implement all the measures as mentioned above for sites falling within areas at AGI Level 3, and intensify these measures to the site to ensure that it will not become a mosquito breeding place.
- (18) Cooperate with FEHD to implement all possible measures on anti-mosquitoes.
- (19) Install indoor and outdoor mosquito killing devices. Count up and record the number of dead mosquitoes so trapped to monitor the severity of mosquito problem on the site.
- (20) Keep a record of site staff and workers, and be prepared for an outbreak of Zika virus infection, Dengue Fever or Japanese Encephalitis.

– **Clients' Site Supervisory Staff**

Basic Requirements

- (1) Supervise and monitor the contractor's performance on anti-mosquitoes, and participate in the thorough inspection of the site and its surroundings with the contractor at least once per week.
- (2) Pay particular attention in site inspections to housekeeping, cleanliness and anti-mosquito works of the site and its surroundings. Watch out for any hollowware or voids in the open that can collect water.
- (3) If stagnant water is observed on the site, ask the contractor why there is stagnant water; why the stagnant water cannot be removed or drained; and how to minimize the stagnant water area.
- (4) Inspect the contractor's list of potentially mosquito problematic areas of the site and ensure all the potential areas are covered.
- (5) Pay attention to the summons issued by FEHD, and monitor the contractor to make rectification actions to avoid recurrence.
- (6) Address positively to complaint on mosquitoes about the site and monitor the contractor to make improvement.
- (7) Assess the contractor's performance on anti-mosquitoes and issue verbal or written warning to poorly performed contractor.

For sites falling within areas at AGI Level 3

- (8) Increase the frequency of participation in the thorough inspection of the site and its surroundings with the contractor at least twice per week.
- (9) Define a larger inspection area of site surroundings and assist in identifying the problematic areas, and report to FEHD or other appropriate department for follow-up action should such an area be identified.
- (10) Request the contractor to review critically the stagnant water remaining on the site, and adopt all reasonably practicable measures to reduce or eliminate the stagnant water.
- (11) If a summons is received from FEHD about the site, immediately conduct a thorough inspection of the site with the contractor, and review the effectiveness of the anti-mosquito measures on the site.
- (12) Request the contractor to install indoor and outdoor mosquito killing devices on the site if possible, and review the severity of mosquito problems in the weekly site meetings.
- (13) Address any complaint on mosquitoes about the site seriously, carefully and promptly.
- (14) Assess the contractor's performance on anti-mosquitoes, issue serious written warning to any contractor with poor performance, and record the contractors' performance for future reference.

For sites falling within areas at AGI Level 4

- (15) If the AGI of that area suddenly jumps to Level 4, implement all the requirements as mentioned above for sites falling within areas at AGI Level 3 and intensify these requirements to the site.
- (16) Assess the contractor's performance on anti-mosquitoes by the Architect/Engineer's Representative weekly to ensure the site is not a mosquito breeding place.
- (17) Conduct independent auditing of the site and its surroundings on anti-mosquitoes by the specially assigned person from the client's head office at least once in a month, and report to the senior management of the client about the anti-mosquito performance of individual sites.
- (18) Assess the contractor's performance on anti-mosquitoes, and consider not to award contracts to poorly performing contractors in future.

- END -