

PREPARE4VBD: A Cross-Disciplinary Alliance to Identify, PREdict and prePARE for Emerging Vector-Borne Diseases

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Vector-borne diseases (VBDs) constitute a major challenge facing African healthcare systems and economies today, but also increasingly pose a threat to currently non-endemic areas, as outbreaks of zoonotic VBDs and increased spread of vectors is anticipated to occur more frequently in the future. The PREPARE4VBD project addresses these challenges, as a multidisciplinary consortium that brings together ten university and ministerial partners from five African and three European countries. The overall aim is to improve preparedness in Africa and Europe for a new era of emerging zoonotic vector-borne diseases under climate change and globalization. More specifically, PREPARE4VBD will develop new knowledge, detection tools and surveillance systems to improve preparedness in Africa and Europe for vector-borne diseases transmitted by mosquitoes, ticks and freshwater snails to livestock and humans.

At the core of PREPARE4VBD concept is a cross-disciplinary approach, aiming to advance a broad, conceptual knowledge of a selected number of VBDs and vector organisms that reaches beyond specific VBDs, vector species or disciplines. By “casting the net wide”, we wish to advance cross-organismal learning and integrated approaches to VBD research and surveillance, and address the prevention and control of zoonotic tick-, mosquito and snail-borne diseases at the early phases of emergence and outbreak.

The project is organized in research Work Packages, collectively feeding into the following four main themes:

- A. build knowledge of neglected tick-, mosquito- and snail-borne VBDs** of importance for animal and human health in endemic African countries,
- B. assess their capacity to adapt and spread** to new areas using a holo-genomics approach and state-of-art climate change impact modelling,
- C. develop novel diagnostic tools** and model-based surveillance for rapid VBD discoveries and early warning,
- D. strengthen the capacity for detection and surveillance** of the targeted VBDs through training and effective communication of project results and dissemination of freely available data.

