Preventing vector-borne disease outbreaks in emergent peri-urban settings:  
A TRANSDISCIPLINARY STUDY ON THE INTEGRATED HOUSING DEVELOPMENT PROGRAMME IN JIMMA, ETHIOPIA


INTRODUCTION

• Success in vector control has been affected by a rapidly changing world in which climate change, rising urbanization, and mass migration increase the potential of disease outbreaks.
• Urbanization rates in Ethiopia are among the highest in the world. Recent estimates project an annual growth of 1.9% between 2014 and 2050 associates with poverty, climate change and migratory flows [1].
• As a response, the Ethiopian national government developed the Integrated Housing Development Programme (IHDP) [2]. Despite progress in coverage, this type of housing has shown important pitfalls, including lack of appropriation of the emerging built environment, poor quality construction materials, and deficient sanitation.
• In urban areas, malaria persists among populations with low ITN ownership and usage. Urban malaria has also been associated with weak health services, wide spread economic disparity, and human mobility [3]. Other NTD such as schistosomiasis has also been associated with presence of water bodies surrounding peri-urban settlements [4].

AIM OF THE STUDY

Design a spatial development strategy of the house and of the condominium scheme/settlement, that reduces opportunities for the presence of malaria and schistosomiasis vectors.

STUDY SETTING

This study will take place in two of the six condominiums built by IHDP in Jimma Town.

Fig. 1. (A-B) Agip Condominium, Jimma.

Fig. 2. (C-D) Yetebaberut Condominium, Jimma.

Similar to other peri-urban settlements in this region, these constructions are challenged by overcrowding and lack of access to basic facilities and services. Additionally, they are in the vicinity of of potential breeding sites for mosquitoes and snails, including temporary freshwater pools, dams and rubbish disposal sites permanently exposed to sunlight. These factors have been previously associated with malaria and schistosomiasis transmission.

DESIGN

Architecture

Methods: Research by design - graphical making and output of maps and drawings reflects the knowledge obtained through literature review and fieldwork.

Data collection: Literature review, interviews with key informants, observation of architecture and settlement logics.

Social sciences

Methods: Ethnographic approach. Focus on uses and appropriation of the space, migratory flows, and decision-making in relation to living environments.

Data collection: In-depth interviewing, informal conversations and group discussions. Participatory consultation on emerging proposals.

Entomology

Methods: Entomological survey to assess presence of malaria and schistosomiasis vectors

Data collection: Entomological survey. Indoor trap catches, mosquito larvae collection and snail intermediate host sample collection.

Transdisciplinarity - Extending the unit of research from the individual housing unit to the larger settlement scale of the condominiums and the peri-urban city edge to increase effectiveness of prevention strategies.

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