



# EAVE TUBES FOR MALARIA ELIMINATION IN PERI-URBAN TANZANIA

**Grantee**  
**IFAKARA HEALTH INSTITUTE (IHI)**

**Grant amount**  
GBP 397,000

**Project duration**  
May 2015–August 2018

**Implementing partner**  
In2Care BV

**Beneficiaries**  
Selected households

**Locations**  
Dar es Salaam and Morogoro Region



## PROJECT BACKGROUND

Malaria remains one of the major threats to public health and economic development in Tanzania and is still the leading cause of morbidity and mortality in the country. While decades of efforts to control the disease have cut deaths from malaria by half, 93 per cent of Tanzanians remain at high risk according to the World Health Organization. As mosquitoes continue to develop resistance to insecticides, the fight against malaria is becoming more complex and increasingly expensive.

In response, the Ifakara Health Institute (IHI) has developed a cost-effective control method capable of targeting even the most resilient mosquitoes. It involves placing special six-inch diameter plastic pipes in walls underneath the roof of houses. These 'eave tubes' have a unique type of netting fitted inside that allows for the use of insecticides in powder form in quantities far below those required for bed nets. The eave tubes also allow for the application of alternative chemicals, even those that are not recommended for application on bed nets, either in combination or rotation.

## PROJECT DESCRIPTION

IHI and its partner, In2Care, piloted the eave tubes in 2,000 households in Mikese, Morogoro Region and Mbweni, in Dar es Salaam. The specific objectives of the project were to:

- ▶ Measure impact and consumer acceptance of the technology in these settings;
- ▶ Establish a stakeholders' network that includes members of the private and public sector in order to develop novel financing mechanisms for market introduction and country-wide uptake of the intervention; and
- ▶ Initiate activities towards local production of eave tubes.

## PROJECT RESULTS

- ▶ A total of 1,500 and 500 houses in Mikese and Mbweni, respectively, were installed with eave tubes;
- ▶ 83 per cent of households reported that they experienced fewer mosquitoes inside their houses than before the eave tubes were installed; and
- ▶ 450 household owners in Mikese registered their willingness to pay for installation materials and labour if the eave tubes and inserts were provided for free.



## KEY LESSONS

- Work with trusted sources to gain buy-in: Community members were much more likely to support different initiatives when well informed and engaged by their own leaders and peer groups. Notably, the decision to use local craftsmen for installing eave tubes made the technology easily acceptable for community members.
- Keep communities informed: Sensitisation workshops and consultations held to ensure that community leaders and their members were fully aware of the initiative were central to the project's success.

## GENDER EQUITY AND SOCIAL INCLUSION

The involvement of women in the project was especially high. Women play a major role in the fight against malaria, often dictating the use of, and adherence to, pest control strategies within the household. Nearly 80 per cent of participants reached through community meetings and other awareness-raising initiatives were women. Women and children also played a key role in the installation of the eave tubes by helping builders to carry bricks and sand, and fetch water.

## PRINCIPLES FOR DIGITAL DEVELOPMENT

*Build for sustainability:* In2care developed a number of technologies that would support local production and support scalability. These include a safer automated machine for applying insecticides onto eave tube inserts, a machine for drilling six-inch holes into walls, an injection moulding machine to produce eave tube inserts, and an automated cleaner for removing expired insecticides from eave tube inserts.

## NEXT STEPS

IHI and In2care have demonstrated that going to scale is technically and operationally feasible – to date, 3,800 houses in Tanzania and over 3,022 houses in Ivory Coast are currently fitted with eave tubes. In2Care is planning to roll out eave tubes in hundreds of houses in the Lake Victoria region of Tanzania, which remains the hardest-hit part of the country in terms of malaria prevalence in children under the age of five. With Tanzania still ranking amongst the four countries hardest affected by malaria in Africa (besides Nigeria, DR Congo and Uganda), they envision substantial support from the Government of Tanzania and other stakeholders.



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