

Aedes aegypti, water, and
households: chasing the
mosquitoes in the Urban South

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2018

In 2014 and 2015 various outbreaks of dengue were reported in Mozambique. In countries of Latin America and the Caribbean, such as Colombia, there have also been outbreaks of dengue, zika and chikungunya. High percentages of *Aedes aegypti*, the mosquito that most effectively transmits these diseases, were found in cities such as Pemba, Maputo, Barranquilla, and Buenaventura. Dengue, zika and chikungunya, and their transmission vector, mosquito *Aedes aegypti* are tied to water as this mosquito lays eggs in stored water in or around households. After they breed they do not always parade through the city like other mosquitoes, but they hide inside households, behind doors and corners (Higa et al., 2015).

Besides being tied to water, *Aedes aegypti* are also tied to climate change. Studies have warned of the possibility that climate change might increase the likelihood of diseases spread by insects in new areas , as temperature can affect the distribution of the mosquito and the effectiveness of the virus transmission and rainfall can increase surface water (providing breeding sites for more mosquitoes) (Hunter, 2003). The pattern of dengue's spread has changed through the years, as the mosquito has adapted to new processes of economic, political, and social change (Higa et al., 2015; Nading, 2012, 2014).

By staying close to humans and adapting its biting periods to those of human activities, female mosquitoes can develop and lay eggs in aquatic habitats easily found in cities (Beaty et al., 2016; Gubler, 2011). Stagnant or stored water buckets, tanks, drums, cisterns, flower vases, pools, tires, and other man-made containers provide the needed cultivation habitat, where larvae will develop shortly into adult versions of the mosquito.



This project uses an ethnographic approach to study households, water supply availability, intermittence and distribution, and document politics and everyday community strategies to obtain and store water.

It focuses on the interdependence between intermittent water supply, deficient solid waste collection, and the *Aedes aegypti*.

It also takes into account the different legacies left by civil wars and rural crises on processes of unequal urbanization. It doing so, the project engages with multiple actors: local and national regulators and state officials, water services providers, non-governmental organizations, and the different communities in the cities' neighbourhoods.

Since there is no vaccine for dengue, the only way to reduce transmission is to control mosquito's breeding sites. This research will ensure that the realities of dengue in cities are taken into account in national policies by producing specific knowledge on the connection between poor water supply and dengue. It will also analyse the distinct reasons for water storage practices in and around living areas to inform and document politics and practice, not only in what concerns the government's treatment of dengue outbreaks, but also regarding water reforms and water supply providers. In this way, this project will contribute, in coordination with local and international partners, to the development of new strategies to fight dengue, which will potentially contribute to the development of new models for water management and provision of water and sanitation services.

This project aims to achieve three development outcomes.

Firstly, policies to fight dengue in cities will be defined and tailored to the particularities of the context. All gathered information will contribute to changing public health approaches to dengue.

Secondly, inhabitants will receive improved public health regardless of their gender, age, and socioeconomic class.

Finally, authorities of WSS service provision will be capable to see the clear links between non reliable services and dengue. Changes in institutional knowledge will follow.

The Barranquilla case

Dengue, Zika, and Chikungunya in the southwestern city



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<http://inacar.com/ciudad/>



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L.N. 2637-CO

Report No. P-4123-CO

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REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
IN AN AMOUNT EQUIVALENT TO US\$24 MILLION
TO THE
EMPRESAS PUBLICAS MUNICIPALES DE BARRANQUILLA
WITH THE GUARANTEE OF THE REPUBLIC OF COLOMBIA
FOR A BARRANQUILLA WATER SUPPLY PROJECT

Urbanización rápida e não planejada



(Tapices por las mujeres de Mampuján es uno de los proyectos de la memoria histórica a través del arte)

Foto: Felipe Castaño / Unimedios

	Registro de población desplazada	Coefficiente Gini
1996	2,352	0.478
1997	3,892	0.500
1998	6,857	0.534
1999	6,240	0.523
2000	16,612	0.525
2001	16,313	0.499
2002	14,952	0.536
2003	8,676	0.527
2004	9,433	0.539
2005	10,545	0.502
2006	6,920	0.513
2007	4,114	0.500
2008	3,561	0.512
2009	1,784	0.487
2010	1,256	0.497
2011	1,075	0.472
2012	1,202	0.464
2013	1,542	0.458
2014	1,360	0.445

Sequía

(2014, Alta Guajira, Colombia)

(Foto: ElEspectador.com)



Inundaciones

(2010, sur del Atlántico, Colombia)

(Foto: ElEspectador.com)



LOCAL

Miércoles 26 de Diciembre de 2012 - 1:39am

Siguen sin servicio de agua 68 barrios en Barranquilla, Soledad y Galapa, por falla eléctrica



Compartir



Tweet



+1

POR:



Periódico El Heraldo

December 26, 2012

LOCAL

Viernes 04 de Abril de 2014 - 12:07am

Habitantes de Malambo bloquean Sexta Entrada por falta de agua



Los habitantes de Malambo, durante la protesta en la que exigen solución a la falta de agua.



Compartir

1



Tweet

1



+1

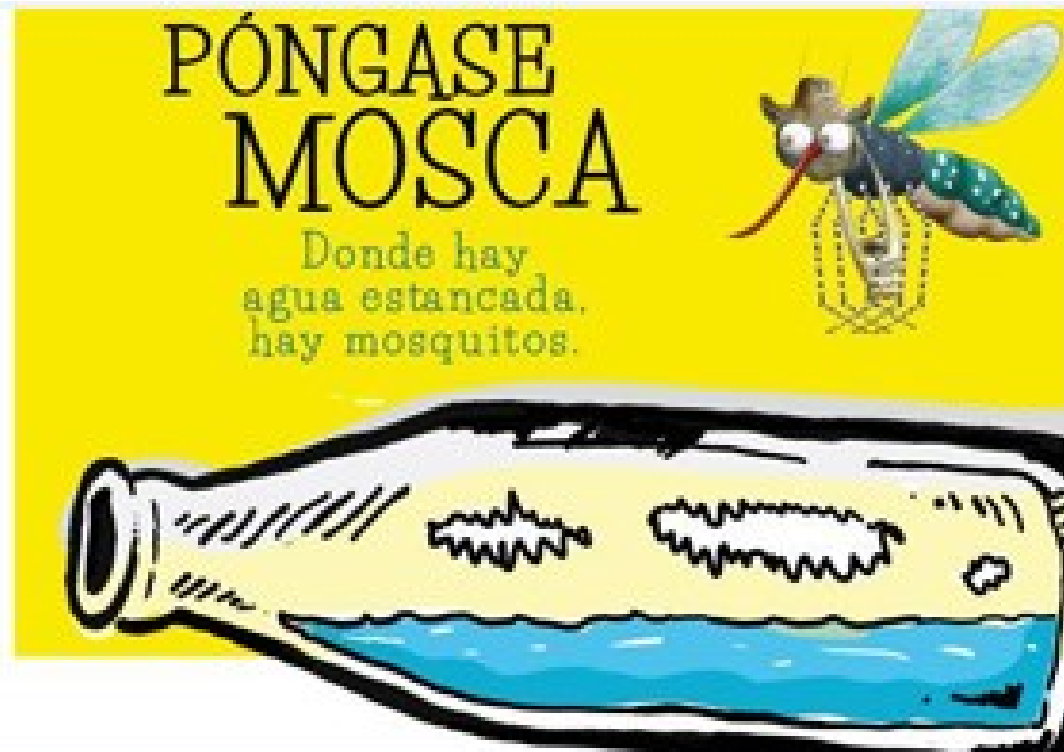


Póngase mosca y no deje que los mosquitos que transmiten Chikungunya se reproduzcan

- * **Mantenga su patio libre de basuras u objetos que estanquen agua**
- * **Limpie y tape los tanques de almacenamiento de agua**



Ministerio de Salud
Gobierno del Distrito Federal





"Unlike Dengue, Chikungunya is not deadly, but the affected people will feel an intense general malaise, to the point of affecting their routines considerably." **"I urge the community not to store water and, if so, cover the tanks of the liquid,** change the water that animals drink every day, avoid storing car tires or other elements that might accumulate water, especially on rainy days "(Pedro Mulett Mogollón, Manager of Hospital Materdad Infantil de Soledad).

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231 nuevos casos de zika en Barranquilla en una semana



Las mujeres atendidas en Barranquilla que presenten posibles casos de zika tendrán atención prioritaria. [Archivo](#)



The Pemba and Maputo cases

Dengue comes back to urban Mozambique









opian
P&P













Figure 1 Tanks, meters, buildings and garage in Polana cemento



Figure 1 Façades, tanks, meters and kitchen in Alto Maé



Figure 1 Alleys, households, communal sanitation block, and water distribution center in Chamanculo



Figure 1 Water-storing tools in Maputo city







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