WHO ASEAN Workshop on Priority Actions for Dengue Prevention and Control

3 to 5 May 2011
Manila, Philippines
REPORT

WHO ASEAN WORKSHOP ON PRIORITY ACTIONS FOR
DENGUE PREVENTION AND CONTROL

Manila, Philippines
3 – 5 May 2011

Convened by:

World Health Organization
Regional Office for the Western Pacific

Not for sale

Printed and distributed by:

World Health Organization
Regional Office for the Western Pacific
Manila, Philippines

July 2011
NOTE

The views expressed in this report are those of the participants who attended the WHO ASEAN Workshop on Priority Actions for Dengue Prevention and Control and do not necessarily reflect the policies of the Organization.

This report has been prepared by the World Health Organization Regional Office for the Western Pacific for governments of Member States in the Region and for those who participated in the WHO ASEAN Workshop on Priority Actions for Dengue Prevention and Control, which was held in Manila, Philippines from 3 to 5 May 2011.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SUMMARY</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1</td>
<td>Objective</td>
<td>1</td>
</tr>
<tr>
<td>1.2</td>
<td>Opening remarks</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>PROCEEDINGS</td>
<td>2</td>
</tr>
<tr>
<td>2.1</td>
<td>Session One: Setting the scene</td>
<td>2</td>
</tr>
<tr>
<td>2.2</td>
<td>Session Two: Ensuring sustainability</td>
<td>5</td>
</tr>
<tr>
<td>2.3</td>
<td>Session Three: Collaboration and cooperation</td>
<td>7</td>
</tr>
<tr>
<td>2.4</td>
<td>Session Four: ASEAN Dengue Day</td>
<td>9</td>
</tr>
<tr>
<td>2.5</td>
<td>Session Five: Key messages</td>
<td>10</td>
</tr>
<tr>
<td>3.</td>
<td>CONCLUSIONS AND NEXT STEPS</td>
<td>12</td>
</tr>
<tr>
<td>3.1</td>
<td>Conclusions</td>
<td>12</td>
</tr>
<tr>
<td>3.2</td>
<td>Next Steps</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>ANNEXES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANNEX 1 - PROGRAMME OF ACTIVITIES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANNEX 2 - LIST OF PARTICIPANTS, TEMPORARY ADVISERS, AND SECRETARIAT</td>
<td></td>
</tr>
</tbody>
</table>

**Keywords:**

Dengue – Prevention and control / Communicable Diseases, Emerging / Disease outbreaks – Prevention and control
SUMMARY

Dengue is not a new disease. Dengue haemorrhagic fever was first recognized in the 1950s during epidemics in the Philippines and Thailand. In recent decades, dengue has become a major international public health problem. The Asia Pacific bears nearly 75% of the current global dengue disease burden.

The Dengue Strategic Plan (2008 – 2015) for the Asia Pacific region was developed to address the public health threat posed by dengue. The Strategy is comprehensive and covers all aspects of prevention and control measures.

In view of the increasing trend of dengue in some countries with continued reports of deaths due to dengue, the Association of Southeast Asian Nations (ASEAN) Health Ministers, at their meeting in 2010, demonstrated leadership and commitment to addressing dengue by designating 15 June 2011 as the first ASEAN Dengue Day and as an annual advocacy campaign. For ASEAN and the World Health Organization (WHO), dengue is one of the priority diseases in the Region.

The WHO Regional Director for the Western Pacific publicly expressed his commitment to supporting the efforts of Member States against dengue.

Dengue prevention and control, like any emerging infectious disease, relies on early detection and a timely response. For this to occur, the public health infrastructure (namely, surveillance and laboratory systems) and health care facilities need to be robust.

Dengue prevention and control also depends on the combined efforts of individuals and many sectors of society. Dengue breeds in and around homes so individuals and communities need to keep their surroundings mosquito free and these efforts should be supported by relevant government and non government sectors.

This workshop was indeed a demonstration of good collaboration both within the World Health Organization and between WHO and ASEAN Secretariat. The workshop resulted in key messages for consolidating prevention and control measures. The messages were not new, but re-emphasized the need for collective action both within countries and regionally. Regional networks for information sharing and for supporting laboratory diagnosis can assist early diagnosis and response. The messages also recommended that more effort should be placed into preparedness-driven activities than response driven activities and also recommended the use of existing proven initiatives such as Integrated Vector Management and the Asia Pacific Strategy for Emerging Diseases for the sustainability of prevention and control measures.
1. INTRODUCTION

The World Health Organization (WHO) and the Association of Southeast Asian Nations (ASEAN) Secretariat are committed in their efforts to reduce the disease burden from dengue. Data suggest that the Asia Pacific bears 75% of the current global dengue disease burden.

Dengue poses an enormous public health problem in terms of morbidity and mortality for patients and also in terms of the economic and social costs to individuals and society. Dengue control largely depends on the combined efforts of all sectors of society.

ASEAN Health Ministers committed to addressing dengue and designated 15 June 2011 as the first ASEAN Dengue Day to be recognized and celebrated across all ASEAN Member States in 2011 and every year thereafter. Dengue is also a priority for WHO, which is committed to supporting Member States in their efforts against dengue. This commitment was expressed by Dr Shin Young-soo, WHO Regional Director for the Western Pacific.

1.1 Objective

To agree on key messages for advocacy purposes for consolidating dengue prevention and control measures for use on ASEAN Dengue Day and thereafter.

1.2 Opening Remarks

Dr Shin Young-soo, Regional Director, WHO Western Pacific Regional Office, opened the workshop and welcomed all participants to the WHO ASEAN Workshop on Priority Actions for Dengue Prevention and Control, stating its importance and timeliness. He acknowledged the serious burden posed by dengue and recognized the commitment of the ASEAN health ministers and ASEAN Member States. He reaffirmed WHO’s support in dengue prevention and control.

He noted that dengue is an increasing public health problem with an estimated 2.5 billion people living in dengue-endemic countries and at risk of being infected with dengue. More than 70% of these people live in the Asia Pacific region.

He stated that this workshop is timely because dengue season soon will arrive and because of the increasing frequency and magnitude of outbreaks where deaths due to dengue continue to be reported, even in countries with intensive prevention and control measures.

He stressed the profile of dengue needs to be raised with greater advocacy and investment and better clinical management of dengue cases. Systems that can prevent transmission, detect cases early and effectively manage patients with dengue will help to reduce the associated morbidity, mortality and socioeconomic impact. Strong capacity in surveillance and response is therefore a critical factor for effective prevention and control.

He said dengue prevention and control is an intersectoral issue, not just an issue for the health sector. He emphasized the need for community action and action by government leaders and international organizations to support the dissemination and implementation of the key
messages and actions identified during this workshop. He concluded by saying that the fight against dengue is everyone's concern.

Dr Ferdinal Fernando, Assistant Director/Head, Health and Communicable Diseases Division, ASEAN Secretariat, said on behalf of the people of ASEAN that he was honoured to be present at this collaborative workshop. This particular activity is both a regional and a national mandate. In terms of the regional mandate, ASEAN has the ASEAN Socio-Cultural Community (ASCC) Blueprint, and this is the road map that points to action lines of health to set the strategic direction. Communicable diseases, including dengue, is a major action line to be focused on by ASEAN Member States. He informed the group that the direction towards dengue prevention and control has been charted under the ASEAN Expert Group on Communicable Diseases (AEGCD) at a recent meeting of high-level officials where the initiatives regarding dengue were outlined.

He noted the value in having concerted efforts in raising awareness and formulating policy. This workshop demonstrates that the memorandum of understanding (MoU) between ASEAN and WHO is functional. He hoped that this workshop would lead to better advocacy and prevention of dengue.

2. PROCEEDINGS

2.1 Session 1: Setting the scene

2.1.1 Dengue Situation in the Region

Dr Chin Kei Lee, Team Leader, Emerging Disease Surveillance and Response (ESR), WHO Western Pacific Regional Office, described dengue as one of the fastest emerging mosquito-borne viral infections in the world with a large impact on public health, the economy and society. He noted the Asia Pacific bears 75% of the current global dengue disease burden.

He reported the epidemiology of dengue in the Region, noting an overall increasing trend to 2010, with the exception of a few countries.

He highlighted a few challenges to dengue prevention and control such as limitations of surveillance systems and laboratory capacity in some settings. He informed the group that the Western Pacific Regional Office collates the data received from countries and produces a biweekly dengue update.

Considerable discussion followed this presentation. There were queries about why the number of cases is increasing. Is it due to enhanced surveillance or is it a real increase? What is the role of the vector and/or the weather in the observed increase? It was noted that temperature and rainfall affect the vector, and factors such as deforestation, increased movement of people and urbanization play a role.

There was discussion about under-reporting of dengue and in some instances there may be over-reporting of dengue when cases present as an influenza-like illness (ILI). It also was emphasized that, in the future, data comparison may be difficult with the new case classification.
The related issue of changing the International Classification of Diseases (ICD) 10 codes to reflect the new case classification was also highlighted.

There was a comment that minimal inroads are being made into mapping serotypes and understanding genotypes although it was noted that there are WHO Collaborating Centres that are undertaking virus typing, serotyping and looking at sequencing for any changes in the genetic makeup.

2.1.2 The Dengue Strategic Plan for the Asia Pacific Region 2008 – 2015

Dr Moh Seng Chang, Entomologist, Malaria, Other Vectorborne and Parasitic Diseases (MVP), WHO Western Pacific Regional Office, summarized the Dengue Strategic Plan, which was endorsed by both the South-East Asia and Western Pacific Regional Committees in 2008. He outlined the vision: to minimize the health, economic and social impact of the disease by reversing the rising trend of dengue.

The strategy is divided into six components as follows:

(1) Dengue surveillance;
(2) Integrated vector management;
(3) Case management;
(4) Social mobilization;
(5) Outbreak response communication; and
(6) Research.

Dr Chang mentioned that there are continuing regional activities to implement the Strategic Plan supported by a Regional Dengue Workplan which was finalized in 2009. He also noted that dengue prevention and control requires input from many sectors as well as community participation backed by a strong public health infrastructure.

2.1.3 Draft ASEAN’s Medium-Term Plan for Emerging Infectious Diseases (2011 – 2015)

Ms Jintana Sriwongsa, Senior Officer, Health and Communicable Diseases Division, ASEAN Secretariat, provided background on the ASEAN community. She informed the group that ASEAN leaders adopted the Declaration of ASEAN Concord II (Bali Concord II) in Bali, Indonesia on 7 October 2003 to establish an ASEAN community by 2020. The ASEAN community will comprise three pillars, namely political and security, economic and sociocultural to ensure peace, stability and shared prosperity in the Region. In 2007, ASEAN leaders reaffirmed their commitment to establishing an ASEAN community by 2015.

The 13th ASEAN Summit held in Singapore on 20 November 2007 agreed to develop an ASEAN Socio-Cultural Community (ASCC) Blueprint to ensure that concrete actions are undertaken to promote the establishment of an ASCC.

The ASEAN Expert Group on Communicable Diseases met in Kuala Lumpur in December 2010 and established the ASEAN Medium-Term Plan on Emerging Infectious Diseases (2011 – 2015). This seeks to align with existing regional strategies and strengthen partnership with key development partners such as WHO.
The Medium-Term Plan on EID (2011 – 2015) incorporates the following areas, with the lead countries responsible for taking it forward, as shown:

(1) ASEAN EID Mechanism, (Thailand);
(2) Emerging infectious diseases (EID) website, (Indonesia);
(3) ASEAN Partnership Laboratories, (Malaysia);
(4) Risk communication, (Malaysia);
(5) Human and animal health collaboration, (Thailand and the Lao People's Democratic Republic);
(6) Putting into operation the minimum standards of Joint Multisectoral Outbreak Investigation and Response, (Cambodia);
(7) Field Epidemiology Training Programme (FETP) networking, (Thailand);
(8) WHO-EC Project on highly pathogenic and emerging diseases (HPED), particularly on cross-border collaboration (Thailand and the Lao People's Democratic Republic); and
(9) Specific diseases, including rabies, dengue (ASEAN Dengue Day) and malaria.

She noted that the WHO ASEAN collaboration is based on a current MoU (2009 – 2013) and there is a WHO ASEAN liaison officer in place. WHO is a prominent technical institution while ASEAN is a good regional coordination organization.

ASEAN welcomes the signing of the MoU between the ASEAN Secretariat and WHO 2009 – 2013 as a strategic partnership that is important for ASEAN health cooperation. ASEAN acknowledges WHO’s technical expertise and its support for country-level programmes.

One of the key joint WHO ASEAN activities for 2011 is the ASEAN Dengue Day for which key advocacy messages are needed and also technical assistance at the national level.

2.1.4 Results of the survey on Dengue Prevention and Control Measures

Dr Shalini Pooransingh, Technical Officer, ESR, Western Pacific Regional Office, noted that a brief survey questionnaire was sent to all Member States before the workshop to gauge their views (based on experience in dengue prevention and control) on the key actions needed in dengue prevention and control. Activities were taken from the Dengue Strategic Plan and Member States were asked to note which they felt were key and to provide comments about the listed activities.

Respondents to the questionnaire included participants from eight ASEAN Member States. Apart from activities such as genotyping and other high-end laboratory activities not available in all countries, the other listed activities were all noted to be important. Some of the comments made were that surveillance activities should continue during the interepidemic periods; stockpiles of equipment and supplies should be managed in advance of outbreaks; a multidisease approach to vector control should be adopted, where appropriate and feasible; and there is a need for many sectors to play a role in dengue control with interagency collaboration.

In addition, current surveillance systems and laboratory support for dengue required strengthening, both nationally and regionally.

The results of the survey were used to inform and direct the group discussions to formulate key advocacy messages for dengue prevention and control.
2.2 Session 2: Ensuring sustainability

2.2.1 Asia Pacific Strategy for Emerging Diseases (APSED)

Dr Chin Kei Lee presented the Asia Pacific Strategy for Emerging Diseases as a three-in-one strategy aimed at building national capacity for tackling EID, building capacity under the International Health Regulations (IHR) (2005) and for addressing pandemic preparedness and response. The IHR (2005) are a legally binding instrument on Member States for a collective defence against disease spread.

He further informed the group that APSED 2010, which succeeded APSED 2005, has eight focus areas and was developed at the request of Member States and by Member States through country consultations and evaluations.

2.2.2 Dengue surveillance in Cambodia

Dr Chantha Ngan, Deputy Director and National Dengue Control Programme Director, National Center for Parasitology, Entomology and Malaria Control, described the epidemiology of dengue in Cambodia, which showed a cyclical pattern of epidemics at intervals of about three to five years. Two major epidemics have occurred, with 16,260 and 39,618 reported cases in 1998 and 2007, respectively. The case fatality rate ranged from 15%-0.3% between the 1980s and 2010.

Cambodia has a national dengue strategy to intensify disease surveillance using existing health reporting systems. The strategy aims to strengthen emergency preparedness and outbreak containment; promote community and school-based dengue preventive activities; implement mass larviciding in high-risk provinces as a preventive control measure (two rounds per year); mobilize resources and intensify emergency vector control activities through intersectoral collaboration as a rapid response, especially in case of a dengue outbreak; improve clinical management through training to health practitioners (medical doctors and nurses); ensure intersectoral collaboration between governmental (school health department, local authority, the Red Cross, the Women’s Association) and other health, nonhealth agencies and nongovernmental organizations (NGOs); increase capacity-building; and accelerate operational research. The strategy also includes a vector survey to determine the major breeding sources in the domestic environment, pinpoint high-risk areas, determine seasonal population fluctuations, forecast an impending dengue outbreak and recognize significant changes in vector density, distribution and insecticide susceptibility.

The case-reporting system includes passive surveillance (countrywide since 1980) and sentinel (since 2001, seven hospital-based) surveillance. The laboratory supporting system undertakes serological surveillance (four hospital-based, collaboration with the Pasteur Institute) to determine the circulation of dengue virus serotypes (DNV-3 in 2007). The national threshold remarkably predicted the occurrence of the 2007 epidemic, but the response to it was too late.

2.2.3 Dengue surveillance in Malaysia

Dr Chong Chee Kheong, Director, Disease Control Division, Ministry of Health, described the epidemiology of dengue in Malaysia, stating that dengue is among the top 10 communicable diseases faced by the country. Malaysia has a national strategic plan for dengue (2009–2013) which aims to reduce cases by half. The key areas include dengue surveillance, IVM,
case management, outbreak response, social mobilization – all areas included in the biregional Dengue Strategic Plan.

Dengue prevention and control is governed by two laws – the Destruction of Disease Bearing Insect Act 1975 – breeding of mosquitoes is an offence – and the Prevention and Control of Infectious Disease Act 1988 (notifiable diseases). Dengue is a national notifiable disease supported by laboratory surveillance and reporting of deaths. Malaysia is working towards an integrated laboratory network; it currently tests for dengue virus serotypes through sentinel hospitals and clinics.

Malaysia experiences challenges in dengue control: facing the super-efficient Aedes mosquito; a community perception that the government is responsible for controlling dengue and that fogging is the solution. It appears there is a high level of knowledge about dengue transmission, breeding places and fogging, but it seems this knowledge is not translated into action.

2.2.4 Indicator-based surveillance and risk assessment of public health events: outcome of a regional meeting Kuala Lumpur 2010

Dr Chin Kei Lee reported on a meeting that took place in 2010, the objectives of which were:

1. To share examples and lessons learnt, particularly in dengue surveillance from within the region and best practices from other regions.
2. To formulate a regional indicator-based surveillance workplan and to identify priority activities.
3. To identify steps in developing a national and subnational risk assessment capacity as a core component of the surveillance system.

The meeting emphasized that a wide range of different surveillance system types and structures exist in the Region. Although significant improvements have been achieved, there is a continuing need to strengthen indicator-based and event-based surveillance. The challenges of indicator-based surveillance include long lists of diseases and syndromes under surveillance; complicated reporting systems; duplicate or complicated definitions; and limited feedback. He also noted that dengue surveillance was discussed among the participants at the meeting. It was noted that, where appropriate, to assess the current dengue system in terms of sustainability and effectiveness and to use dengue as a “pathfinder” for strengthening indicator-based surveillance systems.

2.2.5 Key challenges in the clinical management of dengue

Professor Leo Yee Sin, Head, Department of Infectious Disease, Tan Tock Seng Hospital, Singapore, presented the key challenges faced in the clinical management of dengue. She briefly outlined that dengue is spreading to new geographic areas and the case fatality ranges from 0.2% to 3-5%.

She elaborated on the following key challenges of dengue control: Reducing the incidence; reducing the fatality rate; the evolving demographic and disease patterns; appropriate care at the appropriate level; simple tools for early diagnosis; lagging health care response; and the lack of tertiary supportive care.
She elaborated on which patient to send home and what messages are needed for these patients. She also discussed who should be referred for in-hospital management – i.e. those with alarming signs and those with underlying conditions that may pose complications, namely, pregnancy, infancy, the elderly, diabetes mellitus, etc. She also discussed the criteria for those who should be transferred to the intensive care unit.

She emphasized the need to have in place a surveillance system for early diagnosis, supported by laboratory tools, which would allow early interventions in order to reduce complications and the case fatality rate. Governments should make resources available to support training, education and research.

2.3 Session 3: Collaboration and cooperation

2.3.1 Best practices in dengue vector control

Dr Chang informed the group that Integrated Vector Management is a process for managing vector populations to reduce or interrupt transmission of diseases for better vector control (Global Strategic Framework for Integrated Vector management, WHO 2004).

Integrated Vector Management (IVM) is an essential part of dengue control in view of the current deteriorating disease situation, even with the expected presence of a vaccine in the near future. It is a component of the preventive measures employed to reduce and interrupt transmission and plays an essential role in prevention and containment of an epidemic. Programmes have not effectively enlisted the aid of the community to control the vector; evidence-based decision-making is not always considered (appropriate, sustainable, cost-effective); the status of insecticide resistance is not known in most countries and is not being monitored; vector surveillance is not systematically planned; information is not produced in a timely fashion and there is no link between vector density and disease epidemiology; and the evaluation of control activities is limited to nonexistent. He indicated the need to know if the activities are effective in controlling the vector population and, if not, why not.

Integrated Vector Management aims to improve the efficacy, cost effectiveness, ecological soundness and sustainability of disease control measures against vector-borne neglected tropical diseases.

Key elements of the WHO IVM strategy include capacity-building and training; advocacy and collaboration; and evidence-based decision-making towards identifying integrated approaches. Ministries of Health should seek the broader involvement of other ministries, the private sector and civil society at the national level; local partners should support social mobilization and empower communities to adhere to IVM guidelines and principles; and national and subnational capacities for planning, implementation and monitoring and evaluation of IVM activities should be strengthened.

2.3.2 Social mobilization in the Lao People’s Democratic Republic

Dr Bouasy Hongvanthong, Acting Director, Center of Malariology, Parasitology and Entomology, Ministry of Health, the Lao People’s Democratic Republic, said that WHO decided in 2003 to test the feasibility of using Communication for Behavioural Impact (COMBI) as the planning tool for dengue prevention and control activities in the country. A pilot area was identified in the capital, Vientiane. The implementation period was from 14 June to 25 October 2003.
The target population included a high- and a low-intensity area.

The high intensity area included the four districts of Vientiane with high dengue morbidity rates in the past. These comprised 49,405 households; a population of 275,535 persons; and all 189 primary schools of the four districts which included 35,406 school children and 1,103 teachers.

The low intensity area was the rest of the country, mainly covered through the mass media.

Three messages were used:

- Every Saturday, empty all water-storage containers. Scrub vigorously the inside walls before refilling.

- Every Saturday, collect anything in your compound that can hold rainwater. Either throw it away or store it out of the rain.

- If you have fever, think of dengue and consult a doctor – don’t wait. Dengue can be fatal.

The findings of the exercise were as follows:

- A COMBI intervention in dengue prevention and control cannot stand alone. For example, concentrating only on breeding site-reduction at the household level seems inefficient if at the same time huge piles of used tires are observed next to the residential areas.

- The COMBI interventions should be combined with additional efforts from the Ministry of Health to address other areas with potential breeding sites such as factories, businesses, unoccupied land, etc. It should also link with the other public sectors, private sectors and programmes already active in the target area.

- There should be close collaboration and discussion between the central level and the staff of the implementation area to avoid confusion about implementation and to assure consistency.

2.3.3 Engaging the community in dengue prevention -- the Singapore experience

Dr Pang Fung Yin, General Manager, National Environmental Agency, Northeast Regional Office, said that it is understood in Singapore that no single agency alone can control dengue effectively so that an intersectoral approach involving key stakeholders and the community is essential.

However, there is still a gap between awareness and action. Singapore has a 3P approach to tackling dengue involving the public, private sector and the people.

It achieves this by understanding the ground situation, identifying key target groups and identifying key messages and the 3P partners for each target group. For example, target groups could include residents, whether in houses or flats, those working in the shipyard and construction industries and domestic settings.
The key messages are pilot-tested among the public and then they are rolled out.

2.4 Session 4: ASEAN Dengue Day

2.4.1 Regional ASEAN Dengue Day Events – Jakarta, Indonesia

Indonesia, as chair of ASEAN, is hosting the regional ASEAN Dengue Day launch.

Dr Winarno Sukadi, Head, Sub-directorate of Vector Control, Director of Vector Borne Disease Control, Ministry of Health, Indonesia, informed the group about the theme chosen for ASEAN Dengue Day: Dengue is everyone’s concern regarding its socioeconomic burden, but it is preventable.

He informed the group about a dengue scientific conference from 13 to 14 June 2011 followed by the official Dengue Day launch on 15 June 2011. The output of the scientific conference would be the Jakarta Call for Action on Dengue Prevention and Control agreed to by all Member States. This call for action was to be declared on 15 June 2011.

He informed the group about who would be invited to attend the planned events for the regional launching. He also mentioned there would be a regional logo competition, the results of which would be announced on 15 June 2011. He noted the Minister of Health of Indonesia would attend the events.

2.4.2 National ASEAN Dengue Day events

All Member States present at the workshop presented their national plans for ASEAN Dengue Day. Jintana Srisongsa noted that national dengue days are a good opportunity to raise the profile of dengue. From the presentations of Member States, national commitment was demonstrated and events appeared well-planned at both the regional and national levels. There appeared to be engagement by high-level authorities, platforms to gain commitment from partners, use of various media, diverse activities and community involvement.

The plans included the following:

- Stakeholders were identified – clinicians, general population, policy-makers, funders.

- Key messages were to be delivered by high-level officials in all Member States – governors, health ministers and prime ministers.

- Some countries identified themes.

- All planned to use traditional and mainstream media.
  - press releases, lectures, seminars, advertisements, celebrities, champions; and
  - social networks such as Facebook, the Internet.

- Timing – many planned events before, during and after the event to raise public awareness.
Preparation for ASEAN Dengue Day included partnerships between health care providers and the general population, the public and private sectors and the Ministry of Public Health and others.

All countries presented their plans for ASEAN Dengue Day (please visit http://www.wpro.who.int/sites/csr/data/ASEANDengueDay.htm for a summary of ASEAN Dengue Day events in all ASEAN Member States).

2.5 Session 5: Key messages

Using the survey results, the following four broad areas were discussed in the group work sessions to formulate key messages for dengue prevention and control:

- Shared responsibility;
- Reactive vs. proactive approach;
- Sustainable and efficient action; and
- Regional collaboration.

Shared responsibility

There was much discussion about the “who” that is meant when the term “shared responsibility” is used. The participants listed national government – many sectors (e.g. Ministry of Health, education, information, environment, planning, local government, immigration). Groups felt the governments should facilitate environmental sanitation and provide adequate facilities for patient treatment and care. It was suggested that a national steering committee or task force could oversee the coordination of the various ministries and use the expertise of the different sectors as well as coordinate resource mobilization.

Other sectors involved in dengue prevention and control include private organizations such as hotels, pest control, businesses such as supermarkets, clubs and non-government organizations (NGOs). The groups thought these organizations have a social responsibility.

Communities were thought to include landowners and landlords, community leaders and religious leaders, all of whom have a part to play in demonstrating leadership and spreading the message about dengue.

Individuals have an important role to keep their surroundings larvae-free and to seek early treatment should dengue signs and symptoms occur.

Reactive vs. proactive approach

All groups agreed that early detection reduces the severity of the outbreak and so reduces population morbidity and mortality. They also agreed that preparedness-driven activities were more cost-effective than response-driven activities. There are huge economic benefits to be derived from better prevention and control of dengue (e.g. younger adults affected leads to loss of livelihood and affected children mean parents need to take time off work). There was also a comment about losses from tourism.

Preparedness-driven activities may also allow the implementation of a more evidence-based response, which prevents public misconception and criticism and allows a timely and effective outbreak response (e.g. trained staff, standard operating procedures in place, rapid
response teams aware of the roles and responsibilities, adequate and maintained stockpiles of necessary equipment and supplies) so action is taken well before the epidemic curve is nearing a peak. In other words it allows us to get ahead of the curve. It also allows early case detection and therefore early clinical management.

*Strengthen capacity in an efficient and sustainable way*

There was discussion about the occasional unavailability of resources for dengue prevention and control, and that activities cannot be sustained in the longer term. The groups discussed what would help to ensure the sustainability of dengue prevention and control measures. They discussed the implementation of the common activities and interventions (such as integrated vector management, community participation in environment sanitation, etc.) for dengue that also will benefit prevention and control of other vector-borne diseases.

The sustainability of dengue prevention and control may be ensured through collaborative efforts and by using existing systems and programmes (e.g. surveillance and response, environment sanitation). They agreed that integrating dengue actions into existing initiatives is one approach. Existing initiatives cited were IVM, capacity-development under APSED (e.g. surveillance, response, risk communication, public health emergency preparedness) and IHR (2005), and others, such as public-private partnerships. The benefits to be derived include improved efficiency, sustainability and optimal use of resources.

Starting from what is available, i.e. the Dengue Strategic Plan (2008–2015), groups looked at what areas in this plan could be integrated into other frameworks for capacity-strengthening that were already being implemented by Member States. The groups looked at the IVM strategy and the APSED 2010 to determine which activities listed in the Dengue Strategic Plan could be addressed under IVM and APSED.

Tables 1 and 2 illustrate how some of the activities in the Dengue Strategic Plan fit the Sections and Focus Areas of IVM and APSED.

**Table 1. How activities in the Dengue Strategic Plan fit in IVM**

<table>
<thead>
<tr>
<th>Dengue Strategic Plan</th>
<th>Integrated Vector Management Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMBI</td>
<td>Advocacy, social mobilization and legislation</td>
</tr>
<tr>
<td>Intersectoral collaboration and community</td>
<td>Collaboration with health and other sectors</td>
</tr>
<tr>
<td>Rational use of insecticide for vector control</td>
<td>Integrated approach</td>
</tr>
<tr>
<td>Vector surveillance and monitoring</td>
<td>Evidence-based decision-making</td>
</tr>
<tr>
<td>Vector resistance monitoring strengthened Operational</td>
<td></td>
</tr>
<tr>
<td>research (component VI – dengue research)</td>
<td></td>
</tr>
<tr>
<td>Capacity to implement IVM</td>
<td>Capacity-building</td>
</tr>
</tbody>
</table>
Table 2. How activities in the Dengue Strategic Plan fit into APSED focus areas

<table>
<thead>
<tr>
<th>Dengue Strategic Plan</th>
<th>APSED Focus Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dengue surveillance</td>
<td>Surveillance, risk assessment and response</td>
</tr>
<tr>
<td>Event-based surveillance developed</td>
<td>Laboratory</td>
</tr>
<tr>
<td>Laboratory surveillance strengthened</td>
<td>Risk communication</td>
</tr>
<tr>
<td>Laboratory support for case management</td>
<td>Surveillance, risk assessment and response</td>
</tr>
<tr>
<td>Public awareness on signs and actions to take for dengue Risk communication plan formulated Ability of health workers to respond to the dengue outbreak strengthened</td>
<td>Public health emergency preparedness</td>
</tr>
<tr>
<td>Ability of health workers to respond to dengue outbreaks (standard operating procedure) Evaluation of tools and strategies for dengue control and case management</td>
<td>Regional preparedness alert and response</td>
</tr>
<tr>
<td>Regional information system Regional outbreak response guidelines developed</td>
<td></td>
</tr>
</tbody>
</table>

Regional collaboration

This area was regarded as important since dengue is borderless as modern transportation facilitates the rapid spread from country to country and because of population movement. Regional collaboration will help ensure sustainability and help sharing of information and data on dengue.

Regional collaborative activities include sharing epidemiology data on dengue; sharing of resources and expertise; sharing of technology and best practices in dengue prevention and control; and using existing regional mechanisms (e.g. ASEAN, WHO). Existing regional mechanisms include the ASEAN Plus Three Partnership Laboratories, the regional clinical network for EID and cross-border collaboration between some countries.

3. CONCLUSIONS AND NEXT STEPS

3.1 Conclusions

Dengue is the most rapidly spreading mosquito-borne viral disease in the world. The Asia Pacific bears 75% of the current global dengue disease burden. The disease has a significant impact on health, the economy and the entire society. We need to act now.

There are many continuing efforts in the fight against dengue. However, dengue prevention and control is facing many challenges. The mosquito bites mainly during daytime hours and breeds in artificial containers near and inside our homes, our schools and throughout our communities. With population growth, urbanization, the increase in population movement
and variations in climate, dengue will continue to be a problem, requiring approaches that are proven and effective.

After reviewing the feedback from the group discussion, the following key messages were drafted and agreed to by the workshop participants:

**Calling for Action from All**

Dengue prevention and control is a shared responsibility. Unless everybody plays their role, dengue will not be controlled.

- Key actions include social mobilization (community participation), vector control, case management, surveillance, outbreak response and research.
- Individuals, communities, private sector and government agencies (including nonhealth) need to work together to fight dengue.

**Shifting from Reactive to Proactive Approaches**

Dengue is here to stay. Don't react. Act year-round.

- A proactive approach to fighting dengue means "moving from response-driven activities to long-term prevention and preparedness-driven activities".
- A proactive approach makes better use of resources to minimize negative health, social and economic impacts from dengue.

**Strengthening Capacity in an Efficient and Sustainable Way**

- Dengue: Pathfinder for strengthening national and regional alert and response capacities.
- Integrating dengue prevention and control measures with existing initiatives improves efficiency and sustainability.
- Existing initiatives include IVM and core capacity development in accordance with APSED and the IHR (2005).

**Enhancing Regional Collaboration**

United Fight against dengue

- Dengue respects no boundaries.
- Dengue is a priority disease for the Asia Pacific region. Regional information-sharing is vital.
- Addressing common threats in a united and coordinated way will maximize our region's resources and secure our Region's health.
3.2 Next Steps

Both WHO and the ASEAN Secretariat are committed to supporting prevention and control activities in the Region. The following were agreed joint next steps for ASEAN and WHO:

For ASEAN Dengue Day

(1) Joint press release – WHO and ASEAN agreed to develop a press release on Dengue Day and post it on the websites of ASEAN and WHO.

(2) The ASEAN Secretariat agreed to meet with Ministry of Health, Indonesia, to finalize the ASEAN Dengue Day international conference and ASEAN Dengue Day launch preparations and to incorporate the key messages into the Jakarta Call for Action.

(3) The ASEAN Secretariat would call an ad hoc ASEAN Expert Group on Communicable Diseases meeting to brief about ASEAN Dengue Day and the key messages.

(4) The ASEAN Secretariat would report the outcome of the workshop at the Senior Officials Meeting on Health Development in July 2011.

(5) WHO and the ASEAN Secretariat agreed to document in a regional publication the first ASEAN Dengue Day, June 2011.

(6) WHO and the Member States will report back to the WHO Regional Committee for the Western Pacific in October 2011.

(7) The ASEAN Secretariat and the ASEAN Member States will report back during the ASEAN summit in November 2011 and to the 11th ASEAN Health Ministers in July/August 2012.

For Dengue prevention and control

*Asia Pacific Strategy for Emerging Diseases (APSED)*

(1) Member States to incorporate dengue surveillance as a part of indicator-based surveillance as a follow-up to the Kuala Lumpur 2010 meeting.

(2) WHO to support Member States in the clinical management of dengue by developing a standard curriculum and supporting the course in countries and guideline development using the regional clinical network.

(3) WHO to support laboratory strengthening through APSED and ASEAN Plus Three Partnership Laboratories.
(4) WHO to support Member States in dengue prevention and control by integrating elements such as outbreak response and regional preparedness in the relevant APSED focus areas.

*Integrated Vector Management (IVM)*

(1) Member States to use the IVM principle in dengue prevention and control.

(2) WHO to support Member States to implement IVM, including training and materials.

(3) WHO to assist in the establishment of an insecticide-resistance network, including dengue and malaria.

3.3 Closing

Dr Takeshi Kasai, Director, Division of Health Security and Emergencies (DSE), the WHO Western Pacific Regional Office, said in his closing remarks that dengue prevention and control is now shared between two divisions – the Division of Combating Communicable Diseases and Division of Health Security and Emergencies. He remarked that this is the meeting to commit to dengue and WHO and ASEAN are working together to prevent an unnecessary burden for Member States.

He said we are facing a big opportunity and now is the time to stop and think how best to use this opportunity. He said that his initial apprehension quickly disappeared when he saw the close dynamics of the group as the workshop progressed. He observed good group participation and close participation. He noted that WHO (i.e. both the South-East Asia Regional Office and the Western Pacific Regional Office) and the ASEAN Secretariat should send the same message to Member States and that he was pleased with the close collaboration. He hoped that everything discussed was understood.

Dr Aditya Prasad Dash, Regional Adviser, Vectorborne and Neglected Tropical Diseases Control, WHO Regional Office for South-East Asia, echoed the remarks of Dr Kasai and noted that dengue is a priority disease.

Dr Fernando thanked everyone on behalf of the people of ASEAN for their participation and their supervisors and agencies for allowing them to be here. He thanked the efforts of partners, including WHO for efficient and effective collaboration and coordination. He remarked that we are here not only for our own project and programmes but for the people of ASEAN. He thanked the people who were at the forefront and who worked behind the scenes for the meeting.

Dr Winarno, chairperson for the session, ended the workshop by thanking all for their participation. He thanked WHO and the ASEAN Secretariat for the good organization of the workshop. He assured the participants that he would follow up the next steps of the workshop on his return to Indonesia, where he is part of the organizing committee for ASEAN Dengue Day.
PROGRAMME OF ACTIVITIES

Day 1  3 May (Tuesday)

08.00 – 08.30  Registration

08.30 – 09.45  Opening Session

Welcome
- Dr Chin Kei Lee, Team Leader ESR WHO WPRO

Opening Remarks
- Dr Shin Young-soo, Regional Director, WHO WPRO
- Dr Ferdinal Fernando, Assistant Director/Head,
  Health and Communicable Diseases Division
  ASEAN Secretariat

Introduction of Participants

Group Photo

09.45 – 10.15  Tea/Coffee

10:15 – 10:20  Administrative Announcements
- WHO

10.20 – 10.30  Objectives and Agenda
- Dr Shalini Pooransingh, ESR WHO WPRO

10.30 – 12.00  Session 1: Dengue – Setting the Scene

10.30 – 10.50  Dengue Situation in the Region
- Dr Chin Kei Lee

10.50 – 11.10  Dengue Strategic Plan for the Asia Pacific Region 2008 - 2015
- Dr Moh Seng Chang, Entomologist MVP WPRO

- Ms Jintana Srilongs, Senior Officer
  Health and Communicable Diseases Division
  ASEAN Socio-Cultural Community Department

11.30 – 11.45  Results of the Survey
- Dr Shalini Pooransingh

11.45 – 12.00  Question and Answer Session
12.00 – 13.00  Lunch  [Dengue is here video]

13.00 – 15.00  Session 2: Ensuring Sustainability

13.00 – 13.20  Asia Pacific Strategy for Emerging Diseases
   - Dr Chin Kei Lee

13.20 – 14.00  Dengue Surveillance
   - Dr Ngan Chantha, Deputy Director and National Dengue Control Programme Director, National Center for Parasitology, Entomology and Malaria Control
   - Dr Chong Chee Kheong, Director, Disease Control Division, Ministry of Health

14.00 – 14.20  Indicator-Based Surveillance and Risk Assessment of PH Events: outcome of a Regional Meeting
   - Dr Chin Kei Lee

14.20 – 14.45  Key Challenges in Clinical Management of Dengue (via teleconference)
   - Prof Leo Yee Sin, Head, Department of Infectious Diseases, Tan Tock Seng Hospital

14.45 – 14.55  Discussion

14.55 – 15.00  Introduction to Group Work 1

15.00 – 15.30  Tea/Coffee

15.30 – 17.15  Group Work 1 – Ensuring Sustainability

17.15 – 18.00  Plenary Feedback of Group Work 1

18.00  Reception

Day 2  4 May (Wednesday)

08.30 – 08.45  Summary Day 1

08.45 – 10.00  Session 3: Collaboration and Cooperation

08.45 – 09.05  Best Practices in Dengue Vector Control
   - Dr Moh Seng Chang

09.05 – 09.25  Social Mobilization in Laos
   - Dr Bouasy Hongvanthong, Acting Director Center of Malaria, Parasitology & Entomology Ministry of Health
09.25 – 09.50       Engaging the Community in Dengue Prevention: the Singapore experience
                   - Dr Pang Fung-yin, General Manager National Environment Agency, Northeast Regional Office

09.50 – 10.00       Discussion

10.00 – 10.30       Tea/Coffee

10.30 – 10.35       Introduction to Group Work 2

10.35 – 12:15       Group Work 2 – Collaboration and Cooperation

12.15 – 13.15       Lunch

13.15 – 14.30       Session 4: ASEAN Dengue Day Plans

13.15 – 13.30       Regional ASEAN Dengue Day Events
                   - Dr Winarno Sukadi, Head, Subdirectorat of Vector Control, Directorate of Vector Borne Disease Control
                     Ministry of Health

13.30 – 13.45       Question & Answer Session

13.45 – 14.30       National ASEAN Dengue Day Events (presentations in 3 parallel groups)
                   - Brunei, Cambodia, Laos (10 mins each)
                   - Malaysia, Philippines (10 mins each)
                   - Singapore, Thailand, Viet Nam (10 mins each)

14.30 – 15.00       Tea/Coffee

15.00 – 17.00       Group Work 2 continued

Day 3       5 May (Thursday)

08.30 – 08.45       Summary Day 2

08.45 – 09.00       Plenary – Highlighting initiatives from national ASEAN Dengue Day plans

09.00 – 10.00       Plenary - Feedback from Group Work 2

10.00 – 10.30       Tea/Coffee
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.30 – 12.30</td>
<td>Session 5: Key messages</td>
</tr>
<tr>
<td></td>
<td>Plenary – review of draft Key Messages</td>
</tr>
<tr>
<td>12.30 – 13.00</td>
<td>Closing Session – how we move from here</td>
</tr>
<tr>
<td></td>
<td>Joint proposal for next steps</td>
</tr>
<tr>
<td></td>
<td>- ASEAN Secretariat and WHO</td>
</tr>
<tr>
<td></td>
<td>Closing remarks</td>
</tr>
<tr>
<td></td>
<td>- Dr Takeshi Kasai, Director DSE WHO WPRO</td>
</tr>
<tr>
<td></td>
<td>- Dr Ferdinal Fernando</td>
</tr>
<tr>
<td>13.00 – 14.00</td>
<td>Lunch</td>
</tr>
</tbody>
</table>
LIST OF PARTICIPANTS, TEMPORARY ADVISERS
AND SECRETARIAT

1. PARTICIPANTS

BRUNEI DARUSSALAM
Dr Chee-Fu YUNG, Public Health Medicine
Department of Public Health, Ministry of Health
Commonwealth Drive, Bandar Seri Begawan
Tel no. : (673) 716 2633
Fax no. : (673) 238 1851
E-mail : cheefu.yung@gmail.com

Mr Kik Fok KOH, Public Health Officer
Health Office, Jalan Pandan Satu
Commonwealth Drive, Bandar Seri Begawan
Tel no. : (673) 876 0264
Fax no. : (673) 333 1923
E-mail : koh_1115@yahoo.co.uk

CAMBODIA
Mrs Chea MONTHAVY, Vice Administration
National Center for Parasitology, Entomology
and Malaria Control, #372 Monivong Blvd.
Phnom Penh, Tel no. (855) 1277 9353
E-mail: thavyc@cnm.gov.kh

Dr Chantha NGAN, Deputy Director and National
Dengue Control Programme Director
National Center for Parasitology, Entomology
and Malaria Control, #372 Monivong Blvd.
Phnom Penh, Tel no. (855) 1284 3628
E-mail: chanthan@cnm.gov.kh

INDONESIA
Dr Yusharmen Gustam RAMLI, Secretary
Directorate General of Disease Control and
Environmental Health, Ministry of Health
Jl. Percekanan Negara No.29, Jakarta Pusat 10560
Tel no.: (6221) 420 9930, Fax no.: (6221) 420 7807
Email: yusharmen@yahoo.com

Dr Winarno SUKADI, Head
Subdirectorate of Vector Control, Directorate of
Vector Borne Disease Control, Ministry of Health
Jl. Percekanan Negara No.29, Jakarta Pusat 10560
Tel no.: (6221) 420 9930, Fax no.: (6221) 420 7807
Email: wklaten@yahoo.com
LAO PEOPLE'S DEMOCRATIC REPUBLIC

Dr Bouasy HONGVANTHONG, Acting Director
Center of Malariology, Parasitology and Entomolog
Ministry of Health, Vientiane
Tel no: (856) 2121 4040, Fax no: (856) 2121 8131
E-mail: cmpelao@gmail.com

Dr Somphone SOULAPHY, Deputy Head
Prevention Division, Department of Hygiene and
Disease Prevention, Ministry of Health
Vientiane, Tel no: (856) 2124 1924
Fax no: (856) 2124 1924,
E-mail: sphone59@yahoo.com

MALAYSIA

Dr Chee Kheong CHONG, Director, Disease
Control Division, Ministry of Health Malaysia
Level 4, Block E10, Complex E, 62590 Putrajaya
Tel no: (603) 8883 4275, Fax no: (603) 8888 6215
E-mail: drchongck@moh.gov.my

Mdm Hapsah MOHD DUSA, Health Education
Officer, Health Education Division
Ministry of Health, Level 3, Block E10, Parcel E
62590 Putrajaya, Tel no: (603) 8883 4473,
Fax no:(603) 8888 6200
E-mail: hapsah_ns@moh.gov.my

PHILIPPINES

Dr Lyndon L. LEE SUY
National Programme Manager
Dengue & Emerging Infectious Diseases
Department of Health, San Lazaro Compound,
Tayuman, Sta. Cruz, Manila
Tel no: (632) 743 1937, Fax no: (632) 743 1829
E-mail: donleesuymd@yahoo.com

Mr Oscar MACAM, Jr, Nurse III
Center for Health Development No. IV-B
Department of Health, QMMC Compound, Proj 4
Quezon City, Tel no: (632) 911 5025
Fax no: (632) 911 5025
E-mail: oscarmacam@yahoo.com
SINGAPORE

Dr Fung-Yin PANG, General Manager
North East Regional Office
National Environment Agency, 174 Sin Ming Drive
Singapore 575715
Tel no: (65) 6554 5799, Fax no: (65) 6458 2080
E-mail: pang_fung_yin@nea.gov.sg

Mr Wee Siong TIEN, Public Health Officer
Ministry of Health, 16 College Road
Singapore 169854, Tel no: (65) 6325 8601,
Fax no. (65) 6325 4679
E-mail: Tien_wee_siong@moh.gov.sg

THAILAND

Dr Apinya NIRAMITSANTIPONG,
Medical Officer, Bureau of Vector-borne Diseases
Department of Disease Control, Ministry of Public
Health, Tivanond Road, Nonthaburi 11000
Tel no. (662) 590 3102, Fax no: (662) 591 8422
Email: yayamednote@yahoo.com

Mrs Bussabong CHAOTANONT
Public Health Technical Officer
Bureau of Vector-borne Diseases
Department of Disease Control, Ministry of Public
Health, Tivanond Road, Nonthaburi 11000
Tel no: (662) 590 3102, Fax no.: (662) 591 8422
Email: bussabong04@hotmail.com

VIET NAM

Mr Kien LE TRUNG, Communicable Disease
Expert, General Department of Preventive Medicine
and Environment, Ministry of Health
135 Nui Trui Lane, Ba Dinh District, Ha Noi
Tel no: (844) 3845 6255, Fax no: (844) 3736 6241
E-mail: giadinhkien@gmail.com

Dr Chan Quang LUONG, Deputy Head
Department of Public Health, Pasteur Institute
167, Pasteur Street, District 3, Ho Chi Minh City
Tel no: (848) 824 3334, Fax no.: (848) 823 1419
E-mail :chanquang@pasteur-hcm.org.vn
2. TEMPORARY ADVISER

Professor Yee Sin LEO (via teleconference), Clinical Director, Communicable Disease Centre, Head, Department of Infectious Diseases, Tan Tock Seng Hospital, Singapore 308433
Tel no: (65) 6357 8010, Fax no: (65) 6357 8011, E-mail: yee_sin_leo@tsh.com.sg

3. SECRETARIAT

ASEAN SECRETARIAT

Dr Ferdinal FERNANDO, Assistant Director/Head Health and Communicable Diseases Division
ASEAN Secretariat, 70 A Jalan Sisingamangaraja Jakarta, Indonesia
Tel no.: (6221) 724 3372, Fax no: (6221) 739 8234
E-mail: Ferdinal.fernando@asean.org

Ms Jintana SRIWONGSA, Senior Officer
Health and Communicable Diseases Division
ASEAN Socio-Cultural Community Department
70 A Jalan Sisingamangaraja, Jakarta, Indonesia
Tel no.: (6221) 724 3372, Fax no: (6221) 739 8234
E-mail: jintana.sriwongsa@asean.org

WHO/SEARO

Dr Aditya Prasad DASH, Regional Adviser
Vector Borne and Neglected Tropical Diseases Control, World Health Organization
Regional Office for South-East Asia, Indraprastha Estate, Mahatma Gandhi Marg, New Delhi 110002
India, Tel no: (9111) 2337 0804
Fax no: (9111) 2370 5663
E-mail: dasha@searo.who.int

WHO/WPRO

Dr Takeshi KASAI, Director
Division of Health Security and Emergencies
World Health Organization
Regional Office for the Western Pacific
P.O. Box 2932, 1000 Manila, Philippines
Tel no: (632) 528 9730
Fax no.: (632) 521 1036
E-mail: kasai@wpro.who.int

Dr Chin Kei LEE, Team Leader
Emerging Disease Surveillance and Response
World Health Organization
Regional Office for the Western Pacific
P.O. Box 2932, 1000 Manila, Philippines
Tel No.: (632) 528 9944, Fax No: (632) 521 1036
E-mail: leec@wpro.who.int
Dr Shalini POORANSINGH, Technical Officer
Emerging Disease Surveillance and Response
World Health Organization
Regional Office for the Western Pacific
P.O. Box 2932, 1000 Manila, Philippines
Tel No.: (632) 528 9948, Fax No: (632) 521 1036
E-mail: pooransinghs@wpro.who.int

Dr Eva-Maria CHRISTOPHEL, Team Leader
Malaria, Other Vectorborne and Parasitic Diseases
World Health Organization
Regional Office for the Western Pacific,
P.O. Box 2932, 1000 Manila, Philippines
Tel No.: (632) 528 9723, Fax No: (632) 521 1036
E-mail: christophele@wpro.who.int

Dr Moh Seng CHANG, Entomologist
Malaria, Other Vectorborne and Parasitic Diseases
World Health Organization
Regional Office for the Western Pacific
P.O. Box 2932, 1000 Manila, Philippines
Tel No.: (632) 528 9725, Fax No: (632) 521 1036
E-mail: changm@wpro.who.int
Dengue is the most rapidly spreading mosquito-borne viral disease in the world. The Asia Pacific region bears 75% of the current global dengue disease burden. The disease has a significant impact on health, the economy and the entire society. **We need to act NOW.**

**Calling for action from all**
Dengue prevention and control is a shared responsibility. Unless everybody plays their role, dengue will not be controlled.

Key actions include social mobilization (community participation), vector control, case management, surveillance, outbreak response and research.

Individuals, communities, private sector and government agencies (including non-health) need to work together to fight dengue.

**Shifting from reactive to proactive approaches**
Dengue is here to stay. Don’t react! Act year round!

A proactive approach to fighting dengue means “Moving from response-driven activities to long-term prevention and preparedness-driven activities.”

A proactive approach makes better use of resources to minimise negative health, social and economic impacts from dengue.

**Strengthening capacity in an efficient and sustainable way**

*Dengue: Pathfinder* for strengthening national and regional alert and response capacities.

Integrating dengue prevention and control measures into existing initiatives improves efficiency and sustainability.

Existing initiatives include Integrated Vector Management (IVM) and core capacity development in accordance with the Asia Pacific Strategy for Emerging Diseases (APSED) and the International Health Regulations (2005).

**United fight against dengue**
Dengue respects no boundaries.

Dengue is a priority disease for the Asia Pacific region. Regional information sharing is vital.

Addressing common threats in a united and coordinated way will maximise our region’s resources and secure our region’s health.
WHO ASEAN Workshop on Priority Actions for Dengue Prevention and Control

3 to 5 May 2011
Manila, Philippines

World Health Organization
Western Pacific Region