

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



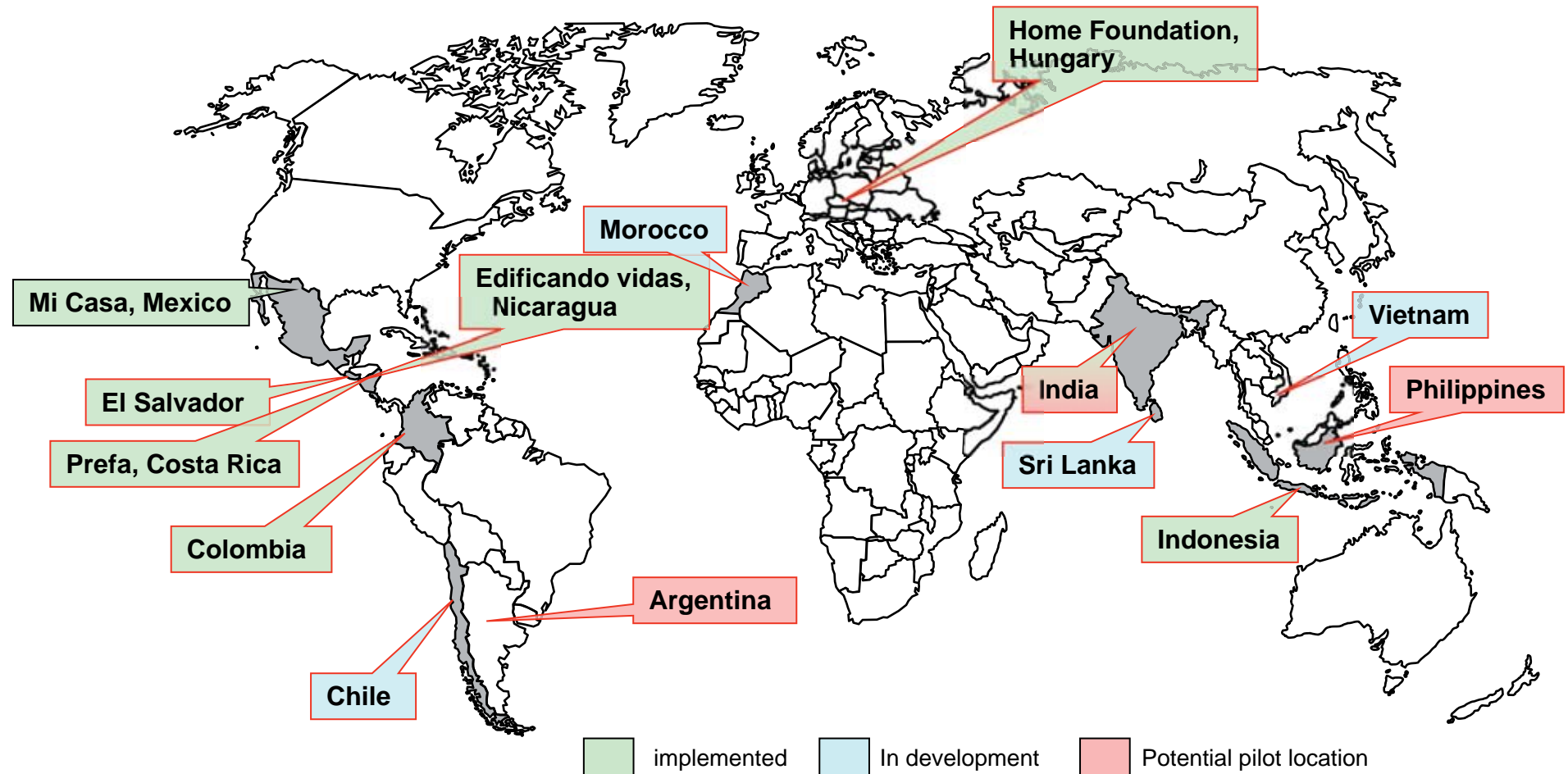
Workshop “Pimp up my slum”

Input Stefanie Koch, CSR Manager, Holcim

Affordable Housing and City development activities

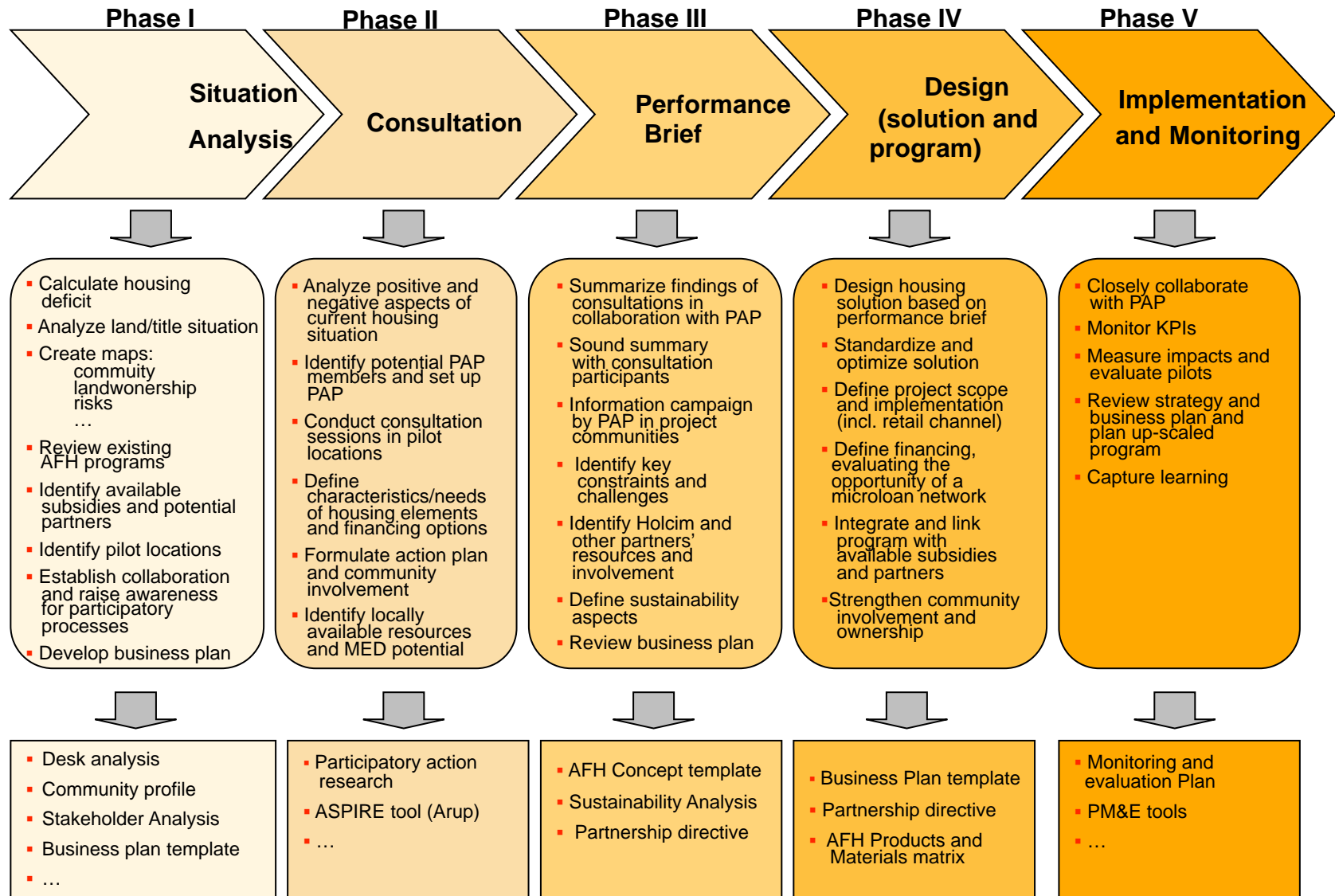
- Affordable Housing concept and related projects
- Megacities project
- Holcim Foundation for Sustainable Construction

Affordable housing programs in the Holcim Group



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



Example: San Juan Unido, Caracas Venezuela

Déficit habitacional en Venezuela

Cifras Importantes:

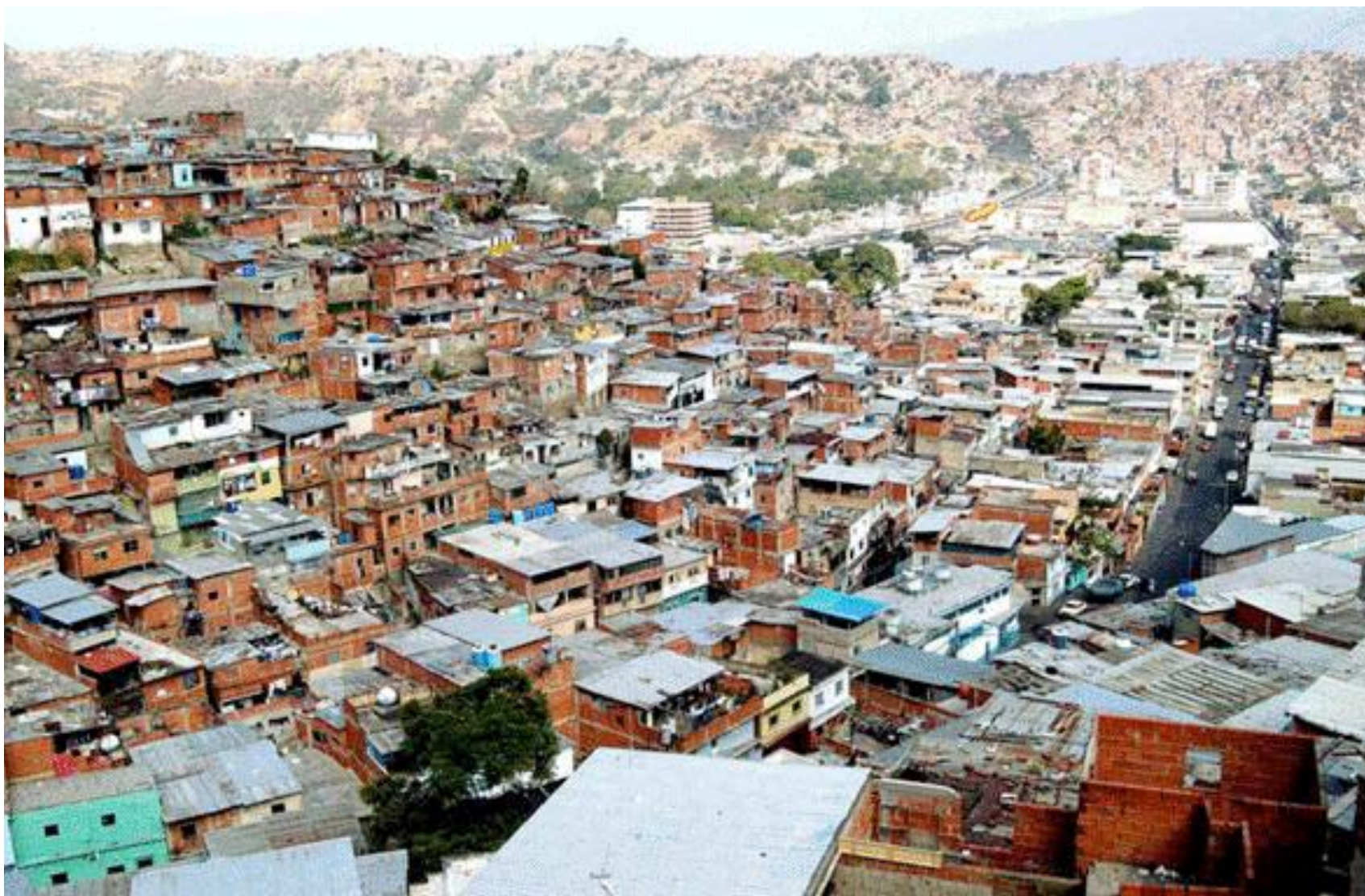
- Habitantes en Venezuela: 25 Mio
- Habitantes en Caracas: 4 Mio
- Déficit de viviendas nuevas: 1,7 Mio
- Déficit de viviendas por mejorar: 1,2 Mio
- De cada 2 venezolanos, 1 no tiene vivienda adecuada

2.900.000

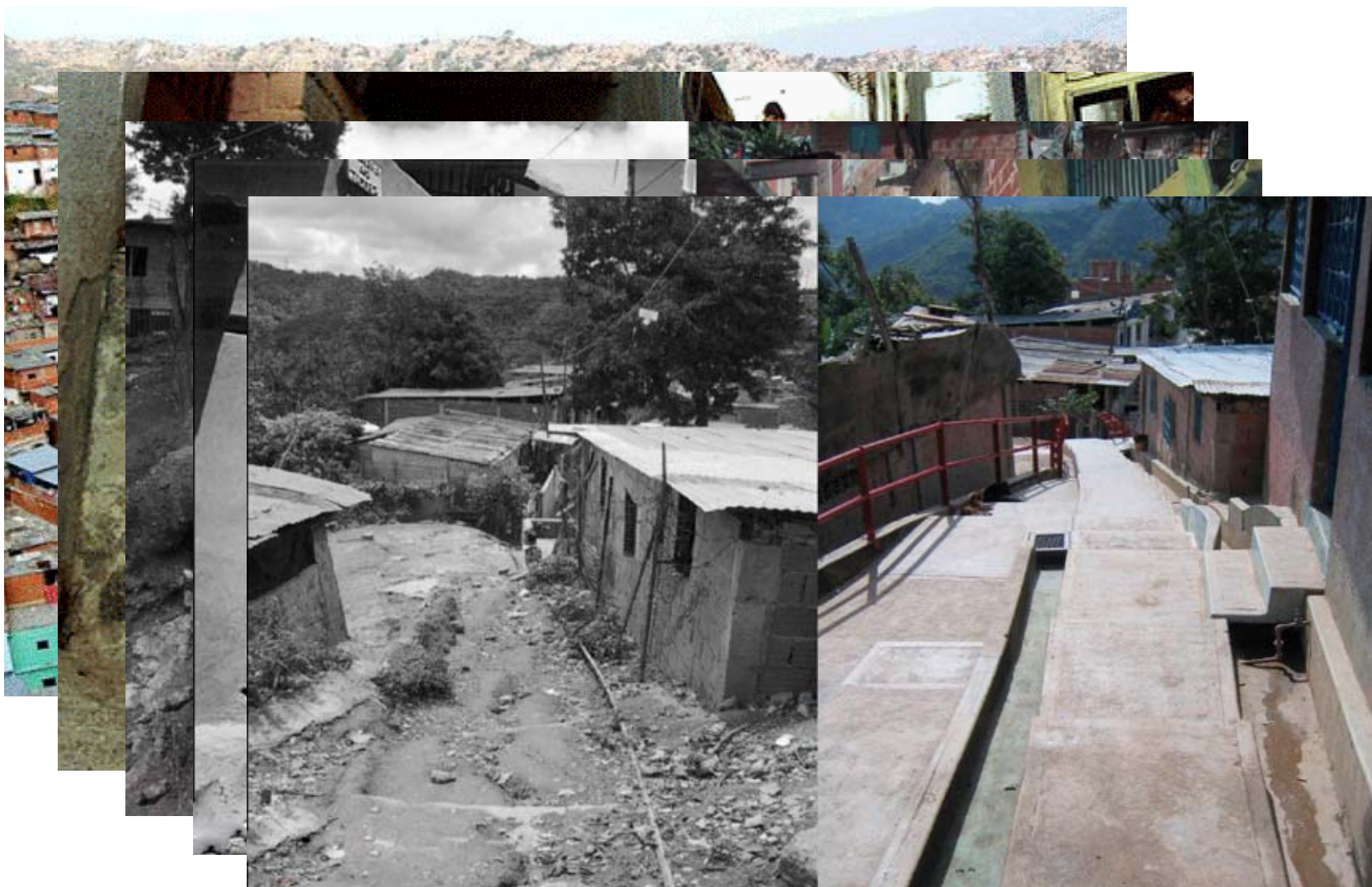


Solo en Caracas:
existen 5.300 barrios que
necesitan mejoras
básicas

Barrio típico de Caracas (favela típica)



Mejoramiento de barrios (favelas)

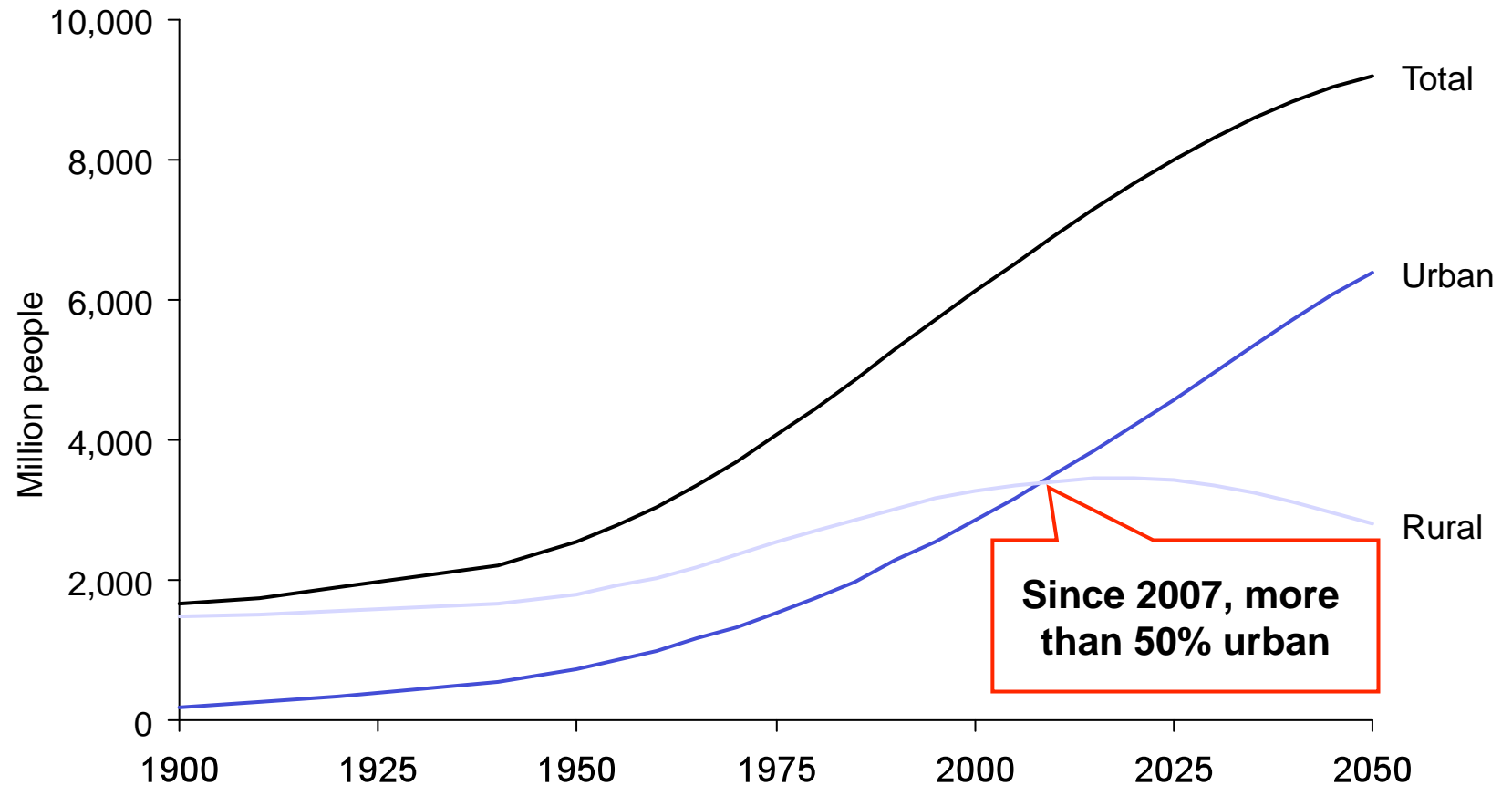






Megacities, example Indonesia

Urbanization accelerated during the last 100 years and will continue to drive population growth



Urbanization drives development of Megacities with >10m inhabitants

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



Source: Citypopulation 2008, HGRS-CSS team analysis

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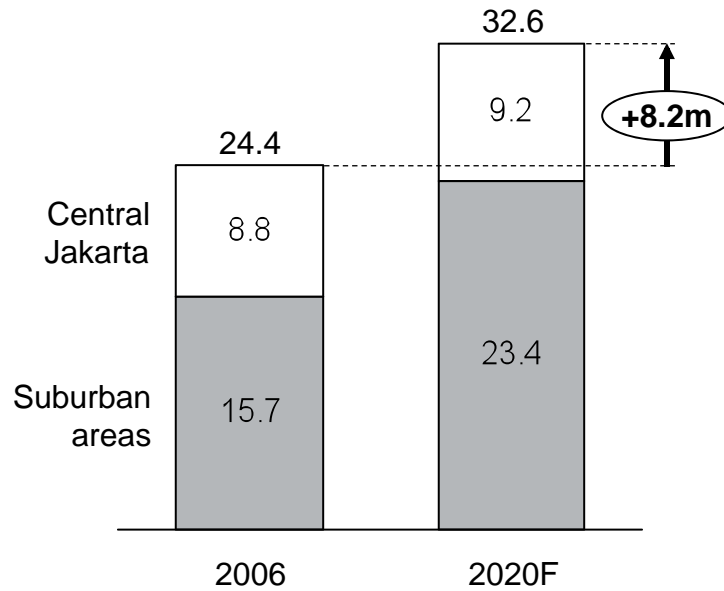
Pimp up my slum

16.06.2009/SN/SN

Jakarta (Jabodetabek) is a sprawling megacity

Population growth

[m people]



[people/km² □ <2000 □ 2001-3000 ■ >3001] 10km



Sustainable solutions required to manage growth and urban sprawl in Jakarta

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

Focused solution: high-rise housing

“Bringing citizen back to central Jakarta”

People

- Provide people with homes → 2.1m new housing units required
- Improve social integration and development of urban communities

Economy

- Reduce need for commuting → ~50% more commuting trips required
- Reduce economic pressure on new infrastructure developments

Environment

- Reduce environmental pressure driven by increase in water consumption (+500m m³/a), sewerage (+375m m³/a), waste (+17m m³/a)
 - Better use of existing networks
 - Focused expansion

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 10th 2008 in Jakarta: “Preparing for 30 million - shaping a sustainable megacity”

Organizers

- Holcim Indonesia Tbk
- Institute of Technology Bandung
- Swisscontact



Endorsed by



Real Estate
Indonesia



Ministry of
Housing



Ministry of
Public Works



International
Finance Cooperation

Focus areas

Six working groups were formed to discuss new integrated solutions and opportunities with focus on:

- **Where** to build?
- **What** to build?
- **How** to build?

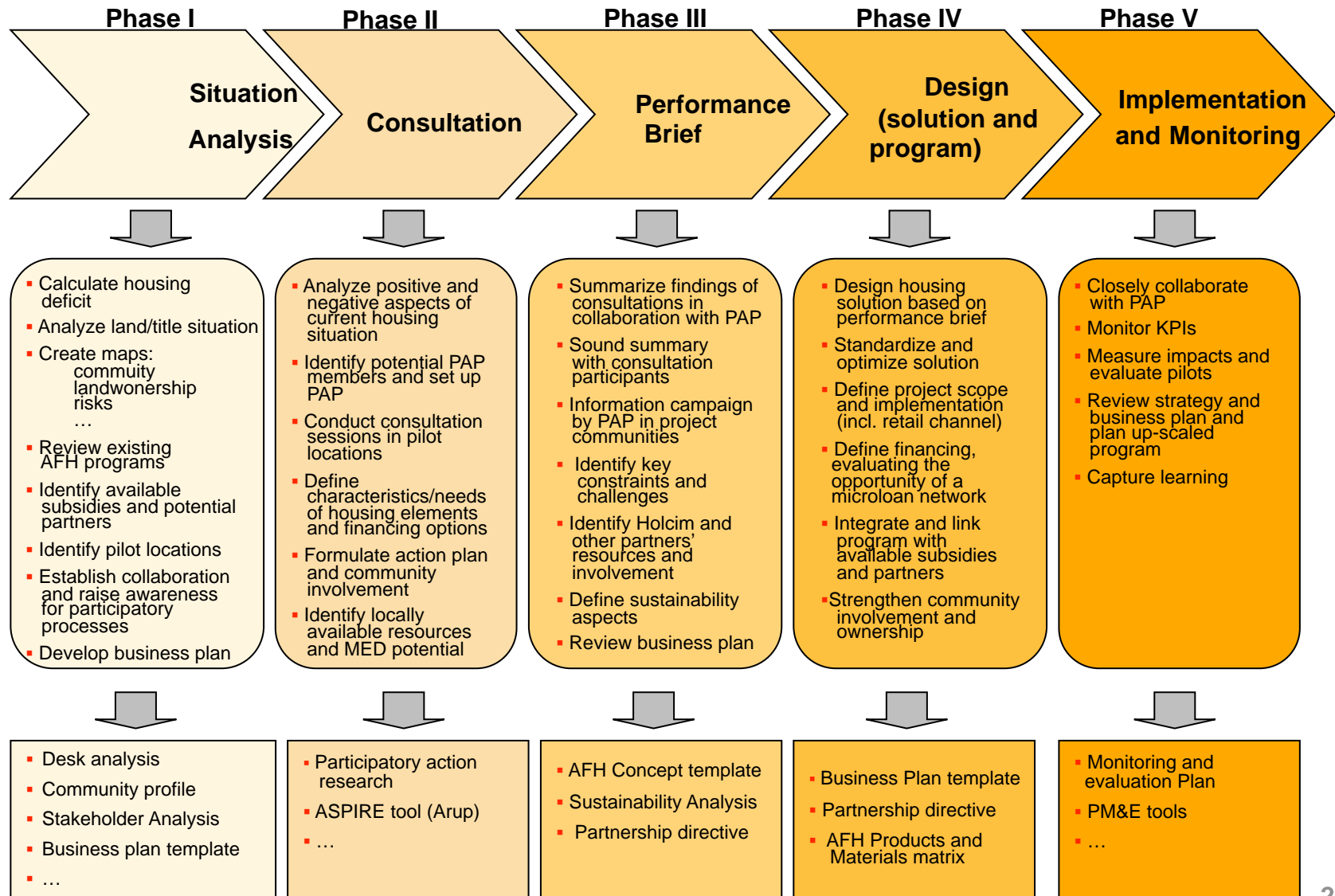
Stakeholder dialogue and exploitation of synergies are key to sustainable urban development



Picture: Tim Mackay in discussion with Ministers at Megacity workshop

Affordable Housing. Example: Nicaragua

Five-Phase Approach to Affordable Housing



Community map showing desired and undesired areas



Involvement of community members and PAP

Community members

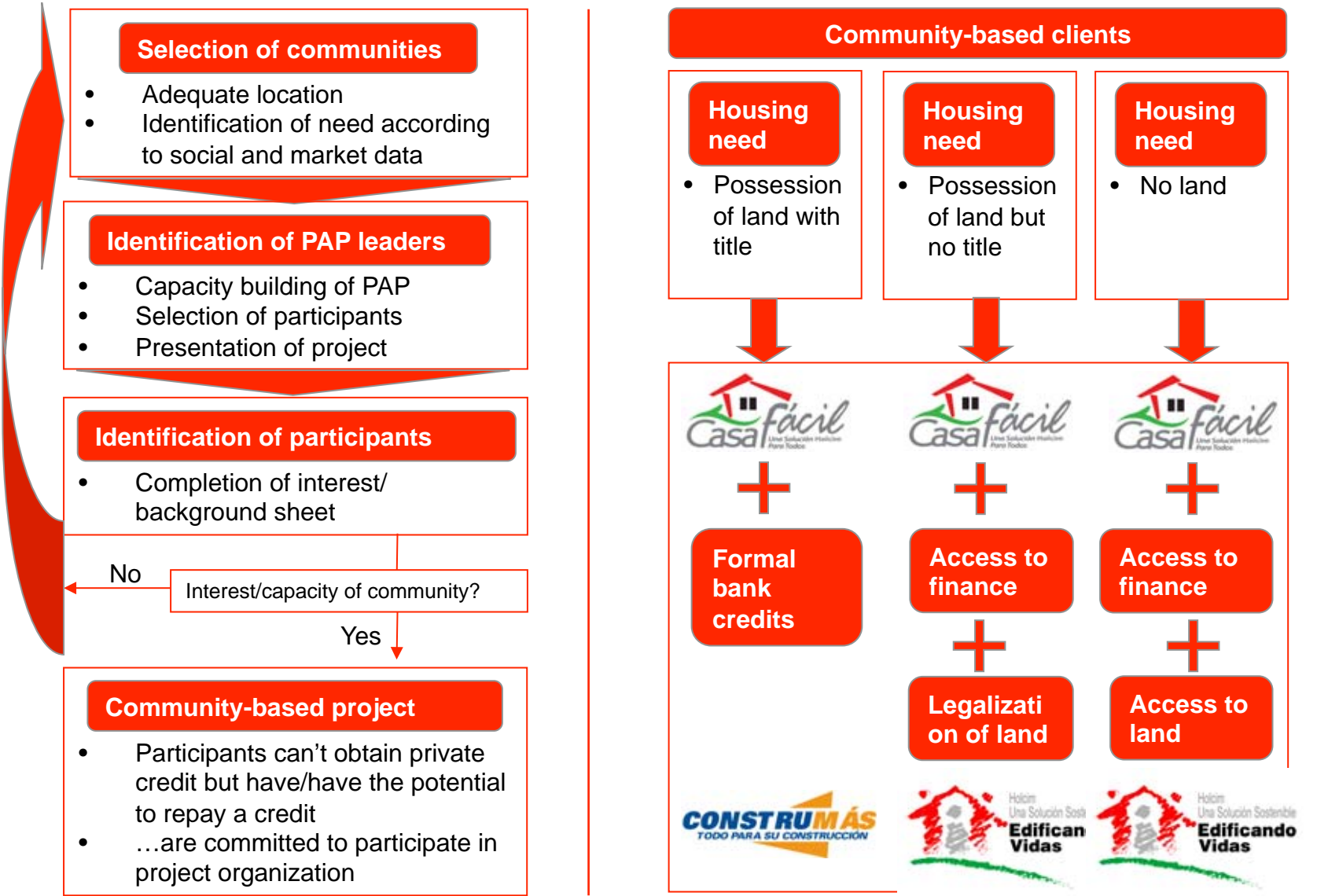
- Focus groups
- Selection of community leaders/ establishment of PAP
- First consultation on housing characteristics
- Analysis of results and performance brief
- Second consultations, validation of performance brief



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



Technical solution for Nicaragua



Basic data

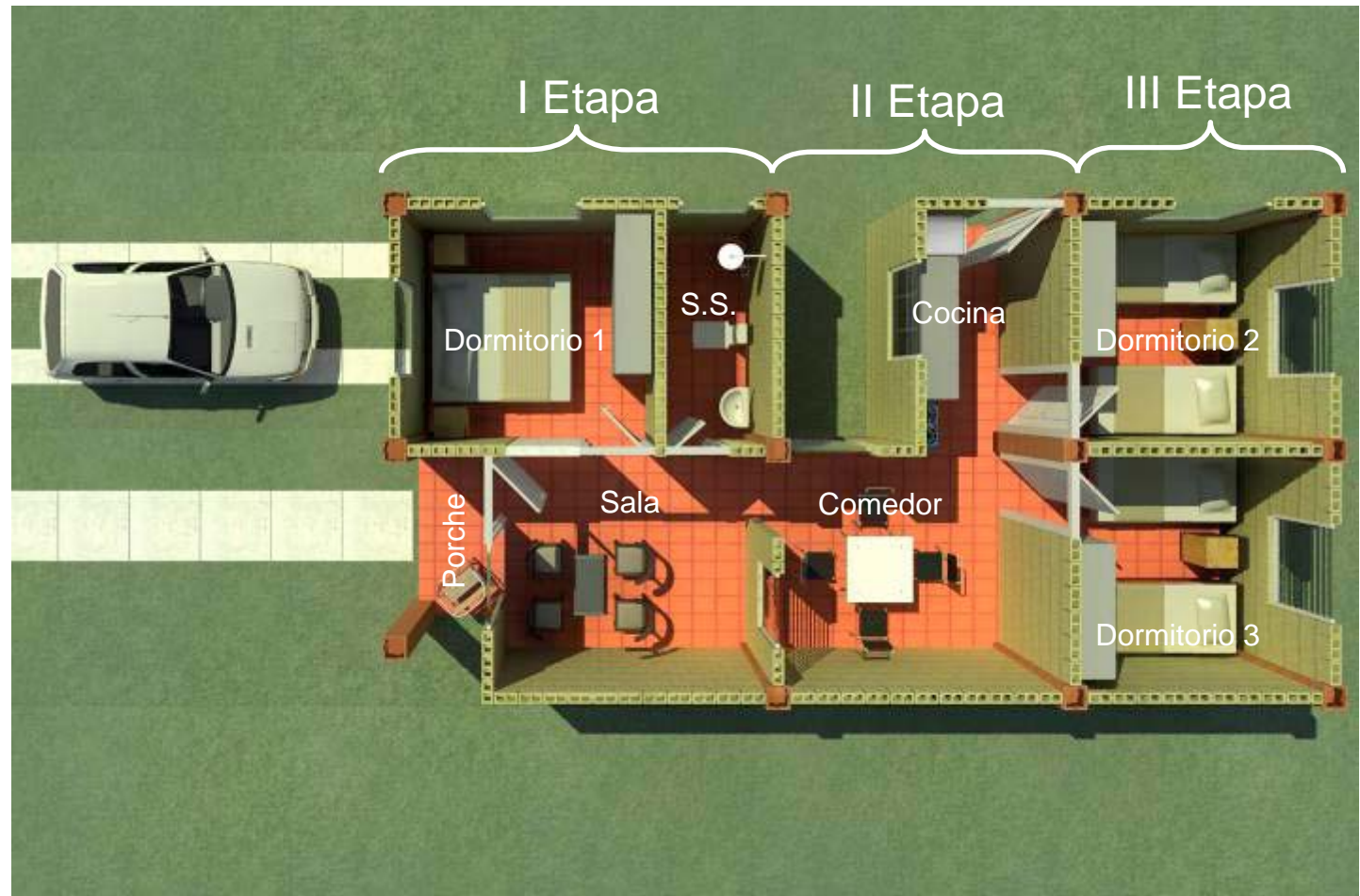
Area:

| | |
|------------|------------------------|
| I phase: | 28.73 mts ² |
| II phase: | 17.35 mts ² |
| III phase: | 19.34 mts ² |
| Total: | 65.42 mts ² |

Estimated budget:

| | |
|------------|--------------------|
| I phase: | \$4,596.80 |
| II phase: | \$2,776.00 |
| III phase: | \$3,094.40 |
| Total: | \$10,467.20 |

Est. price. / m²: \$160.00



I phase: financed through credit and subsidy

II / III phase: financed through savings

