Strategic and policy directions for effective dengue vector control interventions –
WPR perspective

Dengue remains a serious public health problem and transmission has been reported in 23 out of the 37 countries and areas of the Western Pacific Region. Although many countries reported fewer cases in 2011 than in 2010, this may reflect the cyclical nature of outbreaks. In 2011, outbreaks with very high incidence were reported in Pacific Island Countries, including the Marshall Islands and Yap, in the Federal States of Micronesia. The Region must navigate two seasonal dengue outbreak peaks: during the rainy second and third quarters of the year in the Mekong Subregion; and in the third to fourth quarters in the Pacific. The primary vector *Aedes (Stegomyia) aegypti* is widely distributed in the region especially in densely-populated urban areas. *Ae. albopictus*, sometimes plays an important role in the absence of *Aedes aegypti*. In the Pacific, several species Stegomyia complex are also epidemiologically important.

Since 2010, WHO WPR divided dengue tasks between Emerging Disease surveillance and Response (ESR) and Vector control (MVP) programmes. Constraints of limited funding and few trained entomologists should be stressed. Dengue surveillance, prevention and control in the Region are guided by two strategic documents: the Asia Pacific Strategy for Emerging Diseases (APSED), and the Dengue Strategic Plan for the Asia Pacific Region 2008-2015. The integrated vector management (IVM) regional strategic framework needs to be finalized though a consultative process involving all MVP focal points and Ministries of Health, for better implementation: two regional training courses on IVM have been organized. These emphasize sustainable integrated disease surveillance and evidence-based approaches for dengue prevention and control. Consistent with the regional dengue strategic plan, a community-based dengue vector control strategy has been piloted that aims to complement traditional larviciding methods in a sustainable, efficient intervention. For greater resource mobilization, WPR is addressing inter-sectoral collaboration through a multi-diseases strategy. Dengue vector surveillance is being integrated into a KOICA*-funded climate change project to identify areas at risk of dengue introduction and strengthen preparedness and response in Cambodia. Insecticide resistance monitoring in dengue vectors is critical and the Asia-Pacific Network for Monitoring Insecticide Resistance has been recently established to strengthen the regional information base on disease vector susceptibility to insecticides, on which to base rational resistance management policy and effective vector control.

Dengue vector control in WPR faces several challenges including limited funding nationally and at WHO; limited capacity and lack of technical staff; and that programme activities are mainly reactive. There is an over-reliance on chemical approaches, as evidence is insufficient for other community-based interventions. IVM remains a vague concept with a lack of success stories. The strategic and policy directions for dengue vector control include:

- Develop toolkit of community-based interventions, from which programmes and communities can choose and mix (including costing);
- Evaluate and refine communication for behavioural impact (COMBI) approaches, promote them and provide practical guidance and training;
- Define monitoring and evaluation framework for better monitoring and evaluation of dengue interventions, including defining criteria for dengue risk stratification to guide targeting and coverage;
- Improve understanding and create consensus for IVM (regional consultation and case studies) and implement IVM, including improved coordination between programmes and sectors and better defining their roles;
- Under IVM, intensify vector surveillance for targeted vector control in key breeding sites, and regularly monitor insecticide resistance; and
- Strengthen national health systems for integrated dengue prevention and control including stakeholder coordination, strengthening entomological capacity and establishment of a regional/global entomological resource network.

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