

Urban Design Lab

A Joint Laboratory of the Earth Institute and the Graduate School
of Architecture, Planning and Preservation

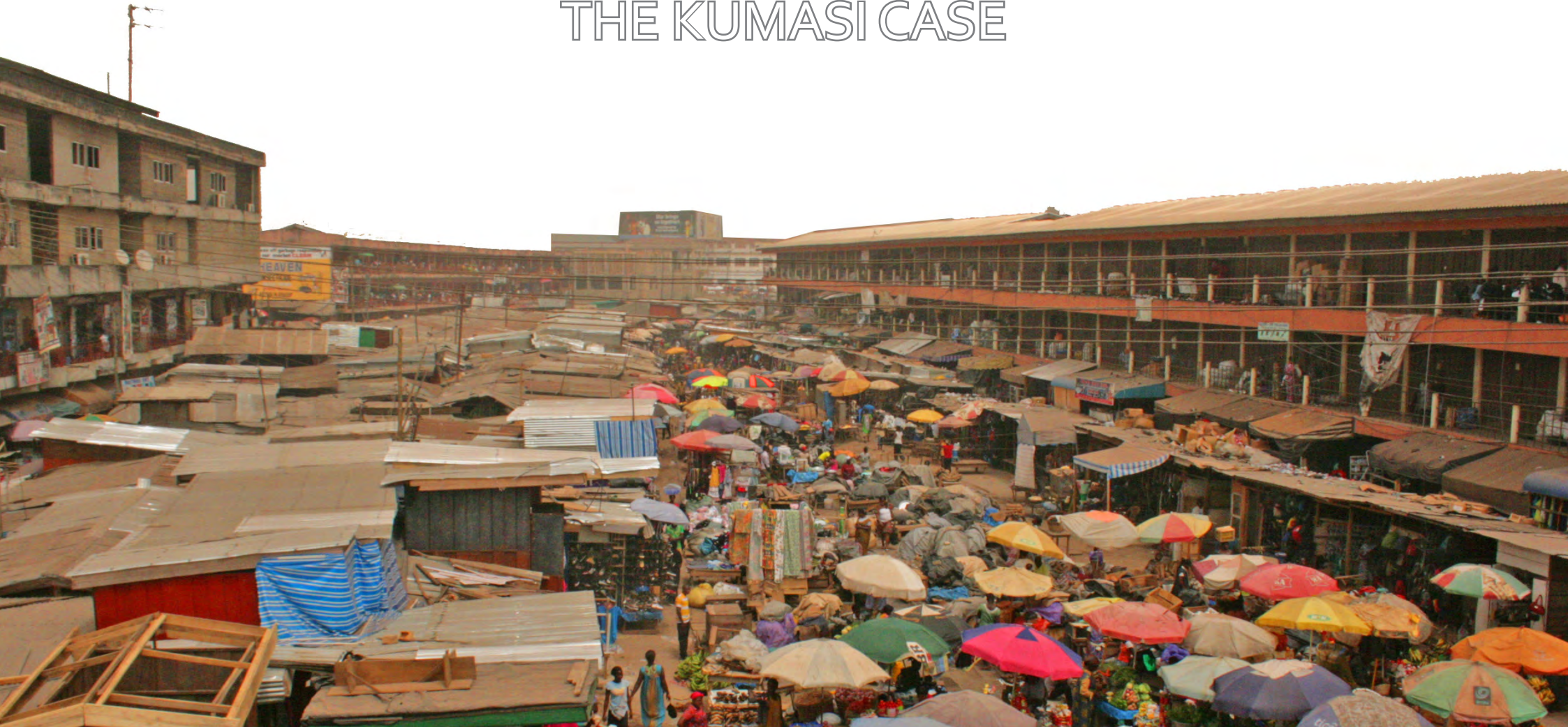
GSAPP

Columbia University Graduate School of Architecture, Planning and Preservation

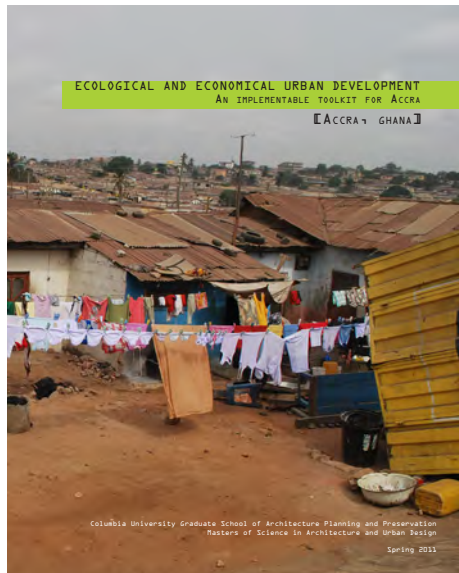
Millennium Cities Initiative

EARTH INSTITUTE | COLUMBIA UNIVERSITY

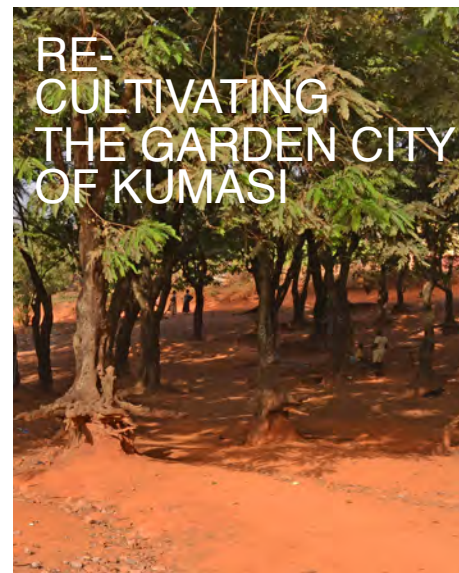
NEXT GENERATION URBAN INFRASTRUCTURE: THE KUMASI CASE



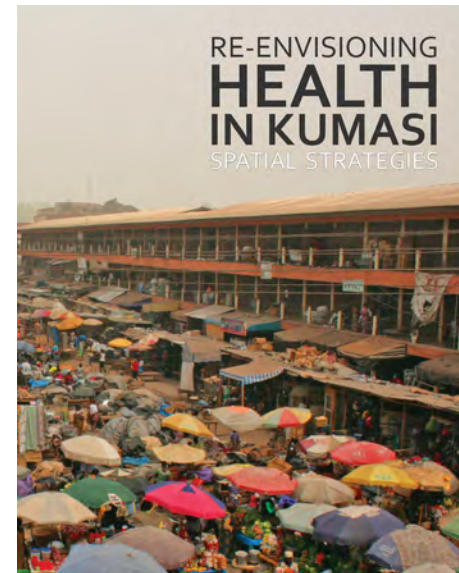
PUBLICACIONES Y PARTICIPACION EN GHANA (UDL) 2011-2013



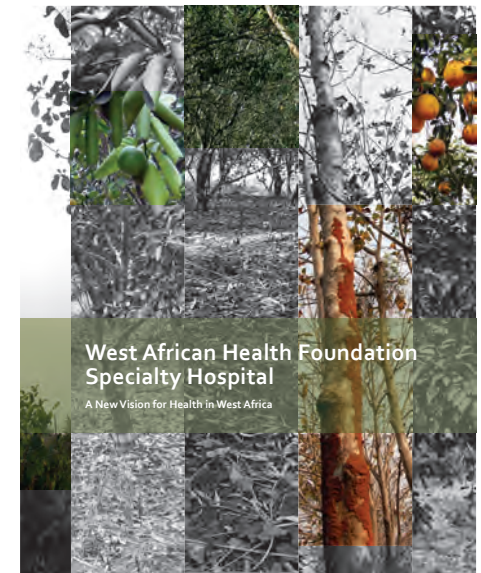
2011



2012



2013



2013



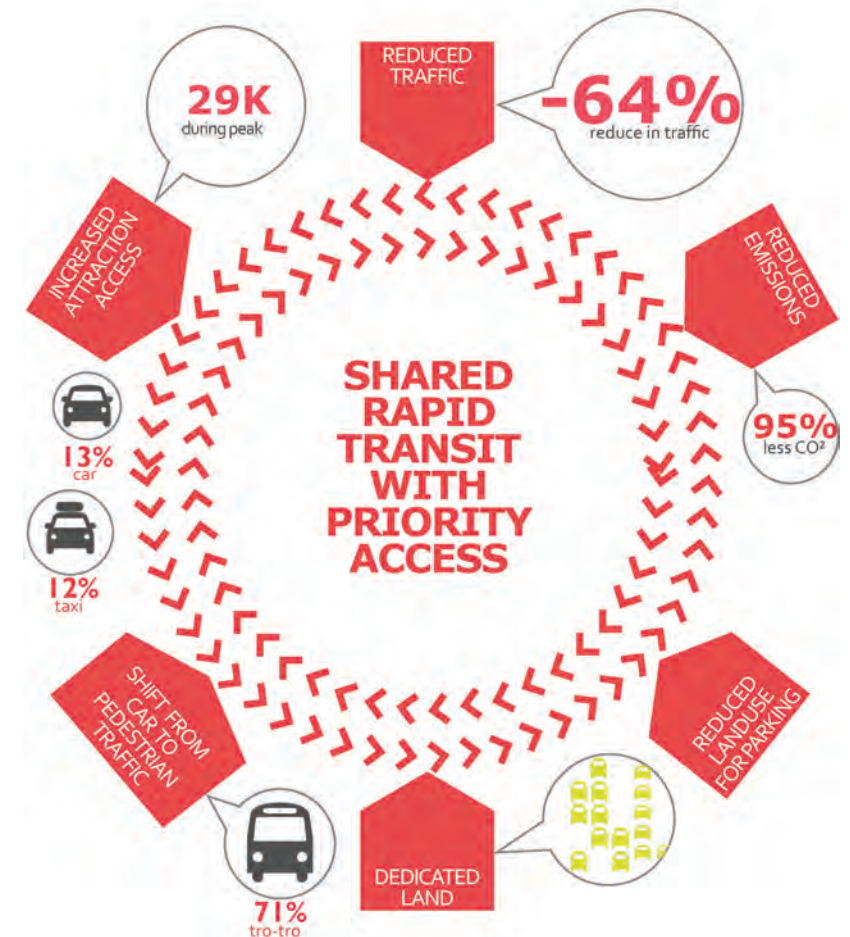
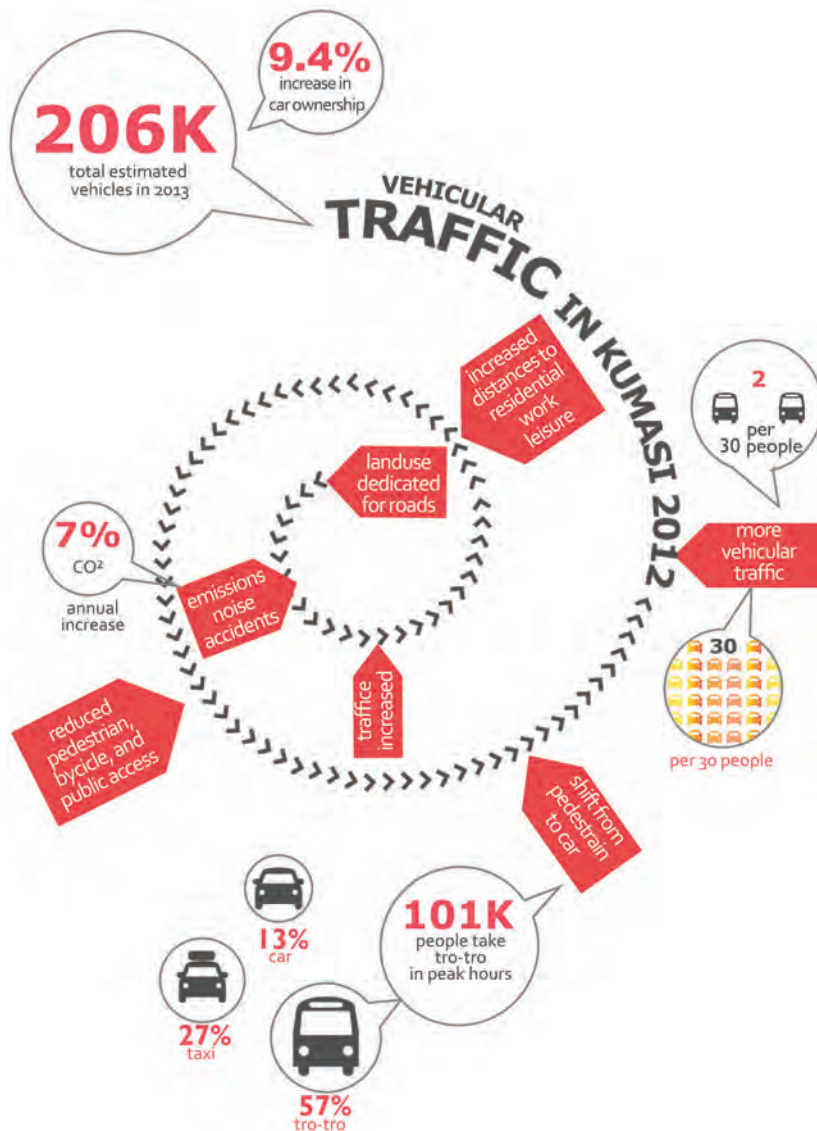
STUDIO PROJECT

METRO-TRO

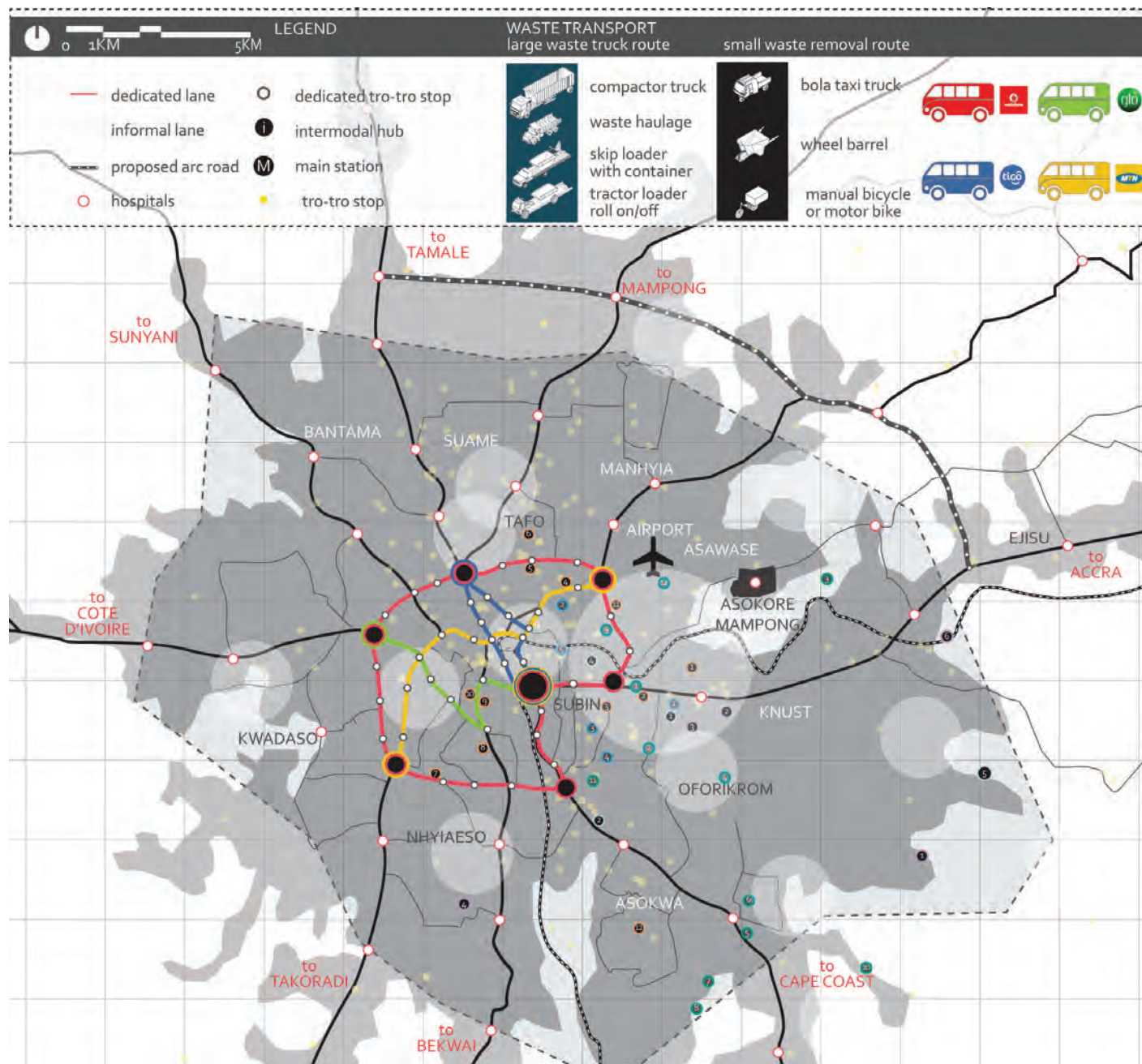
Eiman Al Sakha, Kevin Le, Andrew Leung and Noor Makkiya

TRO-TRO
RAPID
TRANSIT
FOR CONTEMPORARY
KUMASI

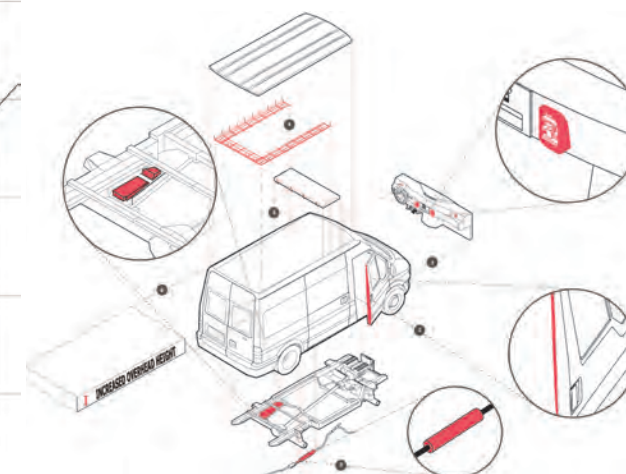
EL FUTURO SISTEMA DE TRO-TRO



MAPA METROPOLITANO DE KUMASI



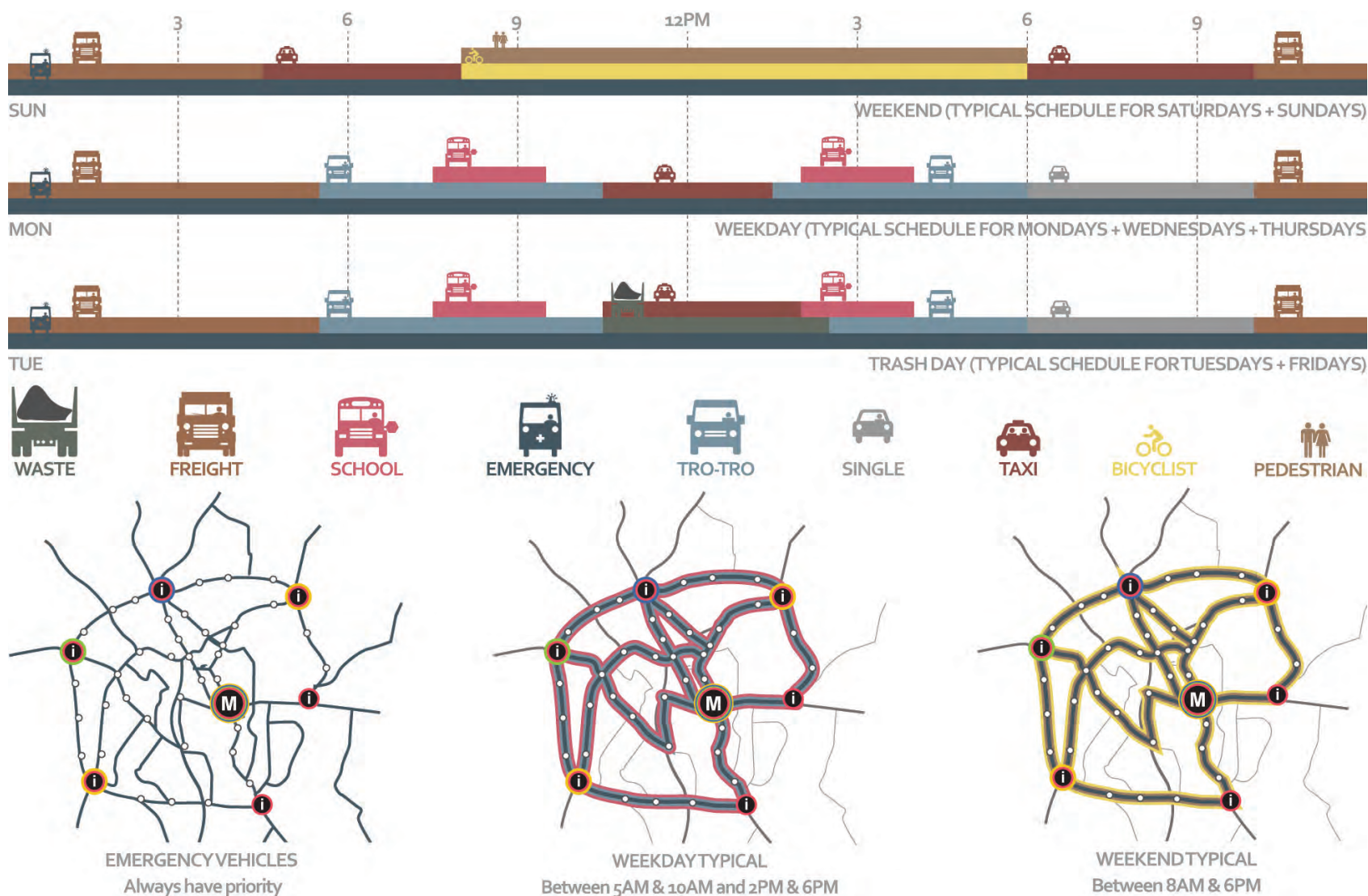
- 1 front air conditioner
- 2 padded safe interiors
- 3 catalytic converter
- 4 overhead expansion
- 5 rear air conditioner
- 6 overhead racks
- 7 liquified petroleum gas tank



PIE DE FOTO

Título Dibujo, Eiman Al Sakha, Kevin Le, Andrew Leung and Noor Makkiya, Urban Design Lab, 2013.

HORARIO SEMANAL DEL TRO-TRO



ESTACIÓN DE TRO-TRO EN SUBIN, KUMASI

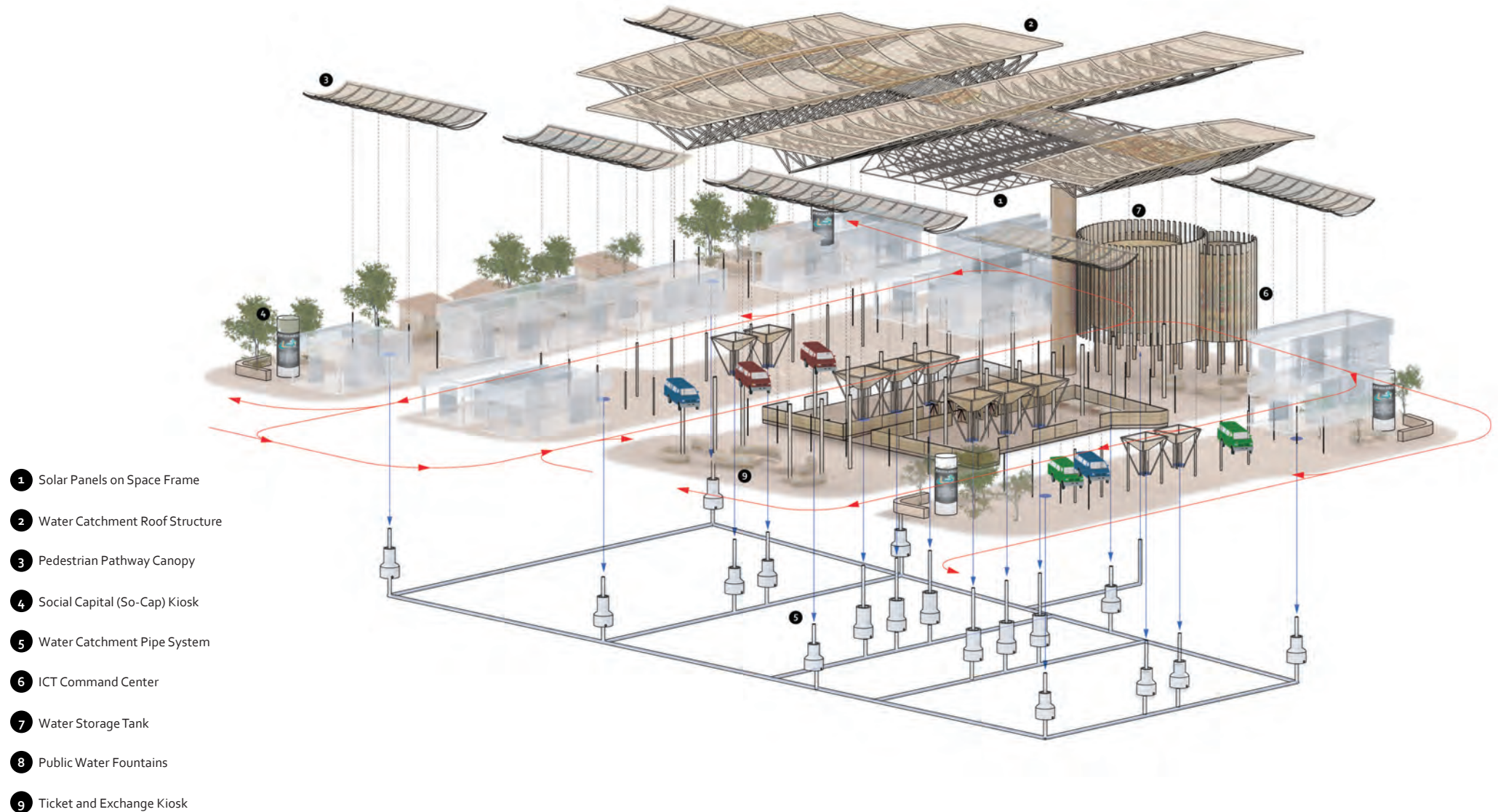
A
METRO-TRO



PIE DE FOTO

Título Dibujo, Eiman Al Sakha, Kevin Le, Andrew Leung and Noor Makkiya, Urban Design Lab, 2013.

PROGRAMA DE AREA E INFRAESTRUCTURA DE LA ESTACIÓN



PIE DE FOTO

Título Dibujo, Eiman Al Sakha, Kevin Le, Andrew Leung and Noor Makkiya, Urban Design Lab, 2013.

ESTACIÓN DE TRO-TRO EN SUBIN, KUMASI

A
METRO-TRO



PIE DE FOTO
Título Dibujo, Eiman Al Sakha, Kevin Le, Andrew Leung and Noor Makkiya, Urban Design Lab, 2013.

D

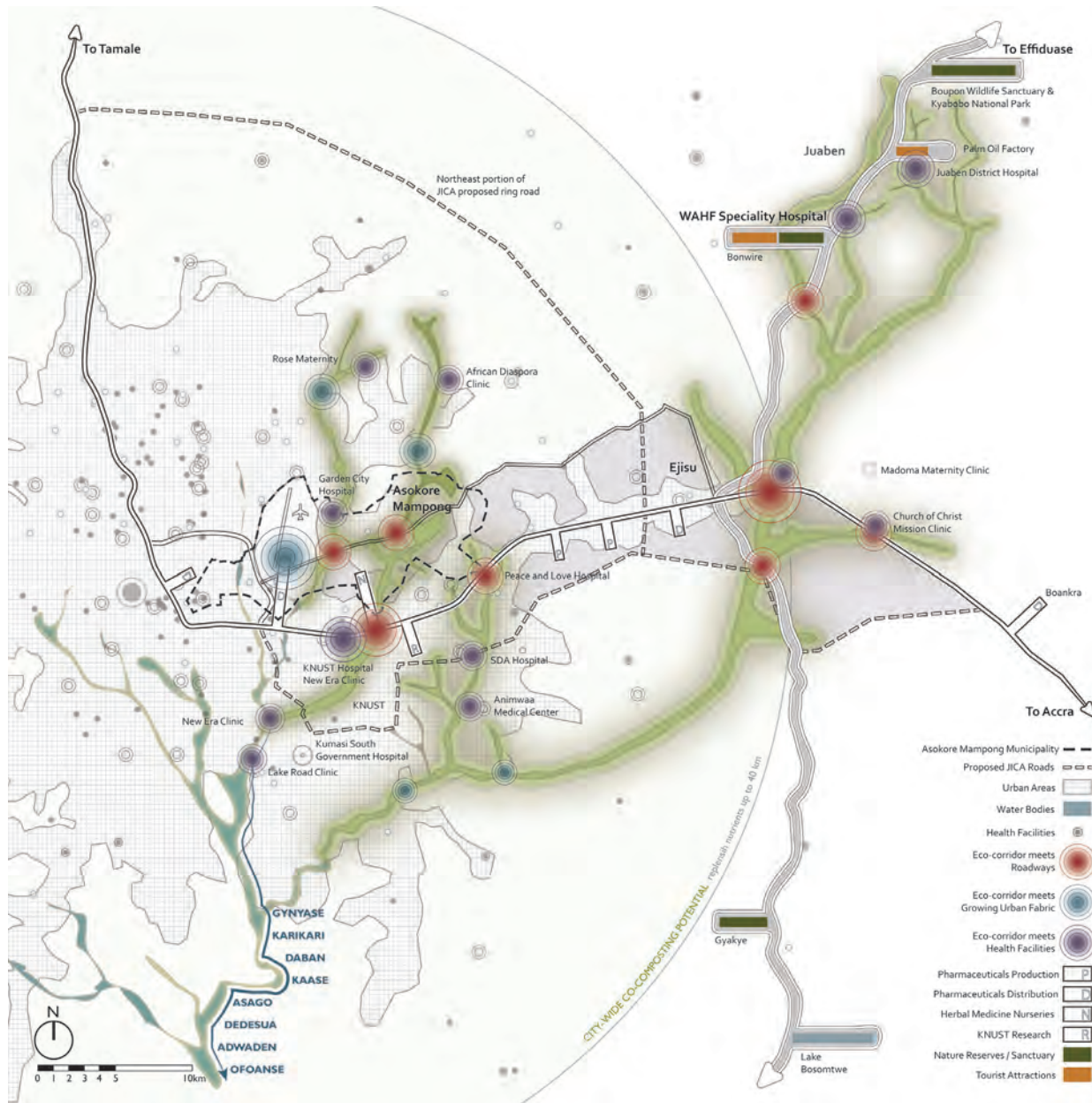
STUDIO PROJECT

GROWING CANOPIES

Scott Archer, Samarth Das, Vanessa Espaillat and Sagi Golan

**HOLISTIC
HEALTH
AND PRODUCTIVE
ECOLOGICAL
CORRIDORS**
AS DEMONSTRATED IN THE SITES OF
**JUABEN &
ASOKORE MAMPONG**

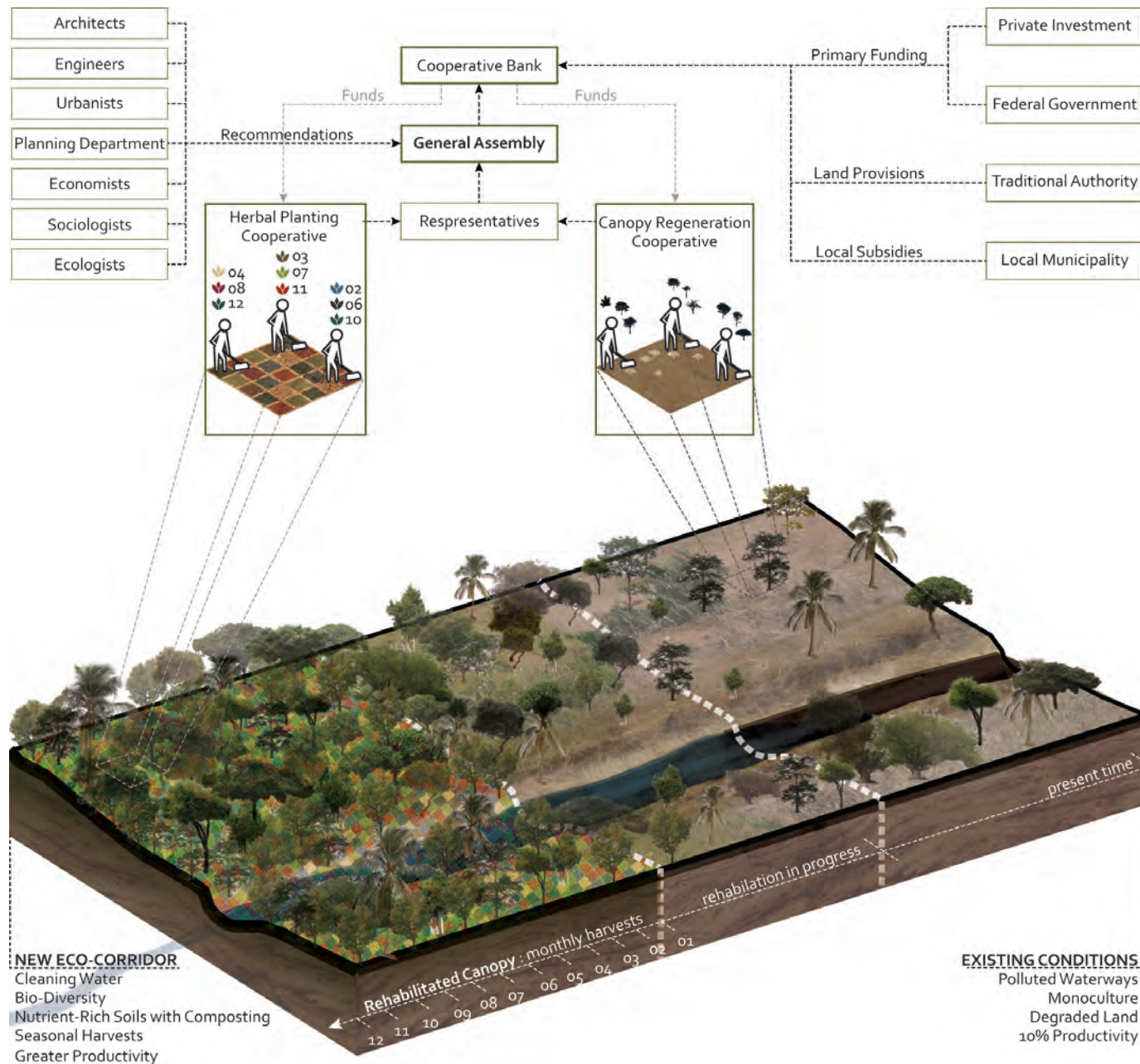
SALUD HOLÍSTICA Y CORREDORES ECOLÓGICOS EN KUMASI



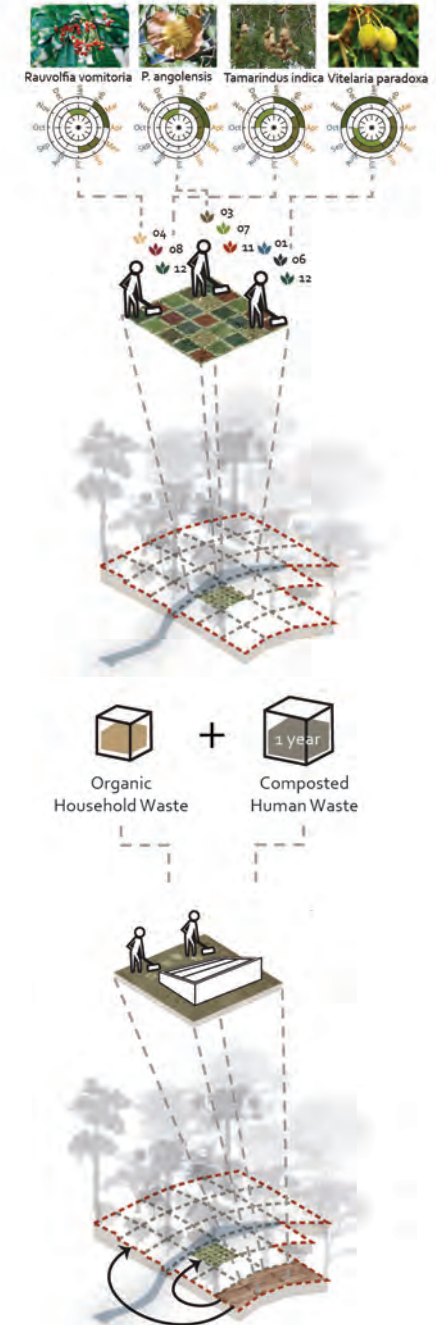
PIE DE FOTO

Título Dibujo, Scott Archer, Samarth Das, Vanessa Espailat and Sagi Golan, Urban Design Lab, 2013.

UN SISTEMA PRODUCTIVO PARA LOS ECO-CORREDORES



GROWING CANOPIES

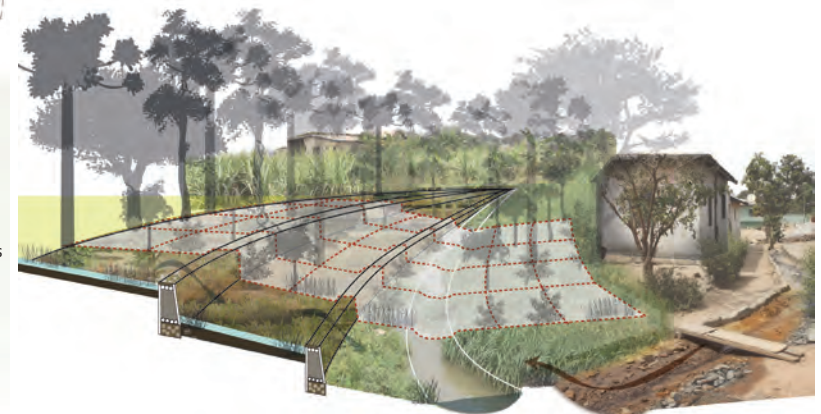
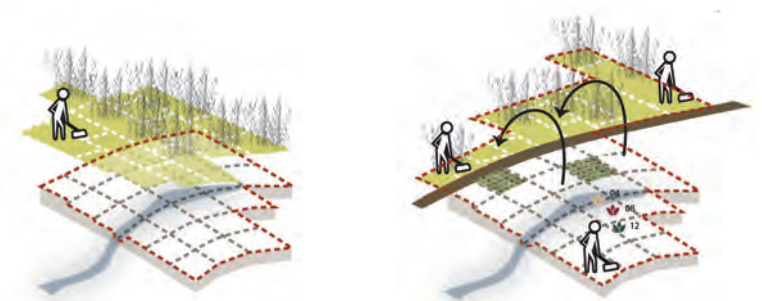


PIE DE FOTO

Título Dibujo, Scott Archer, Samarth Das, Vanessa Espailat and Sagi Golan, Urban Design Lab, 2013.

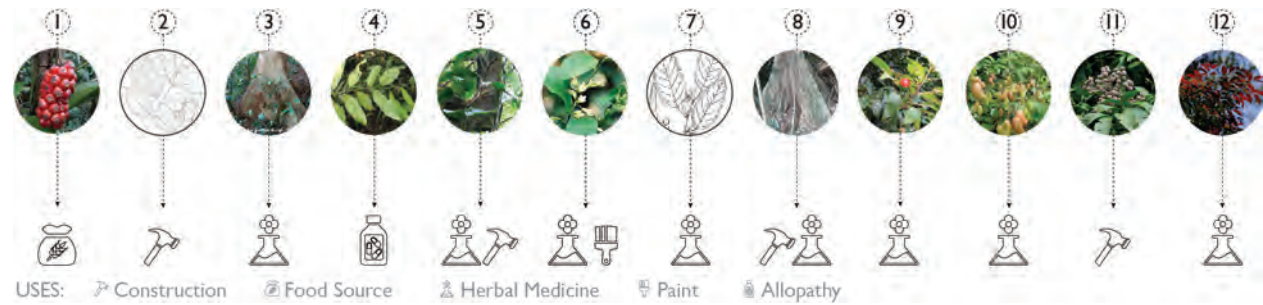
ECO-CORREDOR EN ASOKORE MAMPONG

D
GROWING CANOPIES



ESTRUCTURA DE LOS ECO-CORREDORES

D
GROWING CANOPIES



1. *Cercestis afzelli*
2. *Dacryodes Klaineana*
3. *Guarea cedrata*
4. *Microdesmis puberula*
5. *Culcasia angolensis*
6. *Calycobolus africanus*
7. *Baphia nitida*
8. *Nesogordonia papaverifera*
9. *Celtis mildbraedii*
10. *Griffonia simplicifolia*
11. *Lecaniodiscus cupanioides*
12. *Diospyros abyssinica*



PIE DE FOTO

Título Dibujo, Scott Archer, Samarth Das, Vanessa Espailat and Sagi Golan, Urban Design Lab, 2013.

RELACIÓN DEL HOSPITAL CON EL PUEBLO DE JUABEN

Upgrading Juaben Hospital

Maternal & Child Care

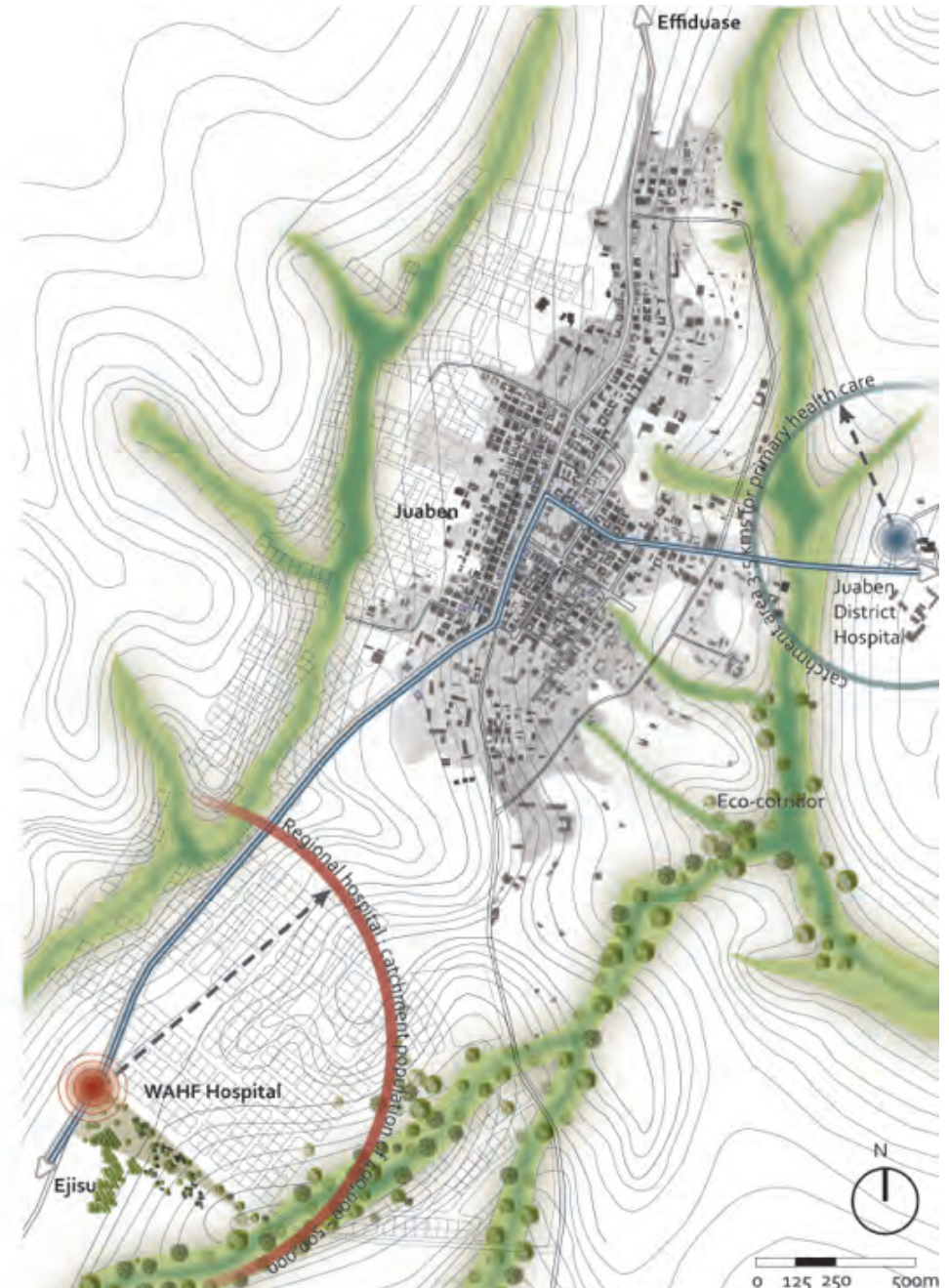
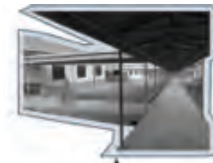
Skilled Doctors

Specialised Training / R&D

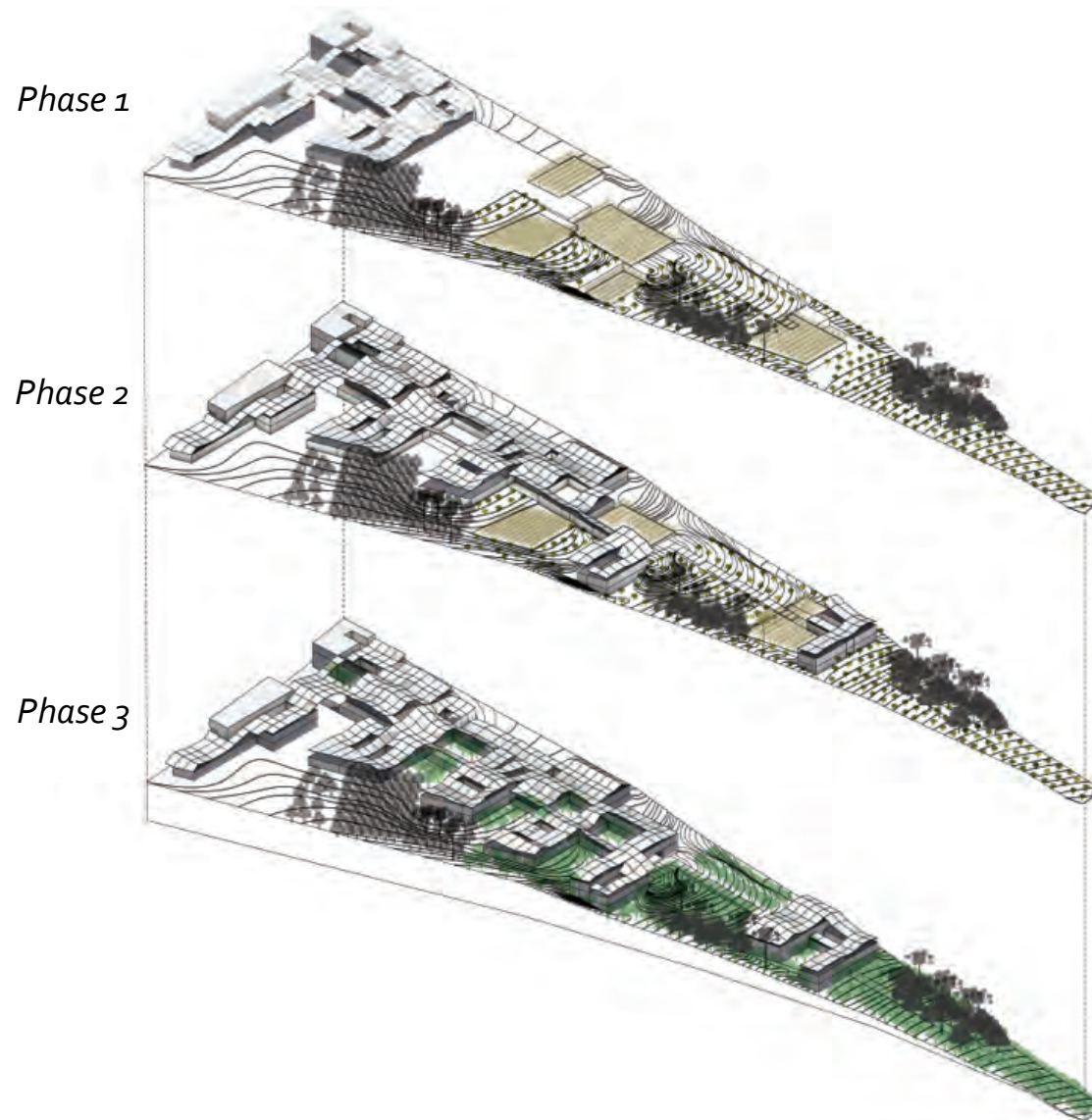
*Sustainable Harvesting of
Medicinal Plants*

*Providing Jobs for
Local Women*

*Usage and Dosage Codes/
Herbal Clinic*



FASES DEL HOSPITAL



Phase 1

- Existing orange grove preservation
- New forest canopy planting
- Bamboo grown on site demarcates spaces for future hospital development

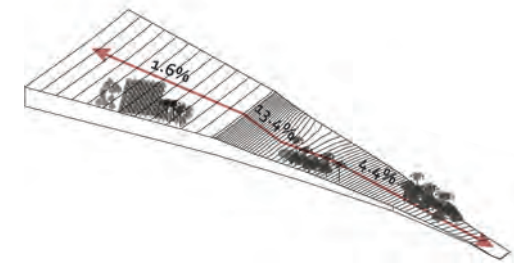
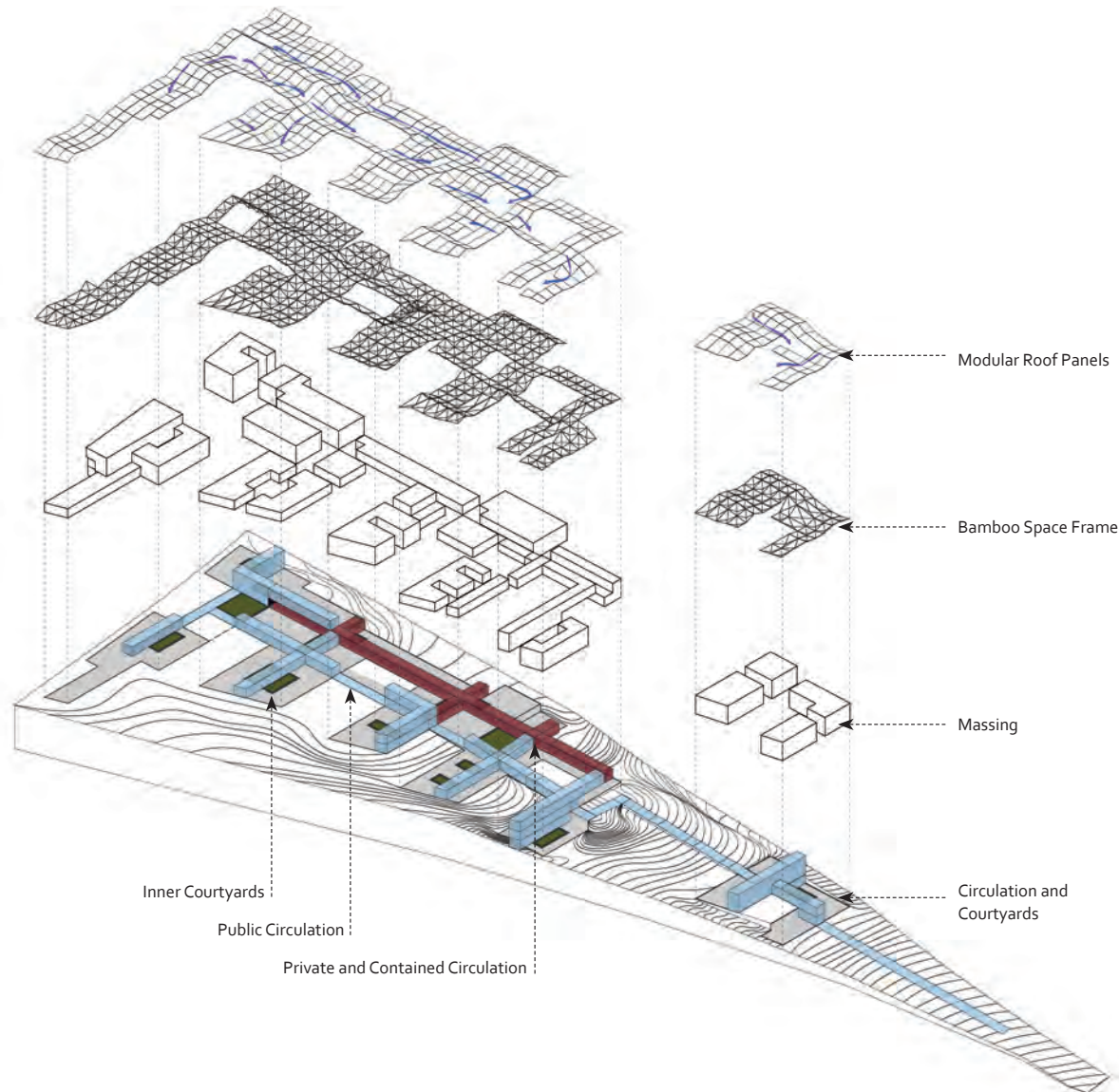
Phase 2

- Medicinal plant cultivation
- Bamboo grown on site demarcates spaces for future hospital development

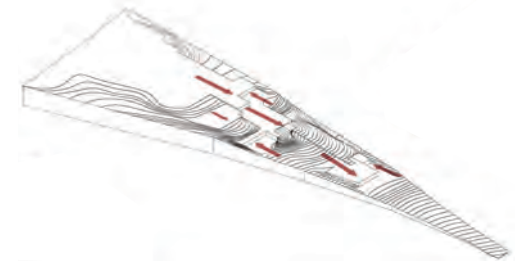
Phase 3

- Full ecological canopy growth

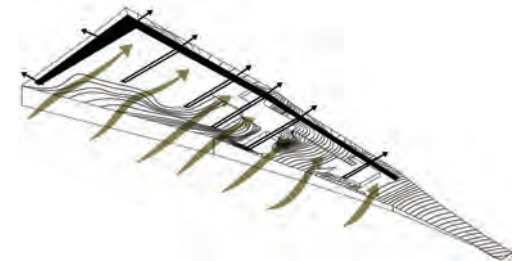
ESTRATEGIAS DE DISEÑO



1.Existing Topography + Canopy

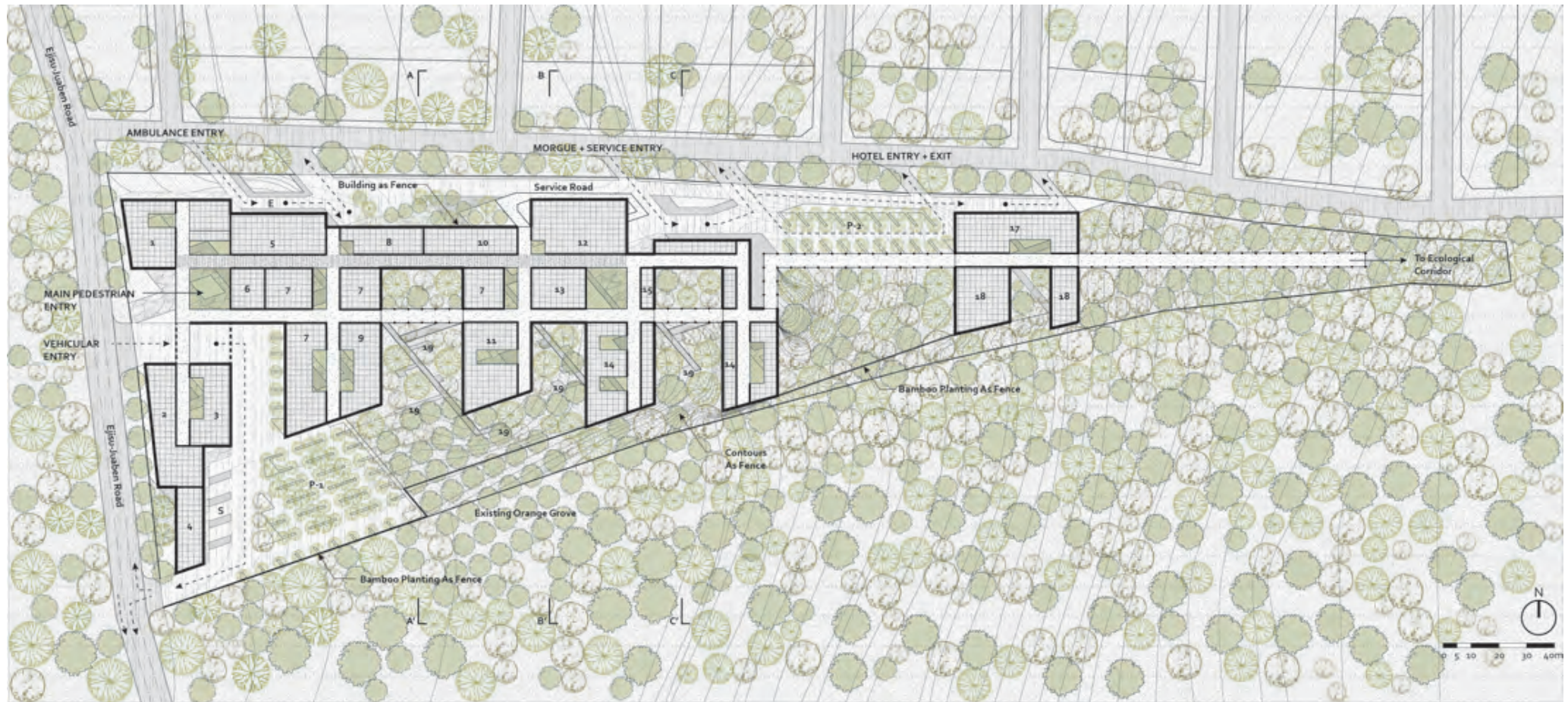


2.Utilizing Topography



3.Site Layout

SITE PLAN



1 – Training Center + Auditorium
2 – Pharmacy, Administration
3 – Blood Bank, R&D
4 – Rental Space, R&D
5 – Emergency Room, Imaging

6 – Reception + Registration
7 – Consultation Rooms
8 – Emergency Room extension
9 – Staff Comfort
10 – Services

11 – Wards
12 – Operation Room + Morgue (below)
13 – Intensive Care Unit (I.C.U)
14 – Single Patient Rooms
15 – Cafeteria

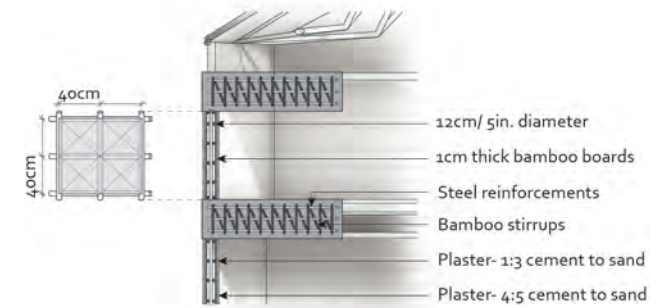
16 – Main Kitchen + Dining
17 – Hotel
18 – Herbal Therapeutic Center
19 – Outdoor Rooms
P – Parking
S – Shuttle Drop-Off

SECCIÓN - HOSPITAL WAHF

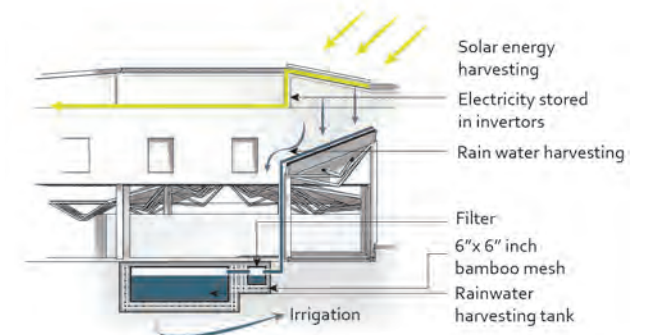
D
GROWING CANOPIES



SECTION THROUGH RAINWATER HARVESTING SYSTEM (SECTION C-C')



COMPOSITE CONCRETE + BAMBOO STRUCTURE



SOLAR + RAINWATER HARVESTING



HOSPITAL WAHF EN JUABEN





VIAJE A KUMASI GHANA, 2013

