



### Anti-mosquito measures



#### Purpose

The information provided below is to help the management of ports in preventing and controlling the breeding of mosquitoes – *Aedes albopictus*.

#### Mosquito problems

2. Mosquitoes cause great nuisance to man. Moreover, some of the species pose threats to human health as vectors of diseases like dengue fever. Dengue fever is a severe mosquito-borne disease characterised by high fever, headache, rash, joint and muscular pain. *Aedes albopictus*, which is a vector of dengue fever and dengue haemorrhagic fever, is prevalent locally. They breed in rural and urban areas and their breeding sites can be grouped generally into two categories: the artificial receptacles like containers, discarded tyres, lunch boxes, cans, clogged surface channels; and naturally occurring habitats, e.g. tree holes, bamboo stumps and leaf axils.

#### Anti-mosquito programme

3. To control and prevent mosquito problems in general and spread of dengue fever in ports, carefully planned anti-mosquito programme is needed for each individual port. As participation is important for the success of the programme, staff of ports are encouraged to take part in the mosquito control.

#### Objectives

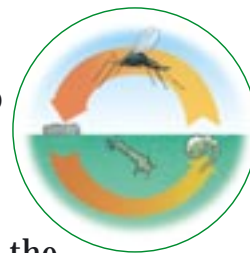
4. The anti-mosquito programme aims to achieve the following objectives-
  - i) To encourage staff of ports to participate in preventing and controlling mosquito breeding in ports;
  - ii) To eliminate breeding sites for mosquitoes especially containers; and
  - iii) To arouse and maintain the awareness of staff of ports on the potential risk of dengue fever transmission.

#### Target areas

5. The whole port should be the target area of the programme.

## Working schedule

6. As it takes an average of 7 days for eggs of mosquitoes to develop into adult mosquitoes, the inspection cycle should be a 7-day cycle.



## Programme coordination

7. A staff of the management of the port should be designated as the coordinator for implementation of the programme and liaison with staff of the Food and Environmental Hygiene Department.

## Mosquito control measures


8. Some of the commonly found potential breeding places for mosquitoes in ports and the ways of elimination are given in the tables below:

### i) Aesthetic problems


Breeding place	Cause of problem	Control action	Remark
Tree holes and bamboo stumps	Natural water receptacles.	Fill with sand, mud or concrete as appropriate.	
Leaf axils of plant	Natural water receptacles.	Remove water accumulated.	Plants with small leaves or small leaf axils should be grown.
Saucers for ornamental potted plants	Excessive watering causes accumulation of water in saucers.	Drain away water immediately after watering.	Avoid using saucers for potted plants.
Flower vases	Water kept in vases provide breeding places for mosquitoes.	Water in vases should be changed at least weekly.	




## ii) Structural problems

Breeding place	Cause of problem	Control action	Remark
Roof gutters and surface drainage channels	<ol style="list-style-type: none"> <li>Structurally deficient roof gutters and surface drainage channels hold water readily.</li> <li>Choked with refuse or leaves.</li> </ol>	<ol style="list-style-type: none"> <li>They should be repaired.</li> <li>Clear leaves and debris regularly, at least weekly.</li> </ol>	
Uneven floor	Collect water during scrubbing of floor or rain water if the floor is open.	Regular sweeping, at least weekly, is required for removing the water until structural improvement has been made.	
Sand traps, gully traps and drain holes	The design and choking of the traps/holes causes collection of water.	<ol style="list-style-type: none"> <li>Clear refuse and debris at least weekly.</li> <li>Apply larvicide to water.</li> </ol>	

## iii) Hygienic problem

Breeding place	Cause of problem	Control action	Remark
Junk	Rain water and water from cleansing of floor trapped by junk.	Keep in junk collection areas with cover.	Scrubbing junk collection areas only when the junk has been cleared.
Discarded bottles, cans and empty lunch boxes	Collect rainwater readily.	Keep in containers with well-fitted cover.	
Rubbish	Trapping water.	Keep in disposable plastic bags which should then be tied up at the openings and kept in containers with cover.	

#### iv) Other problems

Breeding place	Cause of problem	Control action	Remark
Disused tyres as anti-bumping device	Rain water and water from car washing trapped by tyres.	Puncture with big holes.	Preferably, anti-bumping device should be replaced by marking on the floor.
Water storage containers	Containers placed outdoors collect rain water readily.	Cover with lid. 	Water storage should be replaced by water pipe with tap.
Water trays of refrigerators with automatic-defrosting and air conditioner trays	Water may be accumulated in trays.	Water in trays should be removed weekly or properly drained away.	They are usually overlooked during mosquito surveys.

- 9.** In general larviciding must only be carried out if the breeding sources or potential breeding grounds are inaccessible or could not be eliminated within one week.

#### Action checklist

- 10.** To enhance the monitoring of the mosquito control work, a checklist on the breeding place for mosquitoes and action taken could be prepared for the programme by making reference to those mentioned in paragraph 8 above.
- 11.** The management of port could appoint a pest control company for providing services on mosquito control and prevention in the port. Advice on mosquito prevention could be obtained from the Food and Environmental Hygiene Department.