

ESTABLISHING A MULTISECTORAL STRATEGY TO PREVENT TRANSMISSION OF *Aedes*-BORNE DISEASES IN THE COASTAL CITY OF MANTA, ECUADOR

This project will design and implement response strategies with a multisectoral approach in which the health, water, sanitation, environment, and education sectors will be involved.



SUMMARY

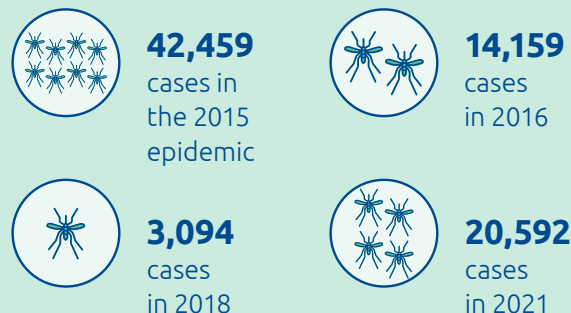
In Ecuador, Dengue is a priority public health concern. A large number of cases have been reported in recent years with the permanent circulation of dengue virus posing a high risk to exposed populations, particularly **those living with limited access to basic sanitation and health services**. Risk is increased by conditions and behaviours that facilitate the reproduction of the principal arbovirus vector, the *Aedes aegypti* mosquito.

In this context, it is important to design and implement **preparedness and response strategies using a multisectoral approach**. Involvement of the health, water, sanitation, environment and education sectors is required to adequately adapt to the impacts of climate change on the distribution of the vector and circulation of *Aedes*-borne diseases.

This will be achieved through the establishment of a multisectoral consortium at a chosen location in the city of Manta. **Participating sectors will work collaboratively to reduce the population density of *Aedes aegypti*** through enhanced entomological surveillance, chemical vector control, risk mapping and communication, and through the improvement of environmental factors such as solid waste management, safe water and sanitation management, water supply and storage, hygiene, human mobility and urban planning.

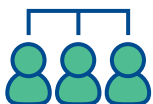
Further collaboration will be encouraged through community involvement and the engagement of the private sector.

Recorded dengue cases in Ecuador are as follows:



OBJECTIVES AND METHODS

The overall aim of this work is to reduce the environmental risks that increase the incidence of *Aedes*-borne diseases in Ecuador. Specific objectives include the following:



1

Conducting a situation analysis of the current management of waste, water and health in a high-risk area of the city of Manta.



2

Establishing a multisectoral working group to outline and explore required comprehensive approaches to environmental health issues, vector surveillance and control strategies.



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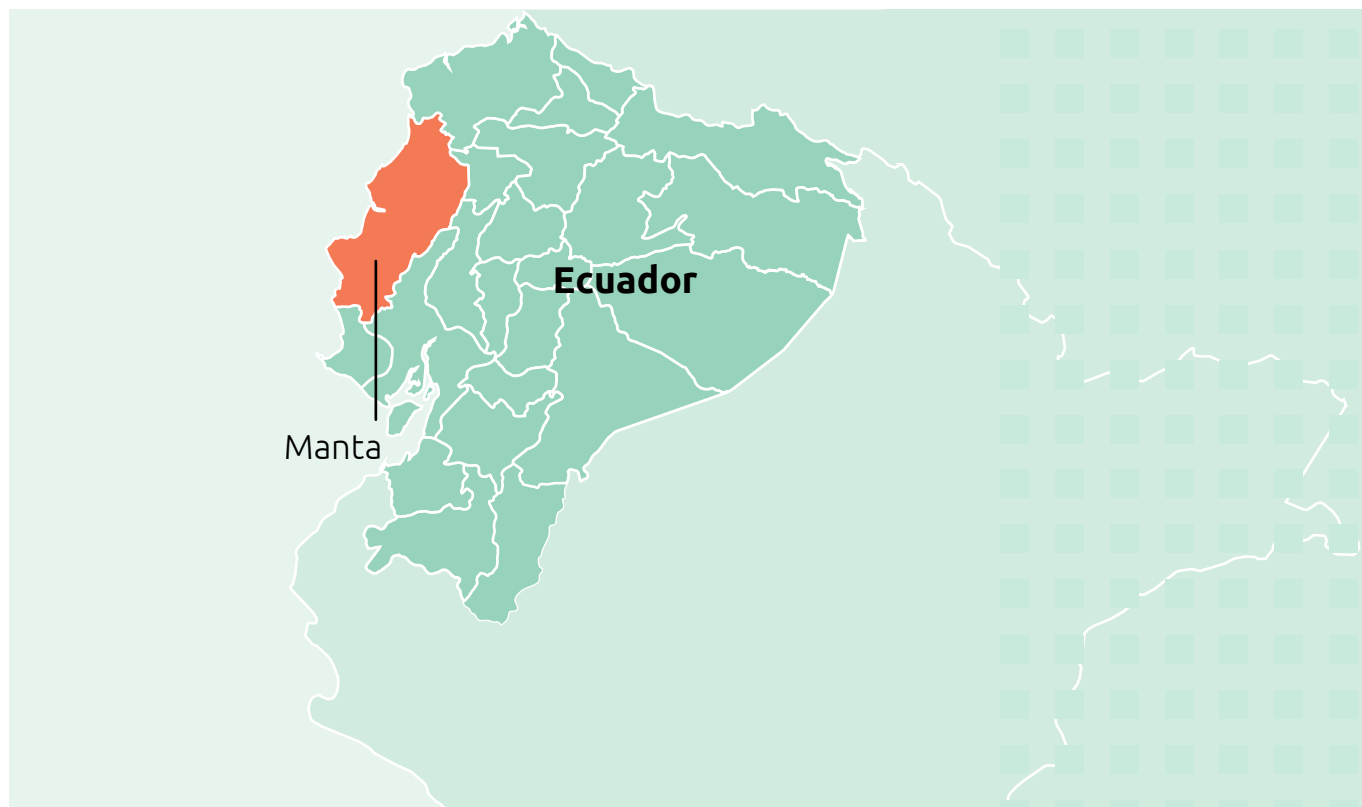
Improving water, waste and health management in this area, in order to reduce transmission of *Aedes*-borne diseases.



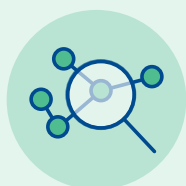
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Promoting community participation and social empowerment in the prevention of *Aedes*-borne diseases. This will be achieved through the implementation of so-called educommunication strategies aimed at the citizen health committee and residents of the chosen pilot location.

The project has been initiated in Manta, one of 22 cantons of the province of Manabí in Ecuador. It is located on the central Pacific coast and constitutes an important tourist, maritime and fishing port.



PROPOSED APPROACH



Gather and share data on dengue areas in the city of Manta

- **A three-day meeting** will be held in the city of Manta for all members of the consortium to share baseline information and to generate maps, documentation and action proposals.
- **A survey will also be conducted through house-to-house visits and interviews** to establish socioeconomic, cultural, health, environmental, knowledge and practice variables in the area.



Strengthen entomological surveillance and vector control procedures

To obtain information on mosquito breeding sites in real time, a mobile application will be designed for citizens to anonymously report the locations and upload photos of breeding sites in their neighbourhood. The app will then alert consortium members so action can be taken. It will also share educational messages and recommendations to prevent the formation of mosquito breeding sites.



Establish multisectoral action guidelines to prevent arboviruses

Participatory workshops will be held for all members over four days in the city of Manta. Multisectoral operational guidelines have not yet been developed as the support of all participants will be required. This activity will be implemented in the execution phase of the project.



Use chemical control to reduce mosquito populations

Where no other type of control can be used and the water supply is deficient, **chemical control will be applied with pyriproxyfen**. This will also be applied in mosquito breeding sites, following which the presence of dengue and insecticide resistance in vectors will be monitored.



Launch communication campaigns

- **Workshops will be held** to promote community participation and social empowerment.
- **Communication campaigns will also be launched** to inform the population about the transmission cycle of dengue and how to control the vector.

EXPECTED RESULTS

- 1 To ensure research uptake, **each sector will designate a permanent focal point and a multisectoral intervention plan will be created.** This plan will include the activities of each sector, the scenarios for the intervention with their respective actions and evaluation of the activities.



- 2 **The entomological surveillance team will gather the data to obtain the *Aedes aegypti* index** and indicate what intervention is required.



- 3 **Adequate chemical or mechanical control will be achieved in the main type of breeding site** and detailed action protocols developed for each stakeholder to address risks related to WASH, health and the environment.



- 4 **Results will be disseminated at a meeting with the members of the multisectoral consortium,** local authorities and community leaders in the city of Manta-Ecuador. They will also be shared through a paper submitted to an indexed scientific journal with free access for publication.



This research brief summarises the planned interventions of the research project: *Establishing a multisectoral strategy to prevent transmission of Aedes-Borne diseases in the coastal city of Manta, Ecuador.*

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