

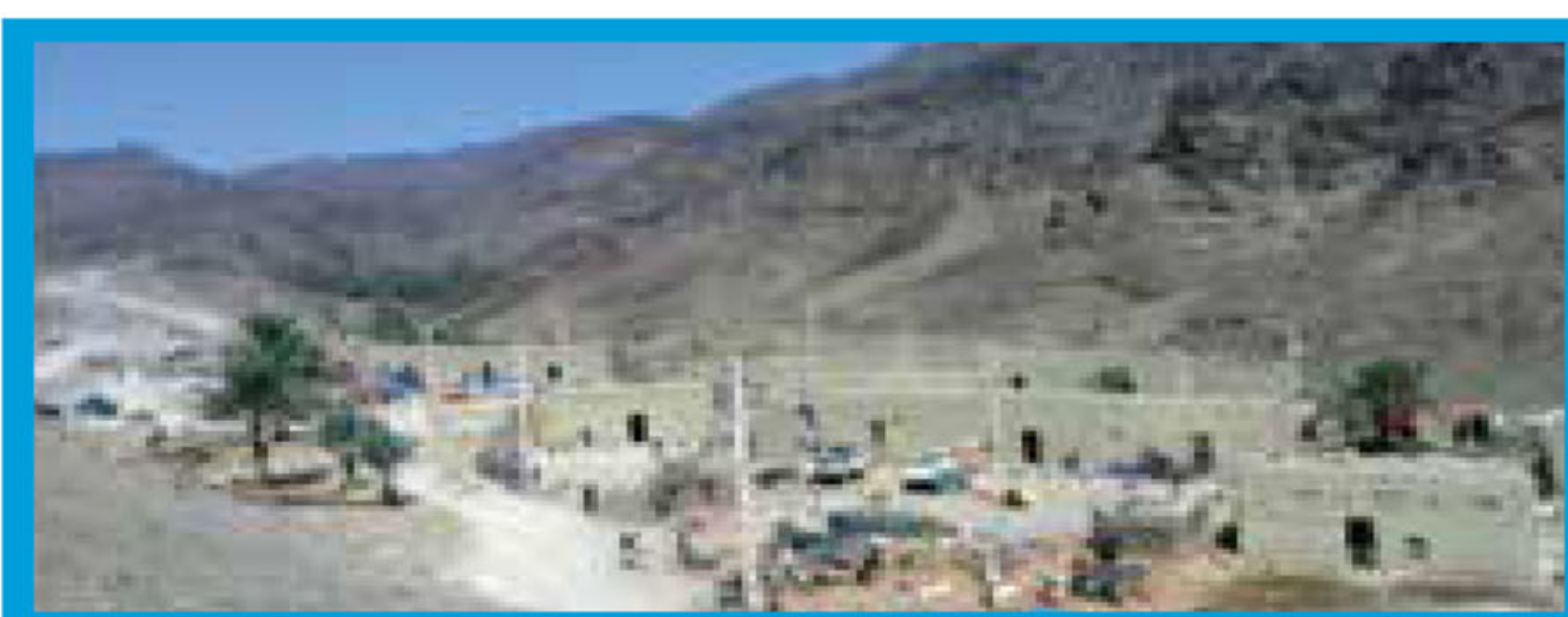
Demonstrating cost-effective and sustainable larval control methods in an urban setting as an alternative to the use of chemical methods

Raeisi, A^{1,2}, Nikpour, F^{1,2}, Tabatabaie, S.M³, Ranjbar, M², Vatandoost, H¹

1. School of Public Health, Tehran University of Medical Sciences, Tehran IR Iran
2. National program for malaria elimination, MOH&ME, Tehran, IR Iran
3. Zahedan University of Medical Sciences, Tehran IR Iran

Introduction

The goal of the study was to demonstrate cost-effective, sustainable and alternative larval control methods in an urban setting in the Islamic Republic of Iran for assessing the efficacy of different coverings (straw mat and tile covered with a thin layer of concrete) and a bacterial larvicide (*bacillus thuringiensis*/Bti) on water cisterns. The study design was a randomized selection of three clusters. In the first cluster water cisterns were covered with straw mats. In the second cluster, the intervention included covering the reservoirs with tiles (supported with metal frames) and a thin layer of concrete while bacterial larvicide was applied in the third cluster.



Chabahar city (southern district in the Sistan and Baluchistan province)



Local skilled people were employed to construct straw mat coverings using local building materials (palm tree branches)



Cost effective approach to mitigate mosquito breeding sites within household compounds



Sustainable approach to environmental modification



High level of community acceptance of concrete coverings based on its durability



Project staff routinely applying bacterial larvicide to water reservoirs



Community health volunteers attended briefing sessions on malaria transmission and prevention, community participation and methods to improve social acceptance of interventions



Face-to-face education on malaria transmission and prevention was delivered during home visits by the volunteers



Advocacy meetings were held with senior community members to explain project objectives and acquire their consent



Governor and Rural Islamic Council members were targeted as part of community mobilization

Results

Seroprevalence survey: the risks of *P. falciparum* and *P. vivax* transmission in Chabahar city was very low with evidence of limited recent transmission. None of the examined blood subsets using light microscopy and nested-PCR assays were positive for *P. vivax* and/or *P. falciparum* parasites.

Ongoing activities include: assessing durability and sustainability; assessing community acceptance; conducting knowledge, attitude and practice survey following peer-to-peer education; analysing cost-effectiveness of larval source management interventions and planning for expansion of selected interventions to all Chabahar areas.