

A Call for Actions for Controlling and Eliminating Emerging and Re-emerging Vector-borne Diseases in Nepal

CONTEXT:

Malaria, Lymphatic Filariasis, Japanese Encephalitis, Visceral Leishmaniasis (Kala-azar), Dengue and Scrub typhus are the major important Vector-borne Diseases (VBDs) in Nepal. One of the current challenges in control of these vector-borne diseases in Nepal is their emergence/ expansion in new areas and in a higher altitude.

SITUATION:

Vector-borne diseases in Nepal are increasingly being detected from geographical areas with higher altitude. For example, Kala-azar cases are geographically expanding to new foci in Hill and Mountain regions (Figure 1) because of which the actual extent of Kala-azar endemic areas in Nepal is not known. Malaria outbreak in Mugu district in 2018 is another example. Similar is the status for Dengue (Figure 2). This may impact the country's ability to attain the target of Kala-azar elimination by 2020, lymphatic filariasis by 2020 and commitment to a malaria free Nepal by 2025.

Another challenge in the control or elimination of VBDs in Nepal is the porous border between Nepal and India as well as increasing trend of Nepali citizens traveling to malaria endemic areas in other parts of the world. In Nepal, the number of confirmed malaria cases increased from 991 in the Nepali Fiscal Year (FY) 2072/73 to 1128 in FY 2073/74 of which 56.4% were the imported cases. Imported cases are mostly *Plasmodium falciparum* and they are in increasing trend. The difficulty arises mainly due to a large number of people crossing the international borders and there is no effective cross-border collaboration and screening mechanism.

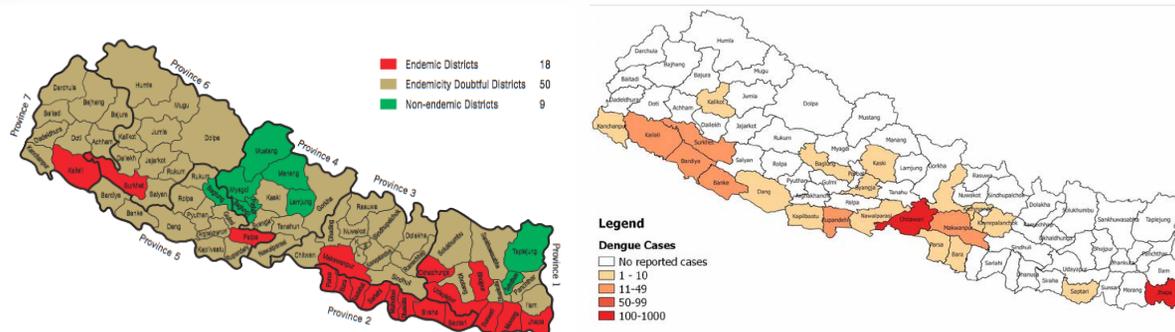


Fig 1. Spatial distribution of Kala-azar cases in Nepal, 2017 Fig 2. Map of dengue reported districts from 2006 to 2016

WAY FORWARD:

Strengthening surveillance system

- Vector borne disease surveillance system at the local level should be strengthened
- Resources should be allocated to address the VBD cases reported from non-program districts
- The existing control programs should be gradually scaled-up to include endemicity doubtful districts, or develop satellite/mobile program
- MoHP should explore the possibility of establishing an integrating disease surveillance system



- Strengthen VBD diagnostics and laboratory facilities at the province level
- *Addressing attainment of appropriate human resource need*
 - Ever expanding VBD burden calls for the need to estimate the nationwide requirement of human resources such as vector control inspectors, epidemiologists, entomologists, parasitologists, environmental health experts.
 - Developing/Retaining of trained human resources on entomology and tropical diseases
- *Revising strategies and guidelines*
 - Update Leishmaniasis elimination strategy and treatment guidelines
- *Addressing cross-border issue*
 - Establish a cross-border mechanism between Nepal and India to tackle VBDs and other infectious disease control
 - Health desk at major ground crossings should be strengthened and make them functional.
 - Develop a strategy so that people coming from malaria high burden countries (e.g. African countries) do screening test upon arrival in Nepal.
- *Addressing issue of VBD spread in high altitude*
 - Improve early detection of VBD in high altitude of Nepal
 - Scale up integrated vector control program in high altitude of Nepal
- *Investment in research*
 - There is a need of increased investment in the health research including operational research, molecular level investigations, use of geo-spatial approach in epidemiological studies to understand the origin/spread and control of new strains/forms of diseases.
 - Conduct national survey on vectors of medical importance
 - Promote hospital based/case based operational research
- Review of effectiveness/evaluation of existing VBD control programs

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