



Addressing Urban Poverty in sub-Saharan Africa: An Overview of the Millennium Cities Initiative

Accra, Ghana

July 2011

Millennium Cities Initiative

EARTH INSTITUTE | COLUMBIA UNIVERSITY

The Millennium Cities Initiative (MCI)



A project of The Earth Institute at Columbia University, Millennium Cities Initiative was founded in 2006 by world-renowned development economist Jeffrey D. Sachs as the urban complement to the Millennium Villages Project, which aims to eradicate extreme poverty in rural sub-Saharan Africa.

Millennium Cities Initiative

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MCI Works Together with Underserved Cities across sub-Saharan Africa

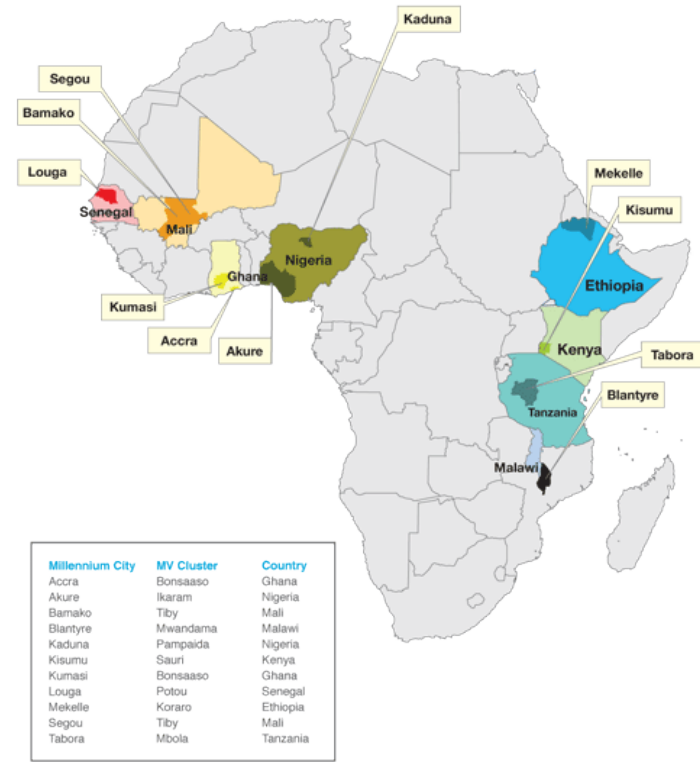
Country

- Ethiopia
- Ghana
- Ghana
- Kenya
- Malawi
- Mali
- Mali
- Nigeria
- Nigeria
- Senegal
- Tanzania
- *Mali*
- *Rwanda*
- *Uganda*

Millennium Cities

- Mekelle
- Accra
- Kumasi
- Kisumu
- Blantyre
- Bamako
- Segou
- Akure
- Kaduna
- Louga
- Tabora
- *Timbuktu**
- *Kigali**
- *Mbarara**

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**Future Cities*

MCI Works in Two Arenas



Social Sector



**Investment/Business
Development**

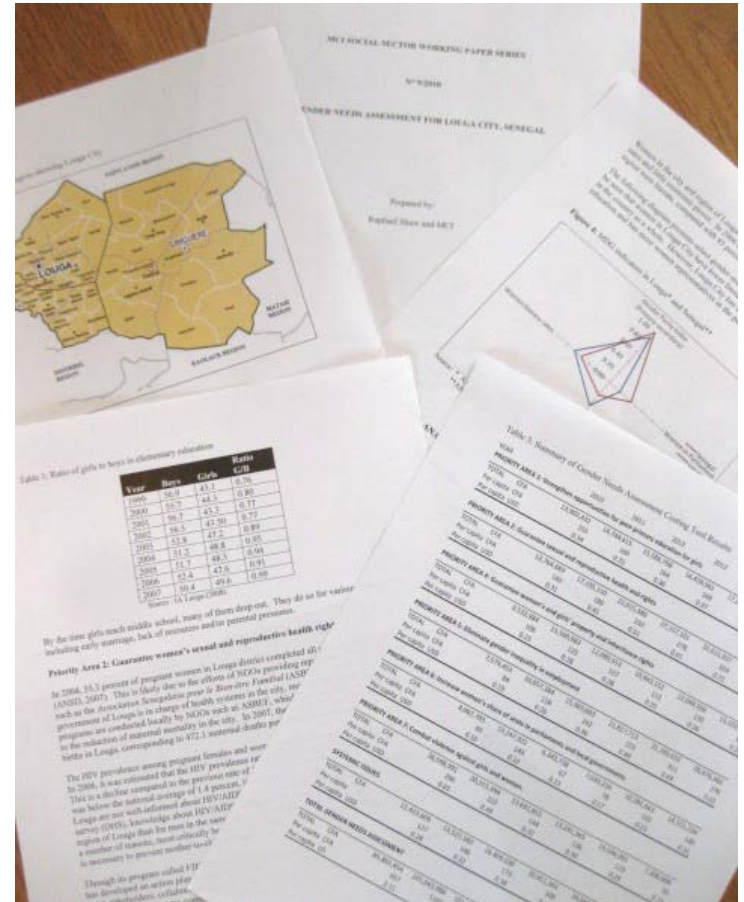
Investment Sector: Research and Analysis

- Research and analysis of investment opportunities and constraints, with emphasis on farm-to-market
- Targeting of potential investors
- Focus on investment promotion and capacity-building



Social Sector: Research and Analysis

MCI conducts needs assessments and costing analyses in public health, gender, education and water/sanitation and other follow-on research, to help the cities determine how far they still need to go to attain the MDGs



MCI Builds Comprehensive Development Strategies for the Cities

- Consultative stakeholder meetings to determine and rank top development priorities
- Working closely with municipal government to design a fitting city development strategy and advocate for its implementation
- Seeking partners to fill gaps in attaining the MDGs through interventions and investment



MCI Interventions to Improve Access to Education

- School2School partnership programs (IT, Girls' Clubs, literacy, STEM subjects, joint research)
- Early childhood education program and training
- Teacher trainings in literacy, science, math, technology and higher education
- Advocating for programs to help raise the quality of primary school instruction/completion rates



MCI Interventions to Improve Public Health

- Trainings for medical professionals in such areas as maternal and neonatal health; emergency medicine; infectious diseases; HIV/AIDS and nutrition; heart disease, lifestyle and diabetes; and accident and trauma care
- Baseline maternal and neonatal mortality surveys
- Neonatal survival study, two neonatal resuscitation units, a fully-equipped emergency room
- Surgical interventions and rotations
- Hospital inventory and supply chain management support
- Donations of medicines and equipment



MCI Interventions to Help Women and Girls

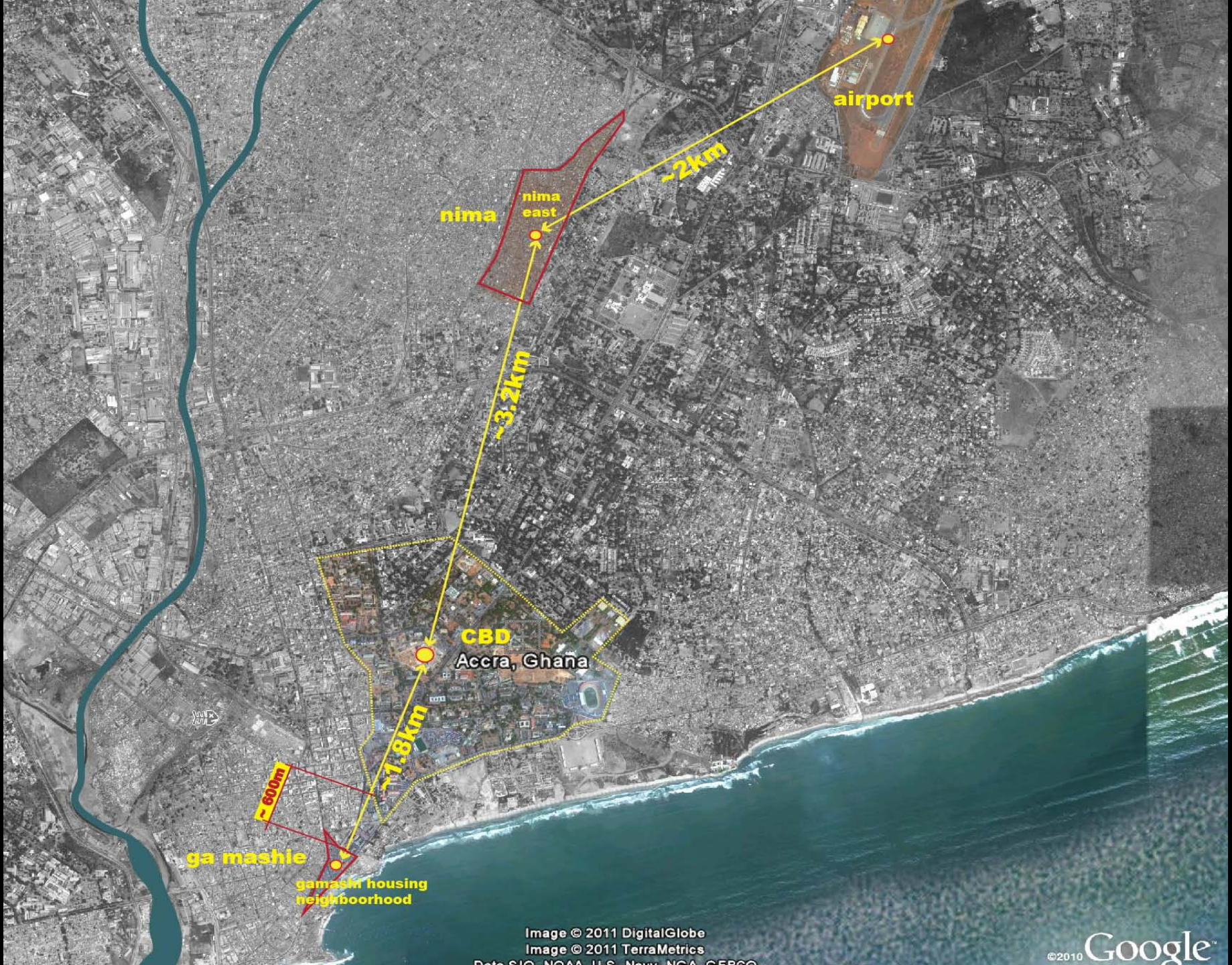
- Fistula repair and other medical missions
- Girls' Clubs
- Private latrines and feminine pads, to keep girls in school
- Medical and layperson trainings to improve maternal and child survival
- NGO partnerships to support job training, enterprise development and microfinance opportunities



MCI Interventions to Improve Water/Sanitation, Housing and Other Social Infrastructure

- Research regarding the quality of and context for public health, public service delivery and the environment
- Infrastructure improvements to deliver reliable access to safe drinking water, sound sanitation and cleaner, more efficient energy and transport systems
- Training and workshops on sanitation and hygiene
- Urban planning and urban design work in Accra, Ghana, to address some of the city's most pressing challenges





nima

nima east

airport

~2km

~3.2km

CBD
Accra, Ghana

~1.8km

~600m

ga mashie

gamashie housing
neighborhood

Image © 2011 DigitalGlobe

Image © 2011 TerraMetrics

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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Accra: Building the MDGs in 3 Dimensions

A multidisciplinary Earth Institute team addressing planning, infrastructure, environmental and public health challenges in Ghana's vibrant capital

- Using GIS mapping to enable regional planning, government-community communication & preparedness and adaptation for impacts of climate change
- Advising re. sustainable water and sanitation systems, including liquid waste management
- Envisioning sustainable development for several large underserved neighborhoods (“sub-metros”), in close consultation with local communities
- Focus on MDG-based interventions (incl. those pioneered by MCI in Kumasi)
- Working collaboratively with other development partners
- Developing workable, sustainable urban models for Africa
- Using knowledge to address similar challenges in other large sub-Saharan cities



Economical and Ecological Urban Development: An Implementable tool-kit for Accra

Urban Design Spring Studio 2011
GSAPP at Columbia University

 **MILLENNIUM CITIES INITIATIVE (MCI)**
THE EARTH INSTITUTE AT COLUMBIA UNIVERSITY

URBAN DESIGN LAB
THE EARTH INSTITUTE | COLUMBIA UNIVERSITY



M.O.D.

Market Oriented Development

Location: Ga Mashie

Issues Addressed:

- market upgrades
- local industry/commerce
- community services

Physical Interventions:

- London Market Renovation
- New Community Center
- Commercial Street Development
- Salaga Market Renovation
- New Fish Market and Processing Center

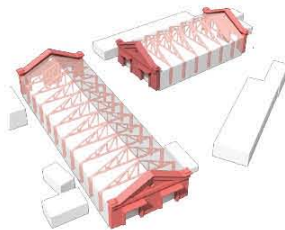
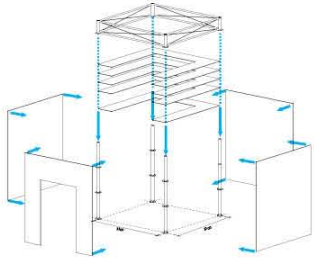
Key Concepts

- Building Renovation
 - modular system
 - preserve existing facade
- Additional Infrastructure
 - refrigeration
 - rain collection
 - solar power
 - public toilets
- Related Programs
 - computer center
 - job training
 - health center
 - daycare

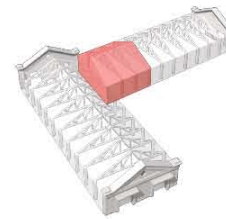
London Market Renovation



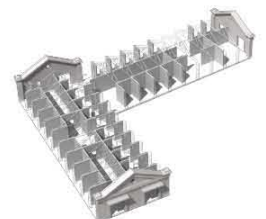
FLEXIBLE MODULAR SYSTEM



Facade Preservation



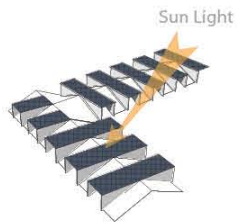
Circulation Connection



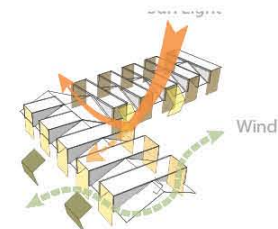
Spatial Organization



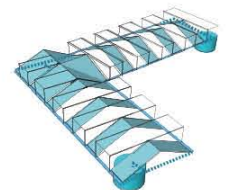
Sales Unit



Reusable Solar Energy

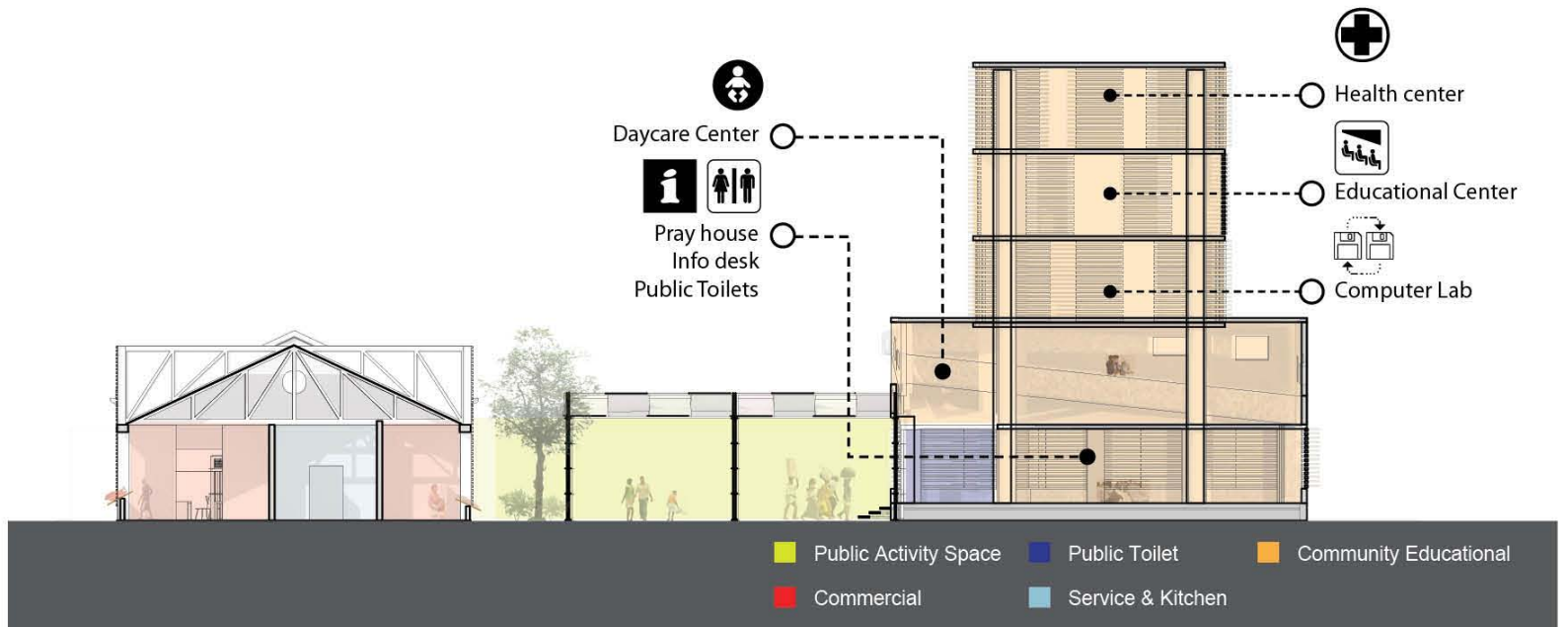
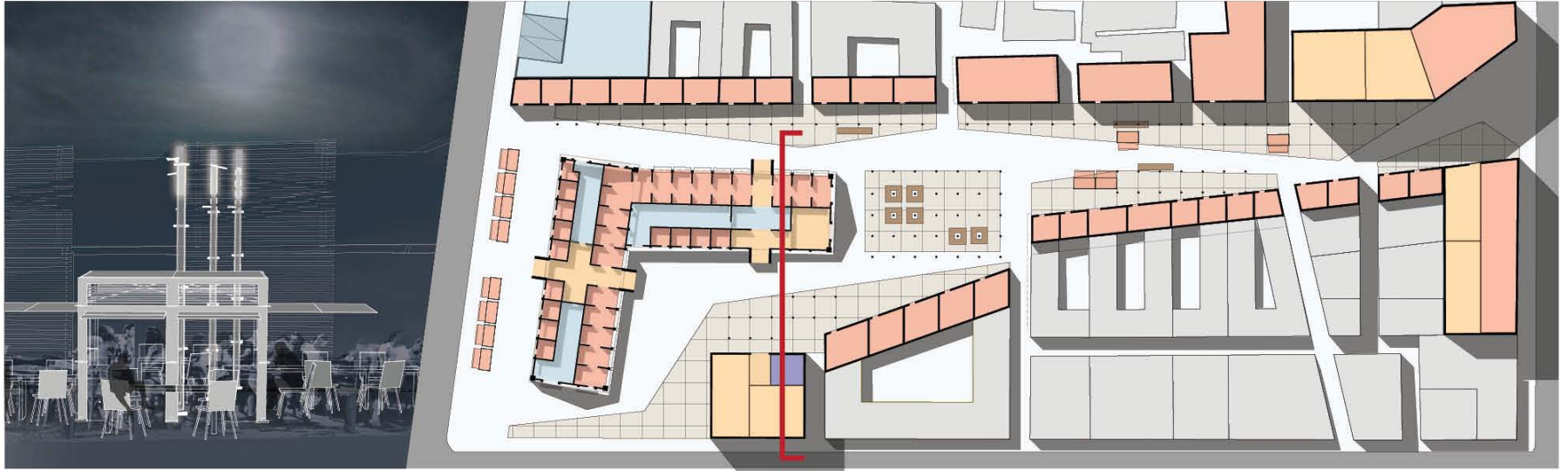


Operable Shade and Ventilation



Water Collection

Ga Mashie Community Center



Ga Mashie Commercial District

TRIGGER: CONCEPT
Existing Condition



Proposed



Porousness

Commercial Activity Insertion

Community Accessibility

Public Community Space

by 2015

London Market Reformation



by 2020

London Market and Salaga Market Connection



by 2025

Market Networking System Completion



- Touristic Attraction
- Rail
- Nodal Point
- Proposed Promenade
- Market
- Production/Distribution Center
- Proposed Landuse
- Promenade Slip

- LEGEND
- Proposed Hybrid Housing
 - Existing Housing
 - Revitalized market
 - Open Community Space
 - Heritage
 - Existing Plan
 - Railroad and Station
 - Alle path
 - Pedestrian Friendly Street
 - Pedestrian Only Street
 - Arcade Street



WE GROW

Participatory Development

Location: Ga Mashie

Issues Addressed:

- housing upgrades and overcrowding
- lack of water supply
- lack of proper sanitation facilities
- income generation

Physical Interventions:

- Compound Housing Reconstruction
- Neighborhood Service Cluster

Key Concepts

- Building Structure
 - natural ventilation
 - locally made sandcrete structure
 - communal and private space
 - preserve family shrine
- Additional Infrastructure
 - public composting toilets
 - public water tanks
 - public waste collection and sorting
 - shared production space
- Related Programs
 - microfinancing
 - shared community savings

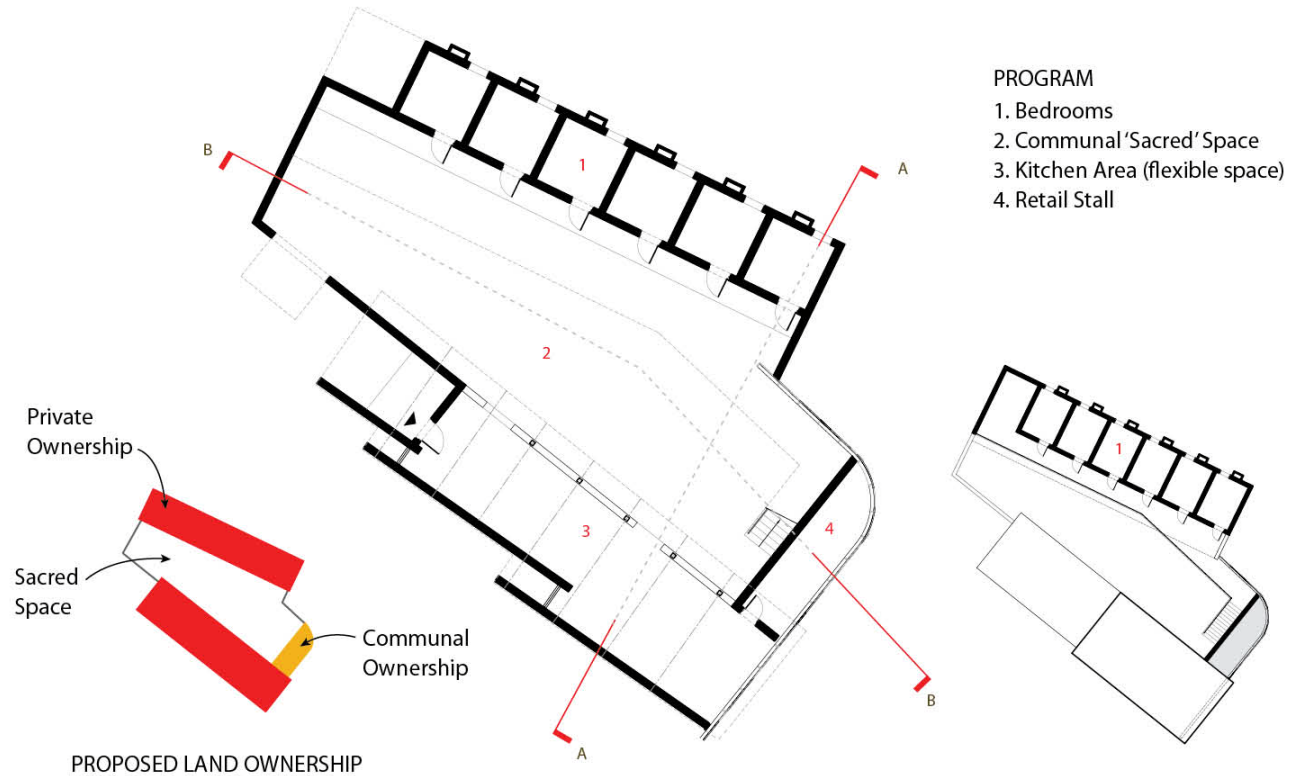
Ga Mashie Housing Reconstruction

EXISTING COMPOUND
 rooms: 2,307 sqft.
 center space: 1,651 sqft.

 3,958 sqft.

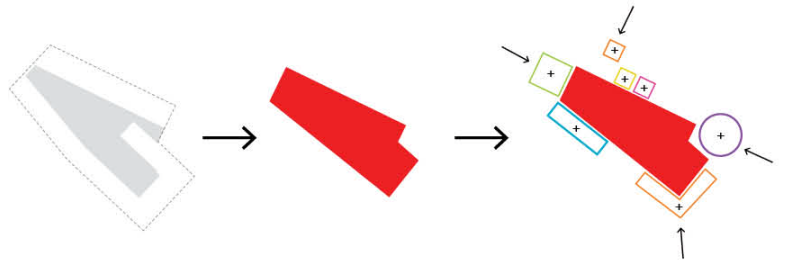
PROPOSED COMPOUND
 bedrooms:
 10'x10' 2,307 sqft.
 13.5'x10' 1,651 sqft.
 center space: 2,383 sqft. (+ 732 sqft.)
 market stall: 176 sqft.
 flexible space 830 sqft.

 4,800 sqft.
 (842 sqft.)



- PROGRAM
1. Bedrooms
 2. Communal 'Sacred' Space
 3. Kitchen Area (flexible space)
 4. Retail Stall

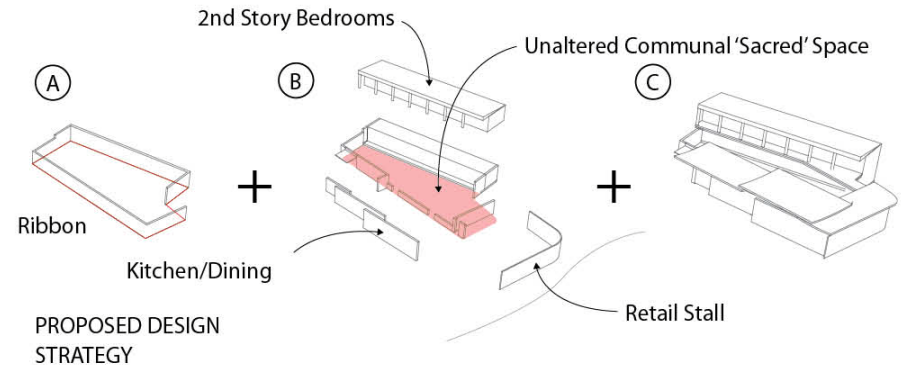
PROPOSED LAND OWNERSHIP



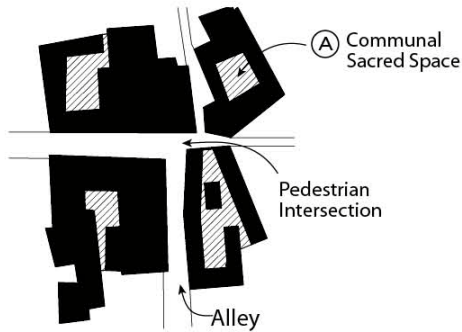
EXISTING COMMUNAL
 'SACRED' SPACE
 1,661 sqft.

PROPOSED COMMUNAL
 'SACRED' SPACE
 2,390 sqft. (+733 sqft.)

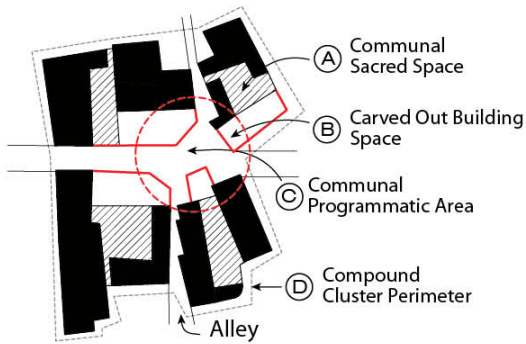
PROPOSED ADDITIONAL
 PROGRAM
 (842 sqft.)



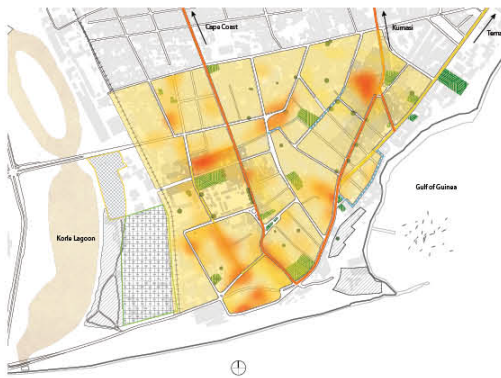
PROPOSED DESIGN
 STRATEGY



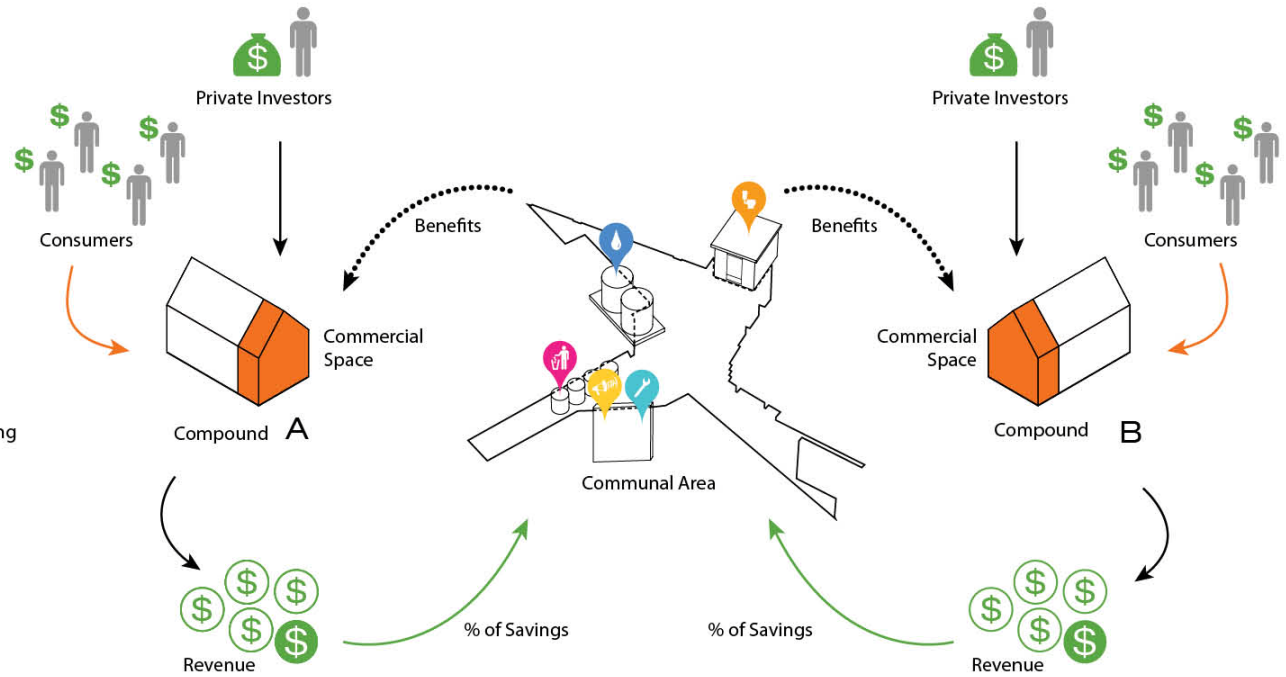
EXISTING CLUSTER AREA



PROPOSED CLUSTER AREA



GA MASHIE_Development Hot Spots



Potable Water Storage
Water is stored below ground and in poly-tanks

Training/Cultural Wall
Recording device will be used to play training instructions for amenities, jobs and Ga history

Compost Toilet
Fertilizer from toilets can be sold in markets and for local greenery

Training Area
Training for water collection, storage and distribution

Garbage Disposal
Additional bins for increased collection and sorting

Private Toilets
Acquired from shared savings and/or individual revenue from vendor stalls

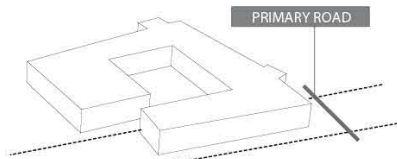
Production Area
Communal production area

Compost Toilets
Cluster shared compost toilet

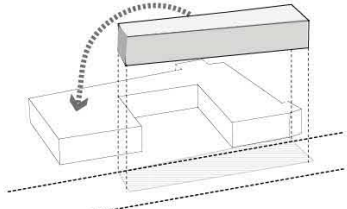
Training Area
Training in garbage collection and recycling, compost and environmental education

Strategy to Insure no Displacement

PHASE 1

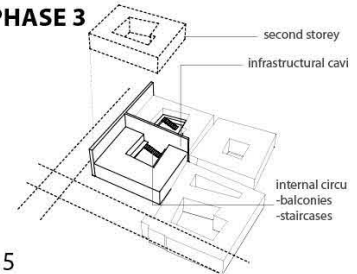


1 building unit along planned primary roads

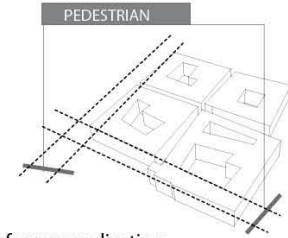


2 relocating onto left over part of building unit

PHASE 3

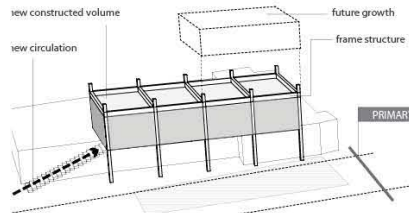


5 increasing family housing unit

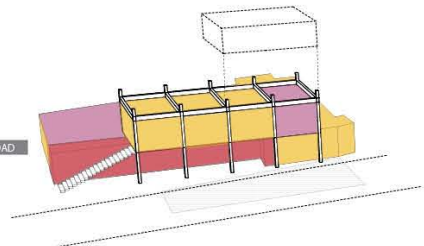


unit for reparcelization

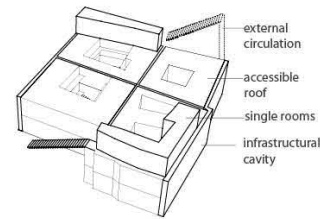
PHASE 2



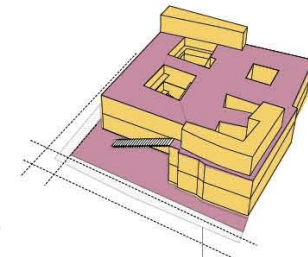
3 structural and circulation rearrangement



4 reprogramming of building unit



6 increasing single housing unit



7 programming of housing unit



MCI Thrives on Its Family of Partnerships

National Governments

Ethiopia, Ghana, Kenya, Malawi, Mali, Nigeria, Senegal, Tanzania

Regional Governments

Tigray Region, Ethiopia; Segou and Bamako Districts, Mali; Kaduna and Akure States, Nigeria; Commune of Louga, Senegal

Municipal Governments

Mekelle, Ethiopia; Kumasi, Ghana; Kisumu, Kenya; Blantyre, Malawi; Bamako, Mali; Segou, Mali; Akure, Nigeria; Kaduna, Nigeria; Louga, Senegal

United Nations

UNDP; UNDP MDG Support Team to the Poverty Unit; UN Environment Programme, Agenda 21; UN-HABITAT; UNICEF; UNIDO

Columbia University

Columbia University Medical Center: Depts of Anesthesiology, Disease Pathology and Surgery; The Earth Clinic; Graduate School of Architecture, Preservation & Planning; Mailman School of Public Health; Millennium Villages Project; School of International and Public Affairs; School of Engineering and Applied Sciences; Teachers College; Urban Design Lab; Vale Columbia Center on International Investment.

Key Partners

The American Academy of Pediatrics; The American College of Surgeons; The African Community Development Foundation (London, UK); Africaverein; Alston Bird LLP; AmeriCares; Baltimore Community Foundation; Ben Gurion University (Israel); Ms. Nancy Best; Boulder, Colorado, Sister Cities Project (partner to Kisumu, Kenya); Charles and Elizabeth Bowlus; Carter, Ledyard & Milburn LLP; Center for National Health Development in Ethiopia (Addis Ababa, Ethiopia); Cities Alliance; Cordaid (Dutch NGO); Cravath, Swain & Moore LLP; CyberSmart!; DLA Piper ; Doc to Dock; Mr. Douglas Durst; The Economist Intelligence Unit; Government of Finland; The Bill and Melinda Gates Foundation; Government of France, Agence Francaise de Développement; Government of Germany, German Technical Cooperation (GTZ); Government of Israel, Office of International Cooperation (MASHAV), Ministry of Foreign Affairs ; Government of the Netherlands, SNV Netherlands Development Organization; Himalayan Cataract Project; Ingenieurs du Monde; Ms. Ann Kaplan; Kinkaid School (Houston, TX); KPMG; The Lemmon Foundation; Los Gatos High School (Los Gatos, California); MDG Centre, East and Southern Africa (Nairobi, Kenya); MDG Centre, West and Central Africa (Bamako, Mali); Millennium Promise (New York); Millennium Promise Japan (Tokyo); Mount Carmel Training Center (Haifa, Israel); New York City Lab Middle and High Schools; One World Youth Project; Physicians for Peace; The Sackler Institute (Tel Aviv, Israel); Save the Children Ghana; Sidwell Friends School (Washington, DC); Stevens Institute of Technology; Surgeons OverSeas; Tides Foundation; Wilmer Cutler Pickering Hale and Dorr LLP; Gregory and Jacquelyn Zehner.

Achieving the MDGs



To learn more about MCI,
visit our website:
www.mci.ei.columbia.edu

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Thank you!