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HEALTH ADVISORY FOR MONSOON PREPAREDNESS FOR PREVENTION AND CONTROL OF VECTOR BORNE DISEASES AT POINTS OF ENTRY (POE)

Background

Points of Entry (PoE) plays a crucial role in the rapid transmission of vector-borne diseases like Malaria, Dengue, Chikungunya, Zika, and Yellow Fever. To fulfil India's commitment to the International Health Regulations (IHR), 2005 and ensure the well-being of PoE users and staff, it is essential to implement rigorous surveillance and vector control measures. Regular inspections by health units at airports, seaports, and land ports are necessary to identify and eliminate potential mosquito and larval habitats.

Scope

These guidelines are applicable to all Points of Entry (PoE) in India to support the implementation of an effective vector management program, aimed at preventing vector-borne disease outbreaks during the monsoon season. Periodic updates to these guidelines may be necessary to adapt to changing situations and establish relevant public health measures.

**PREVENTIVE MEASURES TO BE UNDERTAKEN IN AND AROUND THE POEs
(APHOs/PHOs/LPHOs)**

Surveillance and vector control programs will vary significantly and must be tailored to the local context of each PoE. As part of the basic preparedness strategy, the following mosquito control measures are to be implemented at all PoEs during the pre-monsoon, monsoon and post monsoon periods.

1. Surveillance at PoE

- a. Conduct a situational analysis of the PoE and its surroundings to assess mosquito-breeding risks, identify issues, for targeted control measures.
- b. Conduct extensive vector surveys to map potential mosquito larval habitats before the onset of the monsoon in the respective regions.

- c. Identify suspected or confirmed cases of Dengue, Chikungunya, Malaria, Zika, and other vector-borne diseases (VBDs) among passengers, PoE staff, and stakeholders for notification in the IHIP portal, facilitating coordinated control measures.
- d. Illness at PoE serves as a proxy indicator for heightened surveillance and public health measures. Monitor the health status and absenteeism due to sickness of all individuals with fever at PoEs to determine if the infection was acquired from vectors at the port or elsewhere.
- e. Monitor the epidemiological situation and disease status around the PoE premises through IHIP portal and local health authorities.

2. Risk Assessment and Preparedness

- a. Stratify the Vector Survey Zones into high, medium, and low-risk categories to focus targeted activities on converting high-risk zones into vector-free areas.
- b. Zones with urban, commercial, and industrial developments, as well as public spaces like schools, parks, and urban wastelands, which serve as breeding grounds for mosquitoes, including facilities such as schools, retirement homes, religious place and railway yards, should be included in vector surveillance.
- c. Micro-map temporary and permanent mosquito breeding habitats for targeted control activities.

3. Vector Control

- a. Implement an Integrated Vector Management (IVM) strategy at POE.
- b. Inspect overhead/underground water tanks, refrigerators, water coolers, water fountains, flowerpots, AC plants, animal water points, open drains, and similar water collection points for potential mosquito larval habitats.
- c. Check rooftops, terraces, and sunshades for clogged drains due to tree debris and other blockages.
- d. Store scrap items such as metal scraps, safety helmets, sanitary flush tanks, troughs, fiberglass containers, buckets, barrels, and drums upside down until its appropriate disposal.
- e. Cover overhead tanks overflow pipes, air vents, and sanitary pipes with muslin cloth.
- f. Ensure water storage tank inlets are covered with a lid and lock, and water tanker pipeline supply inlets have airtight seals with covers and locks.
- g. Prevent waterlogging inside pump rooms.
- h. Ensure storm water drains (SWDs) and network/road intersections are free flowing and take special measures to clean them, avoiding dead ends.
- i. Trucks/Vehicle repair units in PoE areas, container yards to manage the tyre (Ref. Section 5.d), paint cans, scrap wastes and all water-collecting containers.

j. APHOs:

- i. Airline Hangars, repair workshops are to store tyres, damaged parts, metal scraps in storage under shed (Ref. Section 5.d)
- ii. Ensure and monitor Conveyance disinsection closely to prevent introduction/export of invasive vectors from/to other countries.

k. PHOs:

- i. Ensure tyres used as fenders tied along jetties and vessels to prevent vessel damage have holes drilled at 3, 6, 9 and 12 o'clock positions to prevent water collection and mosquito breeding (Ref. Section 5.d).
- ii. Vector control guidelines must be adhered to in ship dry docks and shipbuilding yards.
- iii. Monsoon Preparedness advisory to be shared with all ships and vessels, advising them to keep their conveyances free from mosquito breeding potential on board during their port stay.

l. LPHOs:

- i. Arrival, Departure, Cargo terminals by road, rail or water to be followed up regularly for risk assessment and implementation of control activities.
- ii. Monitor the cross-border vector borne diseases epidemiology and take follow up action on both sides.

4. Guidelines for Construction Activities at PoE

Follow the Health Advisory for Construction Activities at Points of Entry for Prevention and Control of Vectors and Vector Borne Diseases issued on 12.09.2023 (Annexure I).

Key Points:

- i. Conduct a thorough assessment of the construction site to identify potential breeding grounds and entry points for vectors.
- ii. Identify nearby sources of standing water, such as puddles, ditches, and stagnant ponds, curing tanks which can serve as breeding sites for mosquitoes.
- iii. Remove or drain any standing water sources on the construction site, such as containers, tyres or equipment that can collect rainwater.
- iv. Cover all water storage containers, curing tanks, drums, and Sintex tanks.
- v. Provide a drain hole for easy clearing of stagnant water for e.g. temporary storage tanks were created for construction work.
- vi. Regularly inspect and clean drainage systems, gutters and catch basins to prevent clogging.

- vii. Scrub and clean all the tanks & water storage containers once weekly and dry it before refilling to prevent mosquito eggs collection & breeding.
- viii. Store all the water collection scraps, drums, cement bags, construction wastes materials etc. under the roof or properly covered to prevent rainwater collection.
- ix. All the construction equipment's like cement concrete mixtures, which uses water to be kept, dry every day at the end of work/shift.

5. Waste Management

- a. Implement environmental sanitation measures, including waste removal, proper placement of garbage bins with covers, and regular clearance.
- b. Efficiently organize and safely dispose of scrap generated at PoE service and commercial areas regularly.
- c. Ensure daily disposal of garbage, particularly plastic cups and food packets, by Food Business Operators (FBOs).
- d. **Tyres Advisory: -Tyres should be stacked vertically, covered above with a wooden/metal flat sheet and use tarpaulin sheets secured tightly around the topmost tyre stack to prevent water collection and breeding.** Therefore, a tarpaulin sheet may not be used alone to cover the tyre stacks as they may be damaged and create holes, leading to water accumulation in all tyres and forming permanent breeding spots. Store tyres under covered sheds within workshop areas at all POEs. Dispose of tyres regularly following a safe recycling and waste management plan.
- e. Conduct periodic Joint Public Health & Safety Committee (JPH&SC) meetings with designated Nodal officers of relevant stakeholders for coordination and implementation of control activities (like disposal of all water collectible wastes).
- f. Establishing recycling units for scraps and bio-waste disposal plant.

6. Vector Control Measures

a. Chemical Control

- i. Implement larval control treatments in drains, gutters, etc., using fast-acting larvicides as needed during favorable climatic conditions, based on surveillance data.
- ii. Adulticide treatments are advised only in case of high presence of adults (this should be defined based on surveillance data).
- iii. Use GoI-approved insecticides for chemical control when necessary and ensure availability of biological larvicides, chemical insecticides, spraying equipment, and personal protective equipment.

- iv. Utilize larvicidal oils or mineral oils to control mosquito larvae and pupae by evenly applying them over water surfaces to disrupt the air/water interface and suffocate the larvae or pupae.

b. Environmental Management & Source Reduction

- i. For container-breeding mosquitoes continue source removal and intensified control activities until surveillance data confirm no breeding for 4 consecutive weeks in the zone.
- ii. Collaborate with civil engineering departments to make environmental modifications that eliminate water stagnation and mosquito breeding.

c. Biological Control

- i. Implement biological control measures such as using *Gambusia affinis* and *Poecilia reticulata* in ponds and freshwater bodies according to local environmental conditions.

d. Prophylactic Measures

- i. Installing window and door screens, air curtains, covering air vents, exhaust fans, etc., to prevent the entry of adult vectors inside the terminals/buildings.
- ii. Use of Personal protective measures such as applying repellents to exposed skin or clothing, and wearing long-sleeve shirts and pants during field visits by all POE staffs.
- iii. All POEs operators to provide rest and refreshment areas ensuring they are mosquito-proof for drivers, truck cleaners, and personnel from other service vehicles.

e. Health Education and IEC

- i. Conduct training sessions for POE stakeholders on ongoing routine vector surveillance and control activities at POE.
- ii. Conduct IEC activities to raise awareness among all stakeholders and service providers at PoE sites about the importance of mosquito control and preventive measures.
