



Affordable Housing

November 2014

Affordable Housing

A business and social opportunity

- **Our definition “*Housing for people who do not have access by usual financial ways to decent housing*”**
 - Emerging countries: 4 billion people (“Base of the pyramid”)
 - Developed countries: 150 million people without decent house conditions
- **Our objective: build new markets for Lafarge and improve housing conditions**
 - Part of our 2015 Innovation & Transformation Programme
 - Part of our Sustainability ambitions: improving housing conditions for 2 million people by 2020
- **A dedicated team in Paris and local projects embedded within the marketing teams of Lafarge subsidiaries**

**A unique business initiative across the industry
which improved the housing conditions of 120,000 people in 2013**

Our 4 types of business initiatives



MICROFINANCE

- *Customer issue:* Individual home builder's access to finance
- *Our solution, based on our cement bags retailers network:* Providing access to **credits & technical assistance** (catalogues of house designs and bill of quantities,)



EARTH&CEMENT

- *Customer issue:* looking for durable solution without concrete
- *Our solution:* Mix of cement and soil to produce **non burnt clay bricks**, keeping aesthetic and thermal inertia of earth construction



SLUM REHABILITATION

- *Customer issue:* looking for good waterproof solution
- *Our solution:* **Bagged concrete** supplied to small customers in informal settlements



MASS AFFORDABLE HOUSING

- *Customer issue:* quality & speed of large scale projects
- *Our solution:* Lafarge works with developers to improve **quality & speed** of construction.



18 countries with Affordable Housing projects



Affordable Housing

Microfinance offer - Zambia



Affordable Housing Microfinance

A Housing Solution for Individual Home builders

TECHNICAL ASSISTANCE

Site visits



Building Plans



Costs estimates
(Bills of Quantities)

REKAPITULASI		
PEKERJAAN : PEMBANGUNAN TYPE 32 RSH + PERBAIKAN ATAP		
LAFARGE		
NO	URAIAN PEKERJAAN	JUMLAH HARGA
A	PEKERJAAN PERSIAPAN	197.000,00
B	PEMBANGUNAN TYPE 32 RSH	
I	PEKERJAAN TANAH	1.335.675,24
II	PEKERJAAN FONDASI	4.541.845,70
III	PEKERJAAN BETON	2.960.794,91
IV	PEKERJAAN DINDING	8.771.185,42
V	PEKERJAAN LANTAI - DAPUR DAN SITAP	4.215.876,40
VI	PEKERJAAN KAYU	5.522.828,80
VII	PEKERJAAN PERLEKUP LANTAI DAN DINDING	3.895.187,75
VIII	PEKERJAAN PLUNC DAN PENGANTUNG	6.895.250,00
IX	PEKERJAAN PENDECATAN	3.427.570,83
X	PEKERJAAN SANITASI & PLUMBING	1.822.600,00
XI	PEKERJAAN INSTALASI LISTRIK	1.105.200,00
	Jumlah Total Rp	51.691.778,45
	Di Bulatkan Rp	51.691.000,00

Teknikang | Lima Puluh Satu Juta Tujuh Puluh Satu Ribu Empat

ACCESS TO FINANCING

- Home improvements Loans
- Bit by bit Home Construction loans

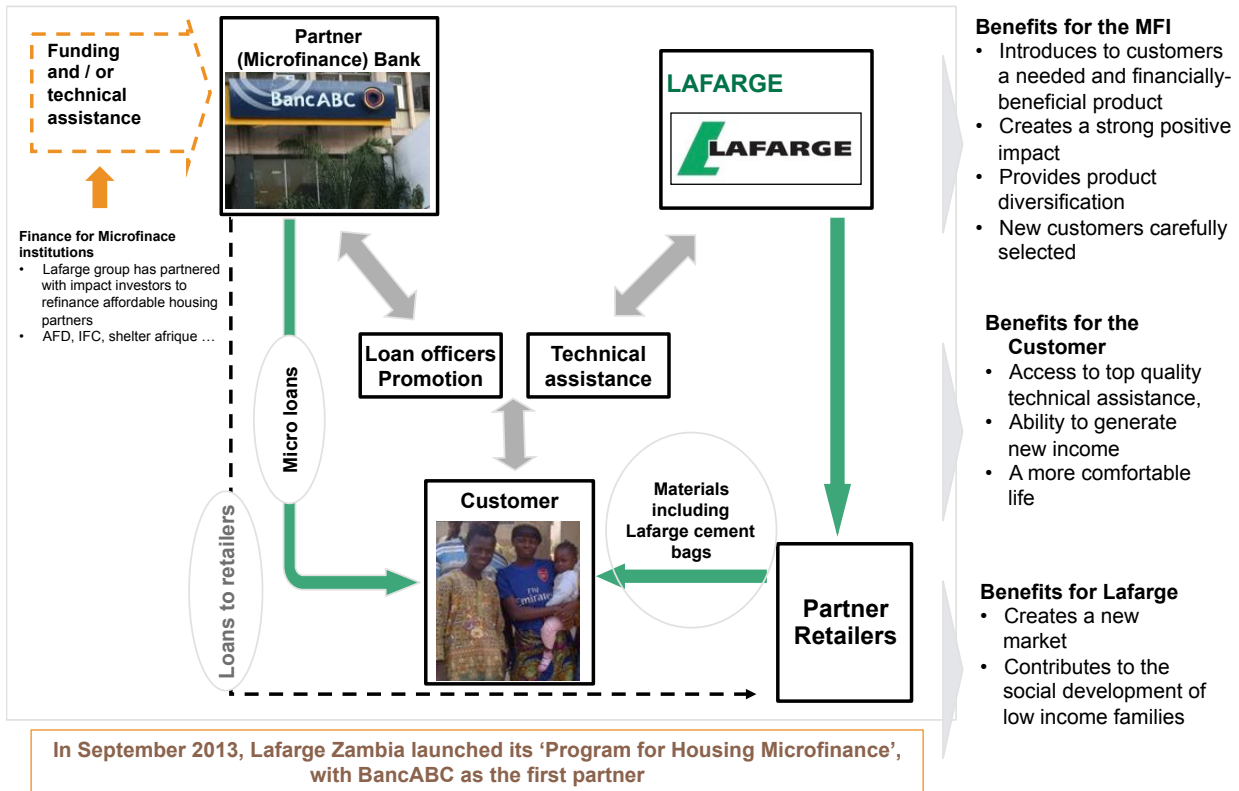
ACCESS TO RETAILERS

- Availability of products
- Controlled Prices



Our approach of Housing Microfinance

Creating projects in partnership with MFIs and building material retailers



Affordable Housing Microfinance

Achievements – Lafarge Zambia

	Achievements
Project Launch	September 2013
Number of Micro Credits to date	819
Financial Partners	<ul style="list-style-type: none"> •BancABC •Madison Finance •ZNBS

Our first client

Client Profile

- Name: Kelvin Kanyumbu
- Married with 2 children
- Borrowed for completion of House and building of a small shop
- Kelvin is a security officer and wife is a trader



Mass Affordable Housing

Alternative Building Technology



9

Mass Affordable Housing

Lafarge Approach

Addressing the needs for Social Housing in developing countries

Situation

- **Government & developers are looking for new construction solutions to:**
 - Build faster Social Housing projects
 - Improve the quality & perception of such projects (aesthetic, durability)

Lafarge approach

- **Identification & test of construction systems to optimize cost, speed, quality and durability**
 - Research Center in France & Construction Development Labs
- **Facilitate implementation of such projects**
 - Lafarge Construction Specialists in countries



10

Mass Affordable Housing Lafarge Zambia - Alternative Building Technology

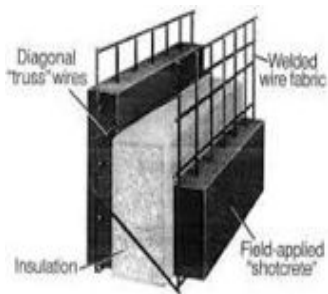
Show house

- A show house is being built at Lafarge Head office
- Stakeholders to be invited to come and appreciate the technology



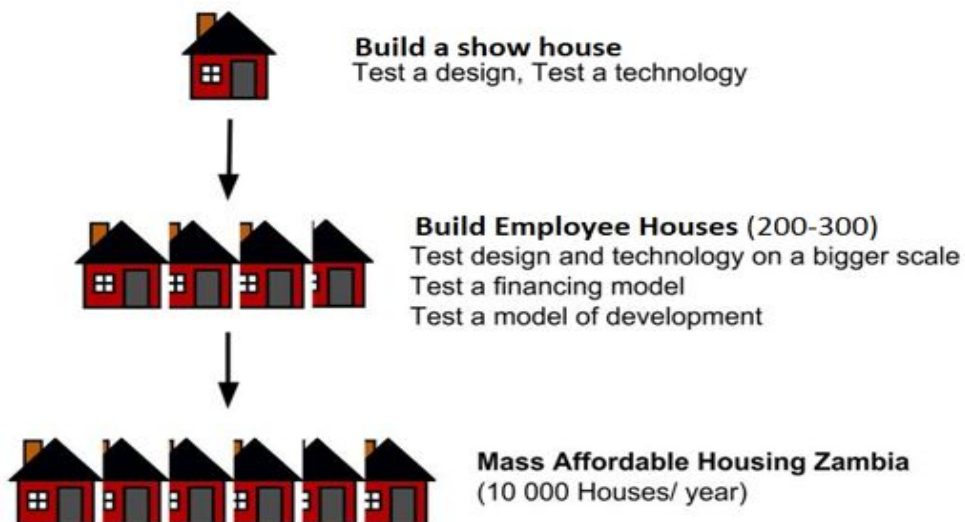
Building Technology

- Structural Concrete Insulated Panels
- 3D TridiPanels



Mass Affordable Housing Lafarge Zambia – Roll out model

- Find an adequate technology to make houses affordable
- Build Employee houses as proof of concept
- Roll out to the rest of the country



Earth and Cement

Earth and Cement

A construction opportunity for developing countries

A Need for new solutions

- 2 billion people live in earth-based homes
- Individual houses are mainly built of mud brick or burnt clay brick
- Environmental issues :
 - Increasing deforestation due partially to the use of wood for burning clay bricks
 - Low resistance to monsoons, requesting owners to rebuild houses every year
- Urgency of finding constructive solutions in Africa, Asia and LATAM, providing
 - durability
 - comfort
 - at a reasonable price



Earth and Cement

A construction opportunity for developing countries

Our offer: A cement for soil Stabilized Bricks

Stabilized soil bricks: earth, sand and cement mix

- **Advantages**

- Use of local materials (earth – sand)
- On-site and easy fabrication
- Standardized form
- Durability of the product against shock, rain and insects.



- Pilot started in Malawi in 2013, now being replicated in 8 countries
- **Lafarge Zambia** is carrying out surveys to establish market for the product in DRC and Zambia

