Searching for System Leverage
Group Model Building for a Shared Understanding of Adequate Housing in Kenya

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Housing Situation

**Urgency (World Bank, 2017)**
- National housing deficit of > 2 million and growing
- ~56% of urban households live in slums
- ~5% urban growth rates (p.a.)

**Complexity (World Bank, 2017; KIPPRA, 2017)**
- Lack of formally trained construction labor; rising land prices; materials make up 40% of total cost; lack of affordable financing for owners

**Habitat for Humanity**
- Vision: “A world where everyone has a decent place to live.”
- Successful initiatives but no larger change within the system
- Cooperation with national partners but partly inefficient discussions and focus on solutions

Source: World Bank
Facilitation Team

**Project Goal:** Develop a shared, systemic understanding among HFH and key stakeholders about current issues and opportunities within the affordable housing sector in Kenya

**Research Question:** Which dynamics drive inadequate housing in Kenya?
- *Internal Questions:* To what extent can a qualitative modelling approach provide benefits for strategy formulation?
Process Overview

- **Desk Research**
  - (2 weeks)
  - Collect information about housing situation in Kenya
  - Review SD research on housing

- **GMB Workshop**
  - (3,5 days)
  - Participatory modelling workshop
  - ~25 participants (HFH, government, academia and business)
  - Development of a qualitative model (CLD)

- **Reporting**
  - (1 week)
  - Finalization of the CLD
  - Summary of the workshop insights
Desk Research

- **Adequate housing** means “more than four walls and a roof” (UN Habitat, 2014, p. 3). It comprises tenure security, availability of basic services, affordability, accessibility and cultural adequacy and is a prerequisite for education, health, privacy, social security and ability to work (UN Habitat, 2014).

- **System Dynamics** is well suited to represent the actual processes within the complex web of housing supply and demand and to develop a shared system understanding among various actors (Eskinasi, 2014).
Workshop
Workshop

Visioning

Systems Mapping

Variable Elicitation

Behavior over Time
Concept Model

derived from the *Four Quadrant Model* by Di Pasquale & Wheaton (1996)
CLD

Labor Price

Material & Equipment Price

+ Development Costs

Housing Price

- Housing Affordability

+ Housing Demand

- Housing Deficit

- Housing Supply

Land Speculation

Developer Profit

Closing the Housing Gap

Land Demand

Land Demand Drives Costs

Land Speculation

Land Price

Land Availability

- Development Costs

+ Housing Price

R1

B1

B4
Analysis of Leverage Points
## Reflection

### Evaluation Criteria for Group Model Building (derived from Rouwette et al., 2002)

<table>
<thead>
<tr>
<th>Individual</th>
<th>Group</th>
<th>Organization</th>
<th>Method</th>
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</thead>
<tbody>
<tr>
<td>• positive <strong>reaction</strong> of participants</td>
<td>• <strong>safe space</strong> for communication</td>
<td>• <strong>first systemic inquiry</strong> within the organization</td>
<td>• highly efficient project approach</td>
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<td>• <strong>insights</strong> into other sectors</td>
<td>• structure perspectives into a <strong>shared model</strong></td>
<td>• <strong>impact analysis</strong> of interventions is limited</td>
<td>• <strong>intention</strong> to continue the system approach</td>
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<td>• <strong>dynamic learning</strong> was limited</td>
<td>• improved communication through <strong>system language</strong></td>
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Summary

Qualitative modelling as the first step of system inquiry
- low entry barrier
- problem structuring & insights
- stakeholder engagement & understanding
- introduces systemic perspectives
- develop a more systemic theory of change
- provides framework for monitoring and data collection

Need for subsequent quantitative modelling
- validating assumptions
- learning about dynamics
- simulation of policies


HFHK Website. https://hfhkenya.org/

KIPPRA. 2017. Delivering affordable housing in Kenya requires a paradigm shift.

