Affordable housing, megacities and the Foundation for Sustainable Construction – Infrastructure development at Holcim

Workshop “Pimp up my slum”
Input Stefanie Koch, CSR Manager, Holcim
Affordable Housing and City development activities

- Affordable Housing concept and related projects
- Megacities project
- Holcim Foundation for Sustainable Construction
Currently, twelve affordable or social housing programs are being implemented/developed and 3 mega cities projects take place in Jakarta, Manila and Singapore.
Five-Phase Approach to Affordable Housing

**Phase I: Situation Analysis**
- Calculate housing deficit
- Analyze land/title situation
- Create maps: community land ownership risks
- Review existing AFH programs
- Identify available subsidies and potential partners
- Identify pilot locations
- Establish collaboration and raise awareness for participatory processes
- Develop business plan

**Phase II: Consultation**
- Analyze positive and negative aspects of current housing situation
- Identify potential PAP members and set up PAP
- Conduct consultation sessions in pilot locations
- Define characteristics/needs of housing elements and financing options
- Formulate action plan and community involvement
- Identify locally available resources and MED potential

**Phase III: Performance Brief**
- Summarize findings of consultations in collaboration with PAP
- Sound summary with consultation participants
- Information campaign by PAP in project communities
- Identify key constraints and challenges
- Identify Holcim and other partners' resources and involvement
- Define sustainability aspects
- Review business plan

**Phase IV: Design (solution and program)**
- Design housing solution based on performance brief
- Standardize and optimize solution
- Define project scope and implementation (incl. retail channel)
- Define financing, evaluating the opportunity of a microloan network
- Integrate and link program with available subsidies and partners
- Strengthen community involvement and ownership

**Phase V: Implementation and Monitoring**
- Closely collaborate with PAP
- Monitor KPIs
- Measure impacts and evaluate pilots
- Review strategy and business plan and plan up-scaled program
- Capture learning

**Tools**
- Desk analysis
- Community profile
- Stakeholder Analysis
- Business plan template
- Participatory action research
- ASPIRE tool (Arup)
- AFH Concept template
- Sustainability Analysis
- Partnership directive
- Business Plan template
- Partnership directive
- AFH Products and Materials matrix
- Monitoring and evaluation Plan
- PM&E tools

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Example: San Juan Unido, Caracas Venezuela
Déficit habitacional en Venezuela

Cifras Importantes:
- Habitantes en Venezuela: 25 Mio
- Habitantes en Caracas: 4 Mio
- Déficit de viviendas nuevas: 1,7 Mio
- Déficit de viviendas por mejorar: 1,2 Mio
- De cada 2 venezolanos, 1 no tiene vivienda adecuada

Solo en Caracas:
existen 5.300 barrios que necesitan mejoras básicas
Barrio típico de Caracas (favela típica)
Mejoramiento de barrios (favelas)
Pimp up my slum
Megacities, example Indonesia
Urbanization accelerated during the last 100 years and will continue to drive population growth.

Since 2007, more than 50% urban

Urbanization drives development of Megacities with >10m inhabitants

Source: UN 2004, UNESCO 2004, HGRS-CSS team analysis

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Pimp up my slum
Megacities around the world

1950: 2 megacities  
1975: 11 megacities  
today: 26 megacities

Holcim present in 19 out of 26 megacities; Asia is key regional focus
Jakarta (Jabodetabek) is a sprawling megacity

Population growth

[m people]

2006 2020F

Central Jakarta

24.4 9.2
8.8

Suburban areas

15.7 23.4

Bogor/Depok
Bekasi
Tangerang

Sustainable solutions required to manage growth and urban sprawl in Jakarta

Source: UN Habitat, BPS 07, team analysis

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High-rise housing is one element of a solution to limit urban sprawl in Jakarta.

<table>
<thead>
<tr>
<th>Housing</th>
<th>Jakarta</th>
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**Focused solution: high-rise housing**

“Bringing citizen back to central Jakarta”

<table>
<thead>
<tr>
<th>People</th>
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<tbody>
<tr>
<td>▪ Provide people with homes ➔ 2.1m new housing units required</td>
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<tr>
<td>▪ Improve social integration and development of urban communities</td>
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<table>
<thead>
<tr>
<th>Economy</th>
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<tbody>
<tr>
<td>▪ Reduce need for commuting ➔ ~50% more commuting trips required</td>
</tr>
<tr>
<td>▪ Reduce economic pressure on new infrastructure developments</td>
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<table>
<thead>
<tr>
<th>Environment</th>
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<tbody>
<tr>
<td>▪ Reduce environmental pressure driven by increase in water consumption (+500m m3/a), sewerage (+375m m3/a), waste (+17m m3/a)</td>
</tr>
<tr>
<td>‣ Better use of existing networks</td>
</tr>
<tr>
<td>‣ Focused expansion</td>
</tr>
</tbody>
</table>
Focused solution: high-rise housing

Key characteristics of high-rise housing

- Improved land-use and integration into “urban fabric”
  - Manage migration and population density
  - Free-up land to create green/open space
  - Integration of residential, commercial and recreational aspects
- Reduced development cost per unit achievable
  - Lower share of land costs
  - Replicable methods to reduce construction costs
- Integration with other infrastructure developments
  - Construction along major transportation hubs
  - Focused expansion of electricity, water, sewerage networks

Best practice examples in Asia

- Hong Kong
- Singapore
- Shanghai

Picture: Hong Kong, Tsing Yi
Holcim Indonesia actively involved in high-rise housing projects

**Products and services**
- High volumes of cement/concrete in consistent quality
- Innovative products, e.g., high-strength concrete
- Reliable, efficient operations and logistics, e.g., peak time delivery, mass-pours

**Initiative support**
- Sustainable and affordable design concepts, e.g., energy efficient designs, pre-cast solutions
- Active participation in public initiatives for affordable high-rise housing, e.g., Rusunami, Rusunawa

**Stakeholder dialogue**
- Orchestration of dialogue and alignment between public stakeholders, private companies, universities and NGO’s
- Brainstorming on key challenges and potential new integrated solutions
Workshop on June 10\textsuperscript{th} 2008 in Jakarta:
“Preparing for 30 million - shaping a sustainable megacity”

\begin{itemize}
  \item Holcim Indonesia Tbk
  \item Institute of Technology Bandung
  \item Swisscontact
\end{itemize}

Endorsed by
\begin{itemize}
  \item Real Estate Indonesia
  \item Ministry of Housing
  \item Ministry of Public Works
  \item International Finance Cooperation
\end{itemize}

Focus areas
Six working groups were formed to discuss new integrated solutions and opportunities with focus on:
\begin{itemize}
  \item Where to build?
  \item What to build?
  \item How to build?
\end{itemize}

Stakeholder dialogue and exploitation of synergies are key to sustainable urban development

Picture: Tim Mackay in discussion with Ministers at Megacity workshop
Affordable Housing. Example: Nicaragua
Five-Phase Approach to Affordable Housing

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Steps
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Community map showing desired and undesired areas
Involvement of community members and PAP

Community members

- Focus groups
- Selection of community leaders/establishment of PAP
- First consultation on housing characteristics
- Analysis of results and performance brief
- Second consultations, validation of performance brief

PAP

- Contribution to definition of program profile
- Information of community members
- Pre-selection of project participants
- Socio-economic analysis of individual participants
- Approval of technical solution
Edificando vidas - project organization

Selection of communities
- Adequate location
- Identification of need according to social and market data

Identification of PAP leaders
- Capacity building of PAP
- Selection of participants
- Presentation of project

Identification of participants
- Completion of interest/background sheet

Community-based project
- Participants can’t obtain private credit but have/have the potential to repay a credit
- …are committed to participate in project organization

Community-based clients

**Housing need**
- Possession of land with title

**Housing need**
- Possession of land but no title

**Housing need**
- No land

Formal bank credits

Access to finance

Legalization of land

Access to land

Interest/capacity of community?
**Technical solution for Nicaragua**

**Basic data**

<table>
<thead>
<tr>
<th>Area</th>
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<tbody>
<tr>
<td>I phase</td>
<td>28.73 mts²</td>
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<tr>
<td>II phase</td>
<td>17.35 mts²</td>
</tr>
<tr>
<td>III phase</td>
<td>19.34 mts²</td>
</tr>
<tr>
<td>Total:</td>
<td>65.42 mts²</td>
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**Estimated budget:**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Estimated Budget</th>
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<tbody>
<tr>
<td>I</td>
<td>$4,596.80</td>
</tr>
<tr>
<td>II</td>
<td>$2,776.00</td>
</tr>
<tr>
<td>III</td>
<td>$3,094.40</td>
</tr>
<tr>
<td>Total</td>
<td>$10,467.20</td>
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</tbody>
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*Est. price. / m²: $160.00*

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I phase: financed through credit and subsidy

II / III phase: financed through savings