

## CONCEPT NOTE FOR SECURE WEBINAR 22

### **Harnessing Innovation: Next Generation Solutions for Vector-borne Diseases**

**6 August 2025 (2:00-3:30 pm Manila Time)**

#### **Background**

Vector-borne diseases account for more than 17% of all infectious diseases, leading to over 700,000 deaths annually.<sup>1</sup> Malaria and dengue remain the most significant public health challenges in the Asia-Pacific region, particularly in tropical and subtropical countries. In 2023, malaria cases totaled 5.7 million across the world, resulting in 9,600 deaths in the region. Despite reduced prevalence, some countries have experienced an increase in caseload, including Thailand, Myanmar, the Philippines, Papua New Guinea, the Republic of Korea, and the Democratic People's Republic of Korea.<sup>2</sup> Similarly, dengue has affected 7.6 million people globally, resulting in over 3,000 deaths. Most countries in the region experienced a surge in dengue cases in 2024, including Bangladesh, Nepal, Indonesia, Myanmar, Thailand, Cambodia, China, the Lao People's Democratic Republic, Malaysia, Singapore, and Vietnam.<sup>3</sup>

Vector-borne diseases are fueled by insecticide resistance, climate change, migration, and urbanization. The prevention and control of vector-borne diseases faces significant challenges in Asia and the Pacific, including limited access to healthcare, limited capacity in vector control, shortages of diagnostic tools and antimalarial supplies, and inadequate community awareness. Fortunately, recent technological advancements offer promise towards improved vector control. These include artificial intelligence (AI) and digital surveillance, as well as advanced vector control technologies such as genetic modification of mosquitoes, rapid diagnostics biosensors for dengue and malaria, and genetic modification of antimalaria drugs.

The SECURE Webinar Series promotes innovation and best practices to strengthen health security among developing member countries in Southeast Asia (SEA). This series is supported by the ongoing technical assistance on Supporting Enhanced COVID-19 Vaccination and Post-COVID-19 Health Security Response in Southeast Asia (TA 6767-REG), which the Asian Development Bank supports. It serves as a venue for knowledge exchange among governments, the private sector, development partners, civil society networks, and other stakeholders.

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<sup>1</sup> World Health Organization (2024). Vector-borne disease, Geneva, Available at <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>

<sup>2</sup> World Health Organization (2024), World Malaria Report 2024, Geneva, Available at <https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2024>

<sup>3</sup> World Health Organization (2025). WHO Global dengue surveillance Data reported as of April 2025. Geneva. Available at [https://worldhealthorg.shinyapps.io/dengue\\_global/](https://worldhealthorg.shinyapps.io/dengue_global/)

**Session Objectives:**

1. To explore the latest technological innovations and country experiences on the surveillance, prevention, and treatment of vector-borne diseases, particularly malaria and dengue.
2. To explore the policy implications and scalability of new solutions

**Target Audience:**

- Policymakers and public health professionals
- Researchers and scientists in infectious diseases
- Technology developers, industry experts, and innovators
- NGOs and international health organizations

**Webinar Format:**

90-minute online session featuring presentation, panel discussion, and Q&A.

**Guiding questions:**

- What are the innovative solutions for the prevention and control of vector-borne diseases?
- What is the global and regional situation and impact of vector-borne diseases, particularly malaria and dengue?
- What are the policy and strategies to harness technology towards the elimination of malaria and dengue?
- How to improve awareness for prevention and control for malaria and dengue across communities?
- What are sustainable financing mechanisms that exist for malaria and dengue control?

**Session Flow:**

Dr. Kyi Thar, Moderator

Duration/Time	Topic	Speakers
2:00-2:05 pm	Opening Remarks	Dr. Alexo Esperato Senior Health Specialist ADB
2:05 - 2:15 pm	Regional landscape and innovative policies for vector-borne diseases (malaria and dengue elimination) in Asia Pacific	Dr. Aya Yajima Public Health Specialist and Regional Advisor on Neglected Tropical Diseases, World Health Organization South-East Asia Regional Office
2:15 – 2:30 pm	Innovative technologies for prevention and control of malaria and dengue	Mr. Neil Morrison Chief Strategy Officer, Oxitec
2:30–2:40 pm	Innovative technologies for the treatment of malaria and dengue	Dr. Caroline Lynch Regional Advisor, Medicines for Malaria Venture for the Asia Pacific region
2:40 -2:55 pm	Role of civil society in the community for the prevention of vector-borne diseases	Mr. Shreehari Acharya Program Manager, CSO platform/ALIGHT
2:55 – 3:10 pm	Country Reactor	Dr. Lek Dysoley Deputy Director, National Center for Parasitology Entomology and Malaria Control, Cambodia
3:10-3:15 pm	Reflections and way forward	Dr. Kyi Thar Moderator
3:15 -3:30 pm	Q&A, Synthesis and Closing Remarks	Dr. Kyi Thar Moderator