

Driving household behaviour change for dengue prevention



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Introduction

Dengue is a neglected tropical disease that causes major morbidity and mortality. In 2008, WHO estimated that of the 2.5 billion at risk globally, over 70% lived in the Asia Pacific region.

HLSP is supporting an ADB-funded pilot project in Lao PDR, Cambodia and the Philippines, in collaboration with WHO. The pilot aims to develop and demonstrate the application of effective, sustainable strategies for community-based control of mosquitoes – the dengue vector.

HLSP has led on the design of an innovative monitoring and evaluation framework for the community-based interventions. The framework will assess the extent to which the approach can effectively contribute to dengue prevention at the household level and sustainability of the approach overtime.

A dual approach

One of the main factors contributing to dengue transmission by mosquitoes is that they breed in the water storage jars used by all households. To address this, the primary objective of the project is to mobilise the community to take responsibility for dengue prevention at the household level by preventing mosquitoes from breeding in the household water supply. The two main strategies to achieve this objective are:

- 1. Building community capacity** for source reduction (physical removal/prevention of breeding sites). This includes activities such as community meetings, household checks by school-based 'dengue brigades' and displaying posters to highlight the importance of both source reduction (e.g. water containers) and prevention behaviours (e.g. water jar lids).
- 2. Introducing biological control** in household water containers through the introduction of larval predators (guppy fish), as well as a support structure to maintain the fish population.

The dual approach (community mobilisation and a biological control) aims to reduce vector breeding sites by helping people change their behaviour through community mobilisation. Biological control is added as a line of defence against water jar larvae. This approach to community mobilisation is based on the WHO-COMBI model.

Information and communication strategies are being prepared in consultation with health and non-health staff, including teachers, school children, parents, women's organizations, religious groups and communities, to ensure the pilot interventions are embraced and utilised effectively. This will include training on the identification of mosquito breeding sites and on non-chemical source reduction measures, including the use of guppy fish as well as encouraging positive treatment seeking behaviour.

The M&E framework: linking project interventions to behaviour change

The COMBI approach relies on number of community based interventions to bring about behaviour change that directly affects mosquito populations, thus helping to reduce both the incidence of disease and treatment in the event of illness.

Based on potential drivers of behaviour change (such as the media, influential community leaders, champions, peers, and feelings of social responsibility), the project interventions include:

- Advocacy meetings (promotion and motivation);
- Household visits (motivation, education and compliance);
- Community meetings (motivation);
- Advertising TV and/or radio (education, motivation);
- Mobile education and motivation campaigns;
- Community drama shows (education, motivation); buntings/posters (education and reminder); calendars and households stickers (point of impact promotion);
- Prizes for high achievement (motivational).

It is crucial that the project methodology captures the **link between these interventions and compliant behaviour** (lid placement, guppy presence and removal of dishes or of other breeding sites). By establishing the strength of the causal links between project interventions and the compliant behaviours they elicit, the effectiveness of interventions can be ranked. This will help optimise future rollouts of COMBI both in terms of the scale and scope of individual interventions and in terms of respective budget allocations.

The following tables show how community interventions are measured quantitatively (*Table 1*), and how the outputs and outcomes of COMBI strategies are monitored (*Table 2*).

Data collection instruments (quantitative and qualitative) include: monthly reports, activity and monitoring reports from village workers, health centres and project managers, entomological surveys (baseline, 3-monthly and final), KAP surveys (baseline and final), key informant interviews and focus groups.

Table 1. Quantitative assessment of community mobilisation strategies

| Activities to influence behaviour change | Performance Indicators | Operational Definitions | Performance Targets | Sources of information |
|--|--|---|---------------------|--------------------------|
| Advocacy meetings | No. of meetings held | N: no. of meetings held; D: no. of meetings planned | 90% | Project activity reports |
| Household visits | No. of household visited | N: no. of households visited; D: no. of households participating | 85% | |
| Community meetings | No. of meetings held | N: no. of meetings held; D: no. of meetings planned | 85% | |
| Advertising TV and or radio | No. of TV or radio spots completed | N: no. of TV/radio spots; D: no. of TV/radio spots planned | 100% | |
| Tuk tuk (small mobile vehicle) | No. of tuk tuk community visits | N: no. of tuk tuk visits; D: no. of meetings planned | 85% | |
| Community drama show | No. of household visited | N: no. of meetings held; D: no. of tuk tuk/jepney campaigns | 90% | |
| Buntings/posters | No. of posters distributed No. of posters on display | N: no. of posters distributed; D: no. posters planned to be distributed N: no. of posters on display; D: no. of posters distributed | 90% 75% | |
| Calendar | No. calendars distributed No. of calendars on display in houses | N: no. of calendars distributed; D: no. of calendars planned to be distributed N: no. of calendars on display; D: no. of calendars distributed | 80% 70% | |
| Prizes for high achievement | No. of prizes given | N: no. of prizes given; D: no. of prizes planned | 70% | |

Table 2. Monitoring the outputs and outcomes of COMBI strategies

| Assessment of behaviour change | | | | | |
|--|--|---|---------------------|--|--|
| Level 1*: Behaviours (household/village level) | Level 2*: Behaviour monitored over time (critical success factors) | Performance indicators | Performance targets | Operational definitions | Sources of information |
| Check all water storage jars and large water storage containers for the presence of at least two Guppy fish every week | Householders maintain 2 or 3 male guppies in all large water storage containers. | Percentage of households with 2-3 guppy fish per container | 90% | D: no. of households with up to 3 live guppies in containers N: total households checked for guppies | Tracking surveys – community health centre reports |
| | Communities establish guppy stocks in at least two large containers. The stocks are maintained either by village health workers and/or schools. | Percentage of communities with established and properly maintained guppy stocks | 90% | D: no. of communities with established and well maintained guppy stocks N: no. of communities participating in the pilot | Community health centre reports Entomology 3 monthly survey reports |
| | Designated health workers and/or school children make regular checks to ensure that households maintain guppies in all large water containers. | Percentage of household per village that are regularly checked for the presence of guppies | 80% | D: no. households checked by VHW or school children for guppy; N: total households in the pilot area | Community health centre reports Entomology 3 monthly survey reports |
| Clear away discarded containers from houses, and if they cannot be moved, empty the water from them once per week | Once a week school children and households check their homes and compounds for water containers. All containers are either emptied or removed and destroyed. | Percentage of householders and school children that regularly report having checked their homes and compounds for water containers weekly | 80% | D: no. of householders and school children who conducted weekly checks for water containers; N: total school children registered in teachers' roll list | School records |
| | Once a week community volunteers check public areas and unoccupied properties for containers. All containers are either emptied or destroyed. | Percentage of communities that regularly check unoccupied properties and public areas for containers | 80% | D: no. of inspections conducted by volunteers N: total no. of site inspections scheduled per month | Community health centre reports Entomology 3 monthly survey reports |
| Anyone having fever for 2 days to go to the doctor, clinic or hospital | Persons with fever for more than 2 days go to the doctor, clinic or hospital for check up | Percentage of patients having fever that report having sought treatment within 2 days of onset | 95% | D: no. of patients with fever who sought treatment within 2 days of onset; N: total patients with fever registered in the health centre | Health Centre, doctor and hospital reports Household surveys |

Notes:
Level 1 is the end result (behaviours at household level) which depends on a number of critical success factors (Level 2).
D: Denominator; N: Nominator.

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