

# an alternative urban paradigm?

LOCAL KNOWLEDGE AND THE POWER OF COMMUNITY  
AS A BASE FOR SUSTAINABLE DEVELOPMENT  
IN MATHARE VALLEY, NAIROBI

MSC THESIS IN URBANISM - FINAL PRESENTATION

author EVA LABRUJERE student no. 4205979

first supervisor DR. ROBERTO ROCCO  
second supervisor DR. ARIE ROMEIN

DELFT UNIVERSITY OF TECHNOLOGY  
FACULTY OF ARCHITECTURE AND THE BUILT ENVIRONMENT  
MSC. ARCHITECTURE, URBANISM AND BUILDING SCIENCES -  
DEPARTMENT OF URBANISM

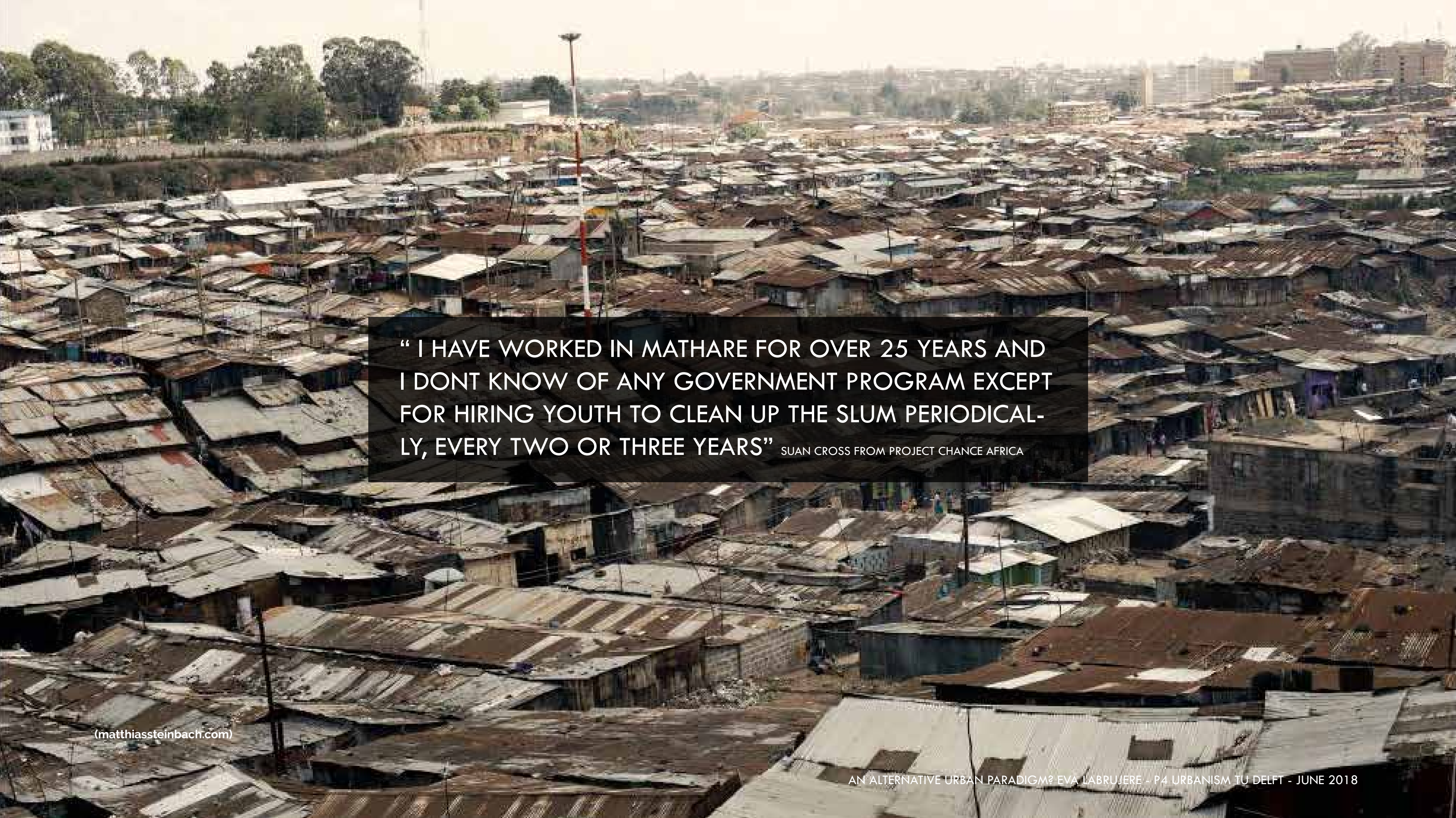
research studio COMPLEX CITIES  
theme INCLUSIVE CITIES

DELFT, THE NETHERLANDS, 6TH JULY 2018  
COPYRIGHT © AUTHOR



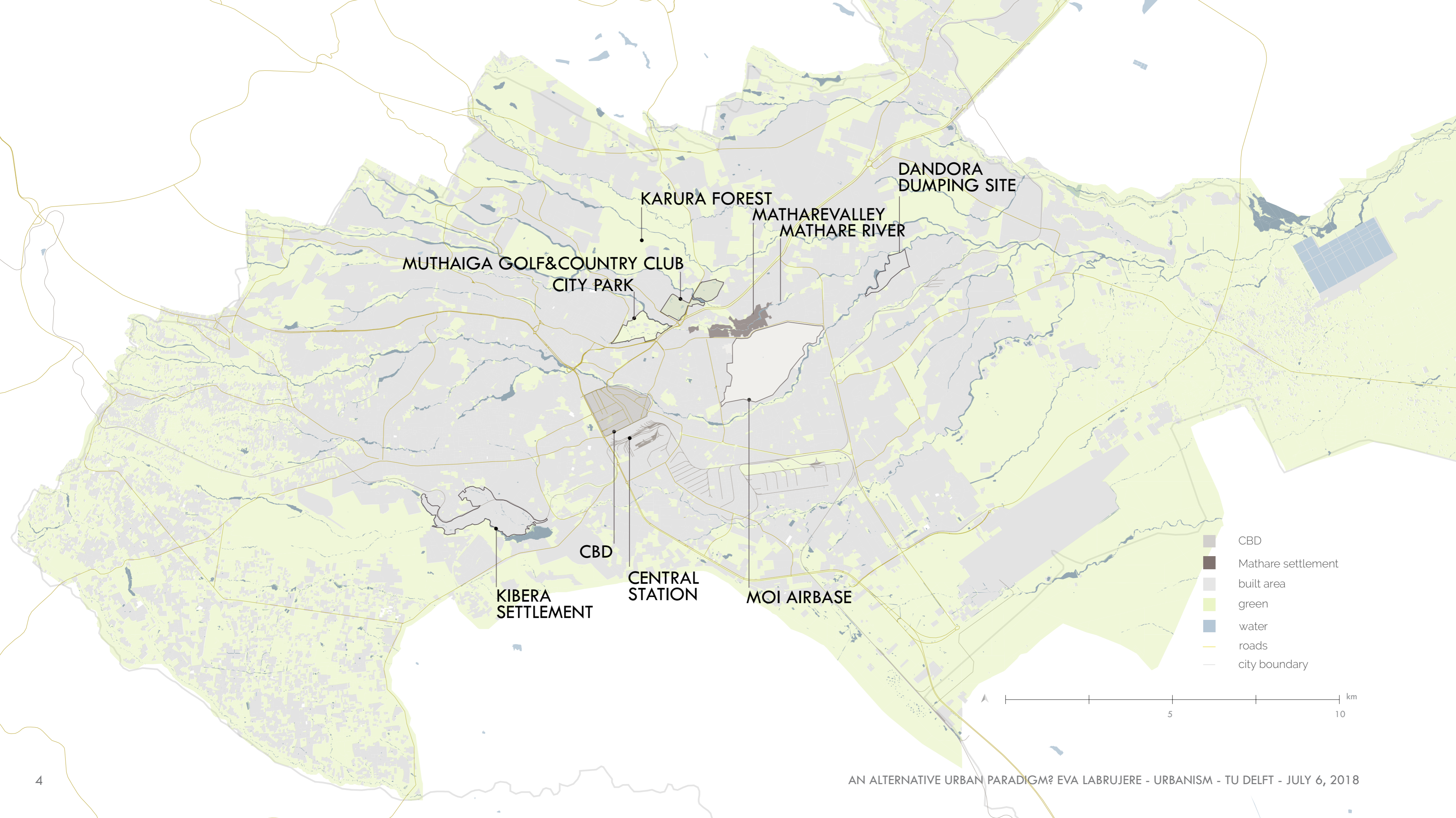
(matthiassteinbach.com)





“ I HAVE WORKED IN MATHARE FOR OVER 25 YEARS AND I DONT KNOW OF ANY GOVERNMENT PROGRAM EXCEPT FOR HIRING YOUTH TO CLEAN UP THE SLUM PERIODICAL-  
LY, EVERY TWO OR THREE YEARS” SUAN CROSS FROM PROJECT CHANCE AFRICA





MUTHAIGA GOLF & COUNTRY CLUB  
CITY PARK

KARURA FOREST

MATHARE VALLEY  
MATHARE RIVER

DANDORA  
DUMPING SITE

CBD

KIBERA  
SETTLEMENT

CENTRAL  
STATION

MOI AIRBASE

- CBD
- Mathare settlement
- built area
- green
- water
- roads
- city boundary







CBD

MATHARE

MATHARE VALLEY

**MATHARE  
VALLEY  
CA. 188.000**  
MuST and SDI (2012)

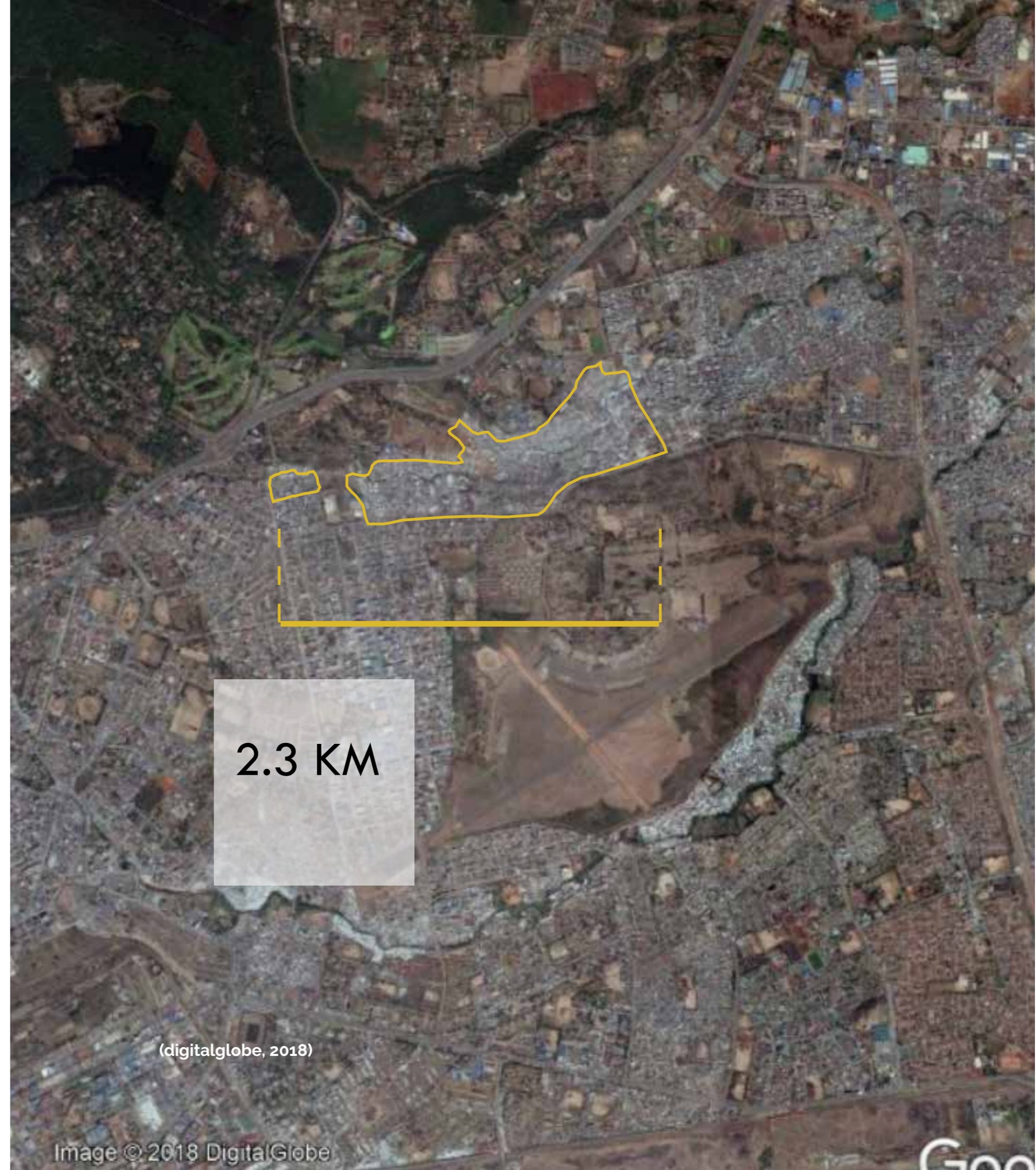
**MATHARE  
600.000  
- 800.000**  
UN-HABITAT (2015)





(digitalglobe, 2018)

Image © 2018 DigitalGlobe



(digitalglobe, 2018)

Image © 2018 DigitalGlobe

GOO





# an alternative urban paradigm?

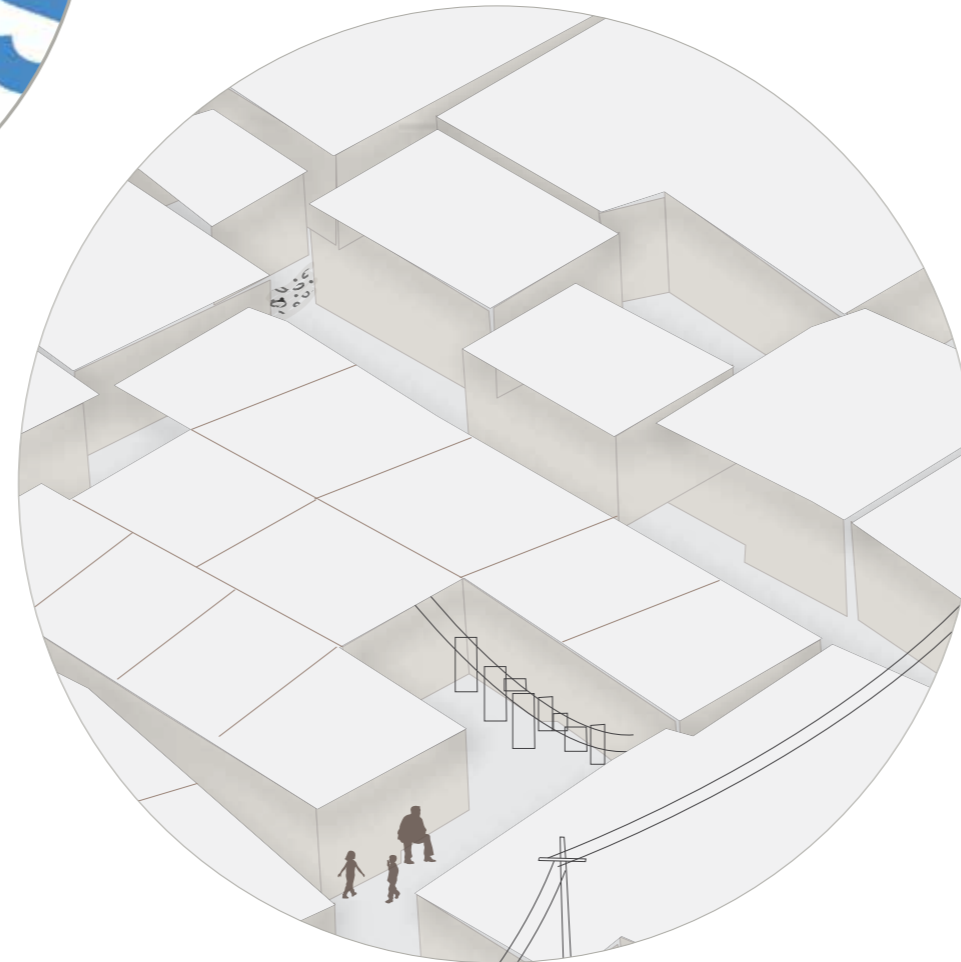
LOCAL KNOWLEDGE AND THE POWER OF COMMUNITY  
AS A BASE FOR SUSTAINABLE DEVELOPMENT  
OF MATHARE VALLEY, NAIROBI



Oxfamnovib.nl



nation.co.ke/FILE



Readingspots.org

content

# content

1

---

context

problem statement

project definition

2

---

analysis

conclusions

3

---

strategic f/w

strategic layers

SL1 - co-operative comm.

SL4 - public space network

site design

4

---

reflection



1

---

context

problem statement

project definition

2

---

analysis

conclusions

3

---

strategic f/w

strategic layers

SL1 - co-operative comm.

SL4 - public space network

site design

4

---

reflection

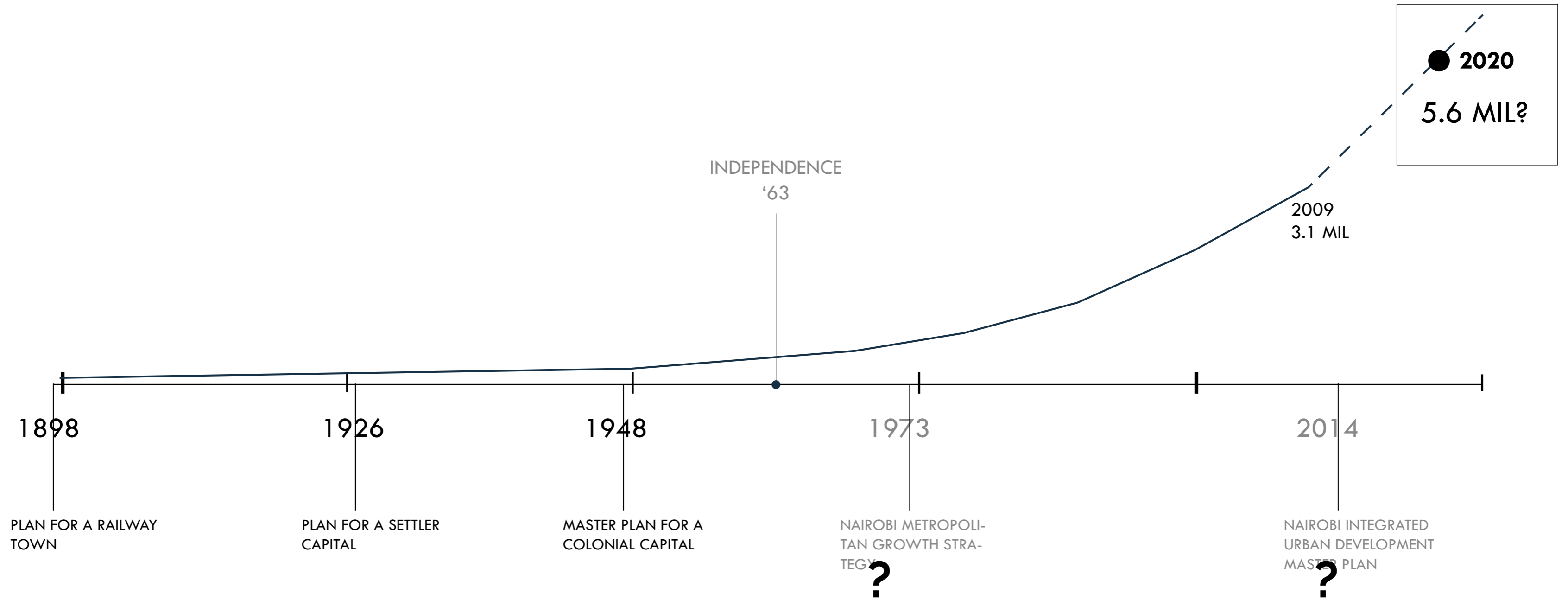
# 1 context



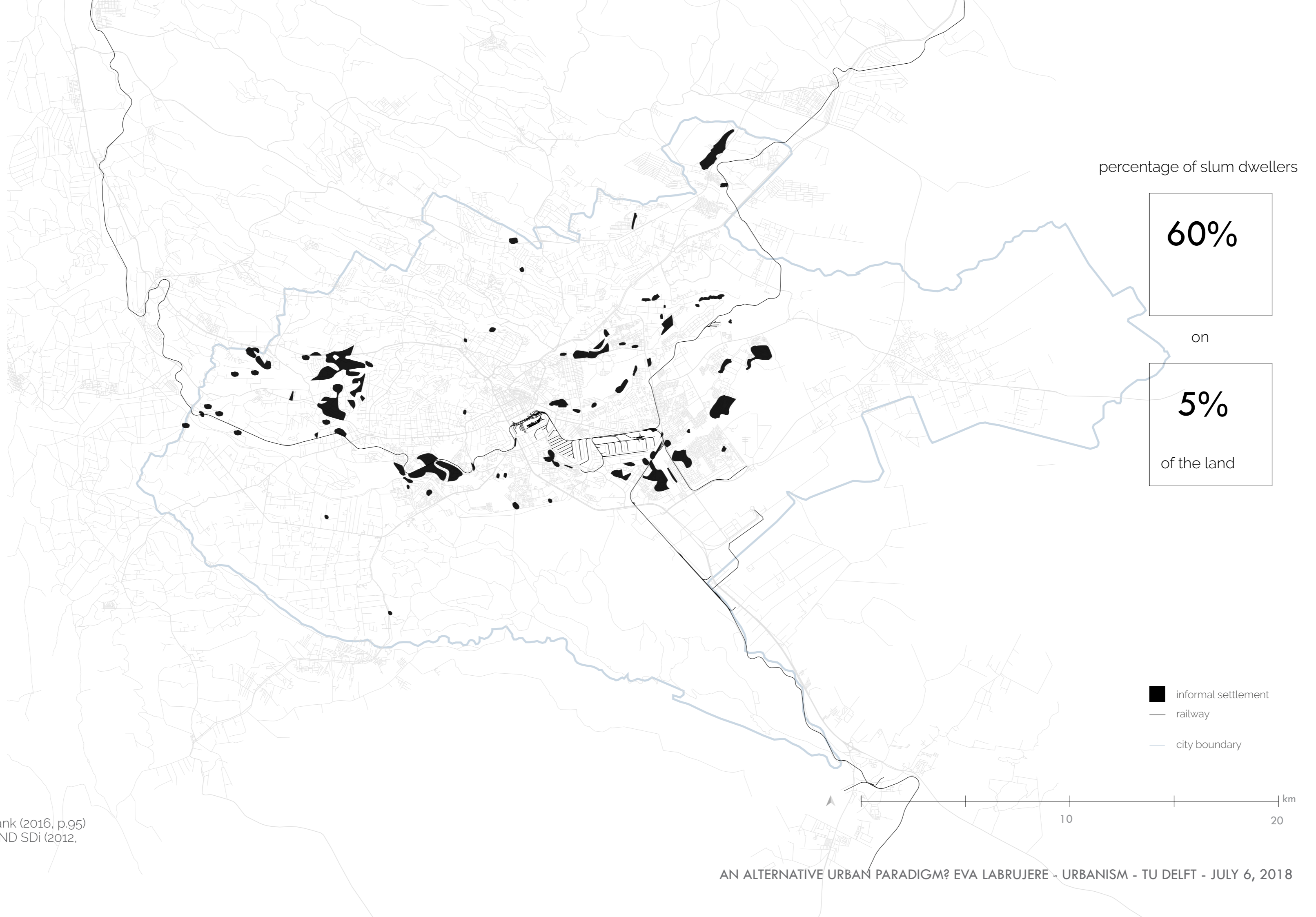
UNDESA, (2014) *The United Nations World Urbanization Prospects*

edited from (d-maps.com, 2017)  
edited from (freevectormaps.com, 2017)

# 1 context



# 1 context

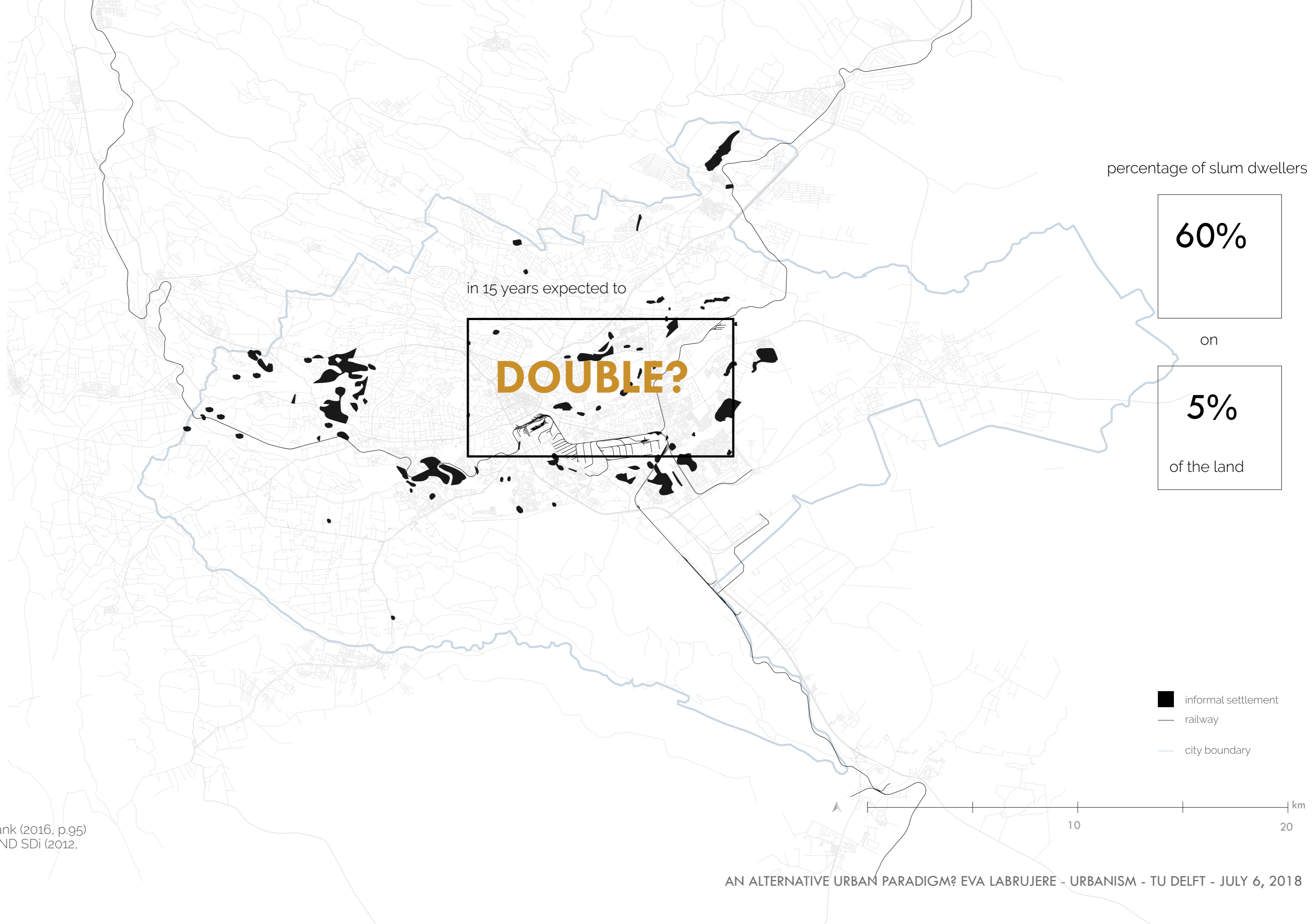


UN HABITAT (2008)

edited from: world Bank (2016, p.95)  
edited from: MUST AND SDi (2012,



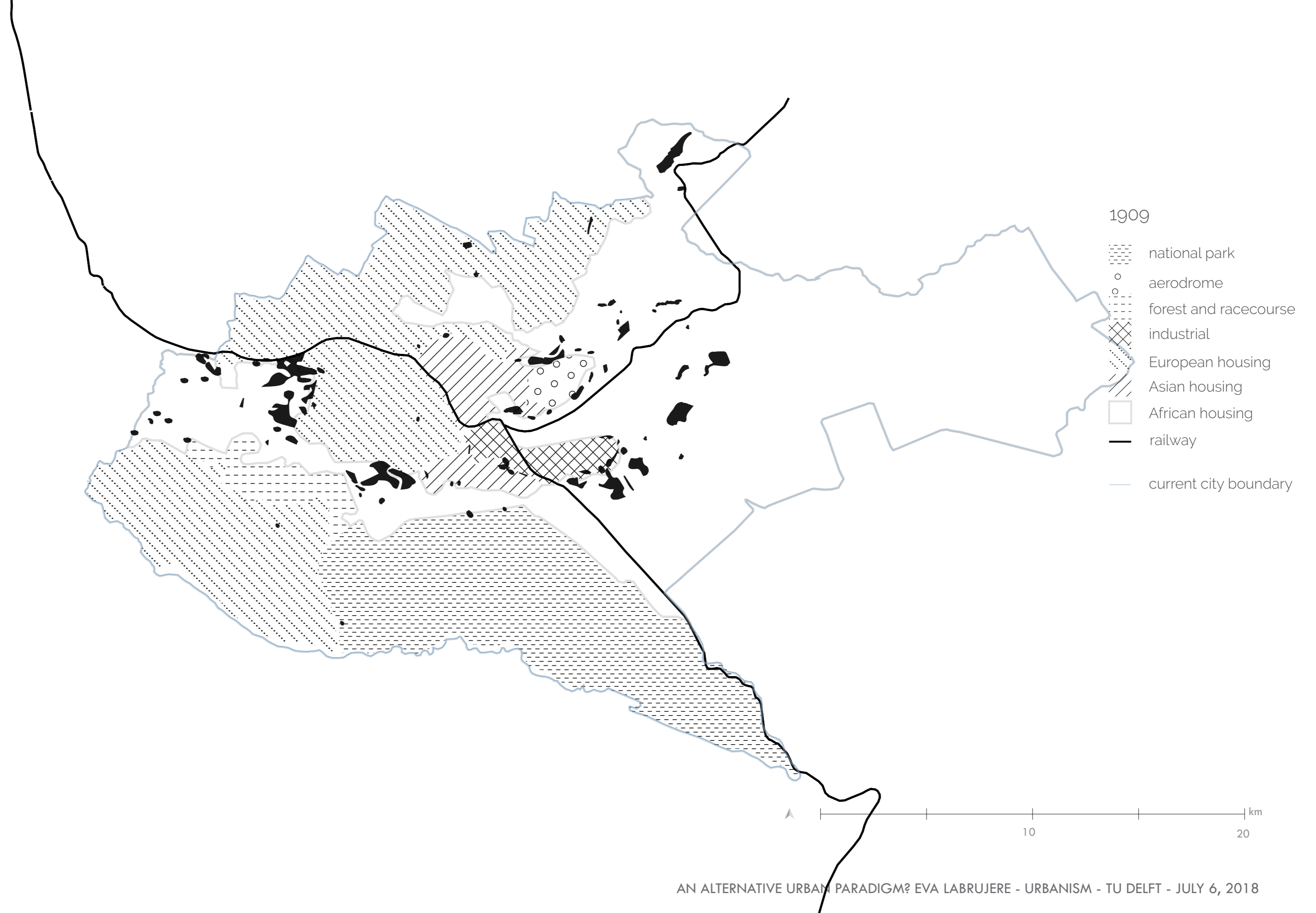
# 1 context



UN HABITAT (2008)

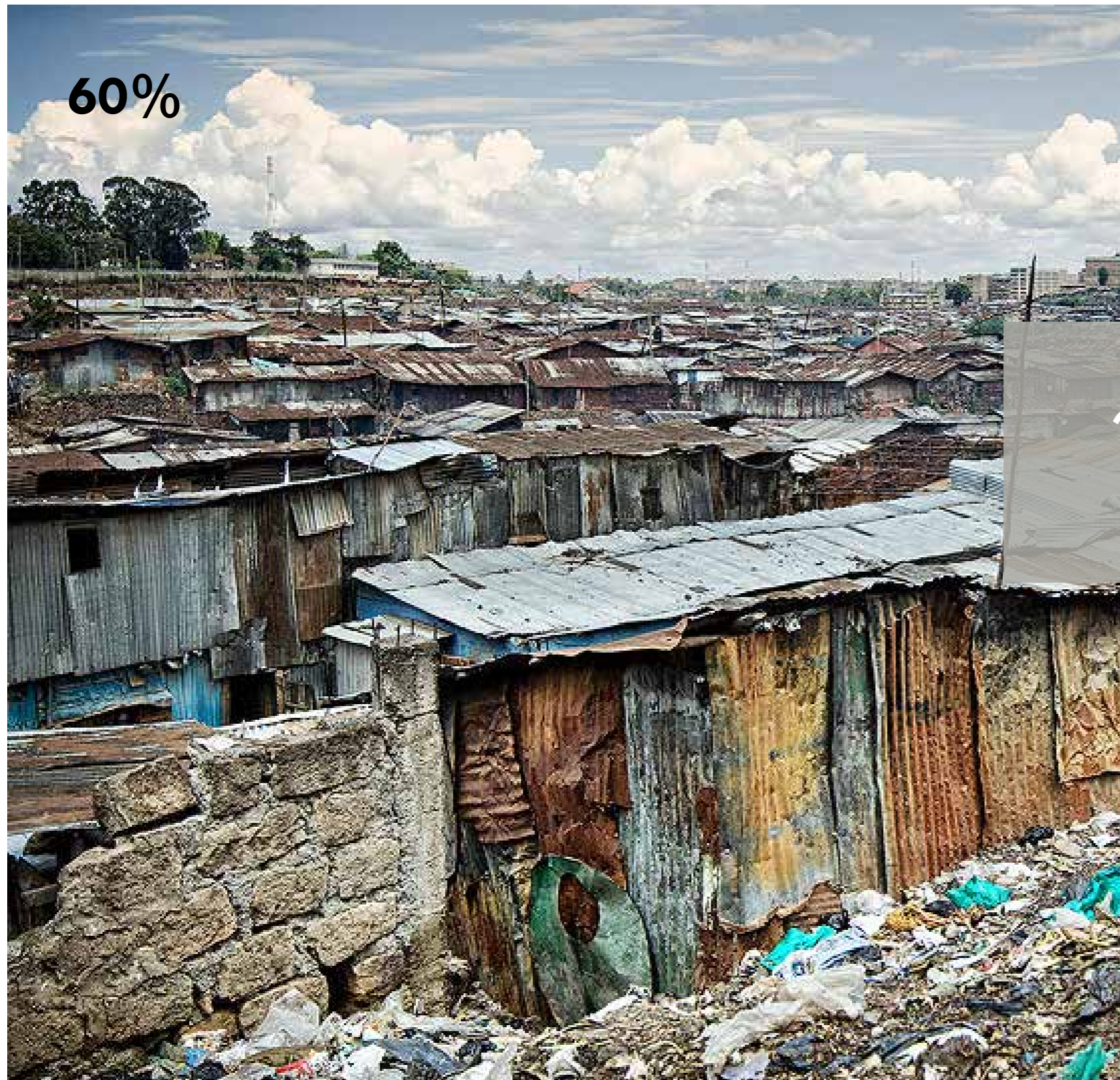
edited from: world Bank (2016, p.95)  
edited from: MUST AND SDi (2012,

# 1 context

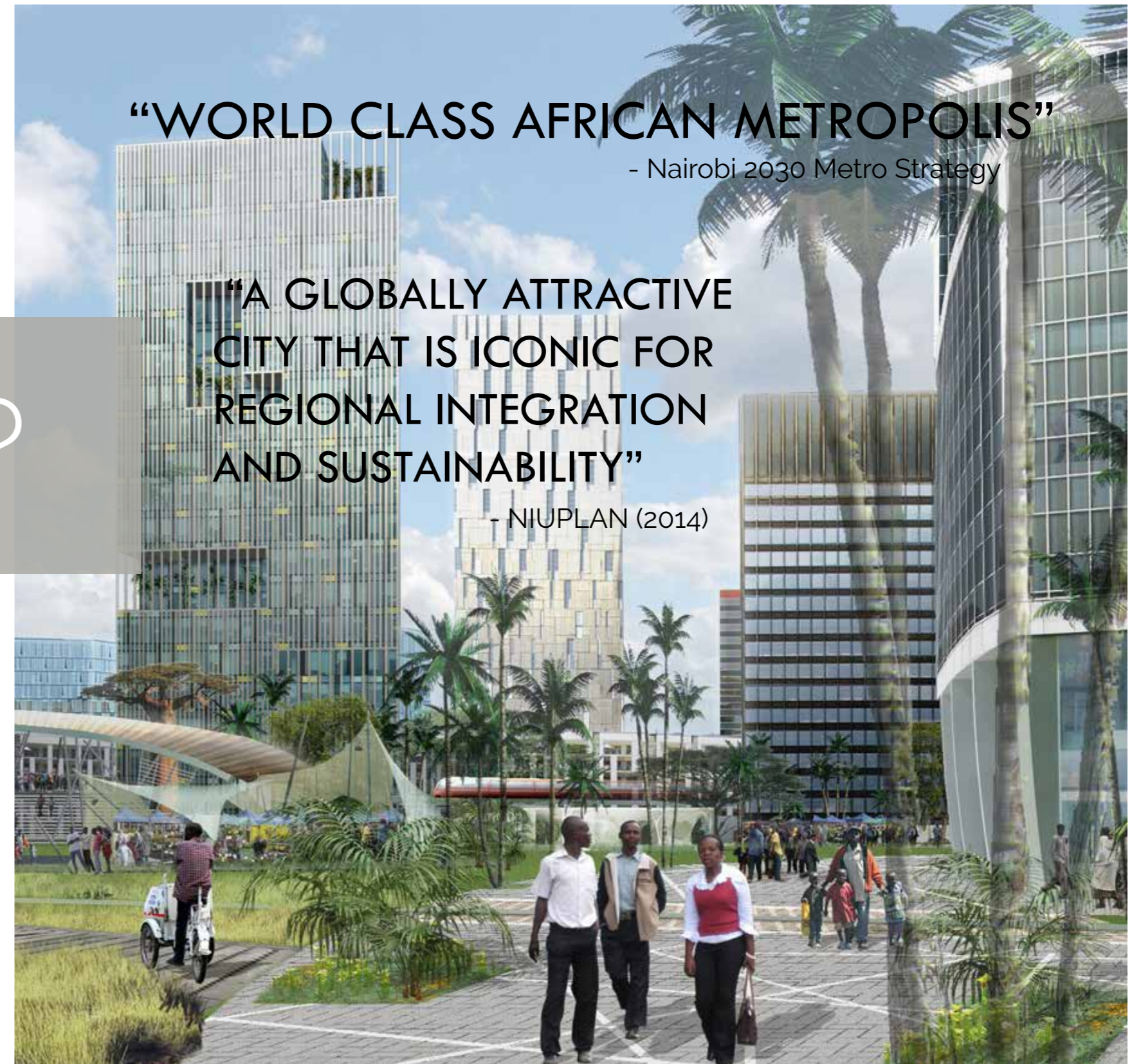




# 1 context



<https://en.wikipedia.org/wiki/Mathare>  
<https://dreamcitieskenya.wordpress.com/2013/04/08/henning-larsen/>





# 1 context



KIBERA SOWETO EAST, NAIROBI  
[nation.co.ke/FILE](http://nation.co.ke/FILE)



SAO PAULO, BRAZIL  
[citiesalliance.org](http://citiesalliance.org)



KUFUR AQAB, EAST JERUSALEM  
Grassroots Jerusalem



# 1 context

## KENSUP

Kenya Slum Upgrading Programme -  
GOK and UN-HABITAT

**practical implications  
of participatory approaches**

**do not respond to existing  
socio-economic networks**

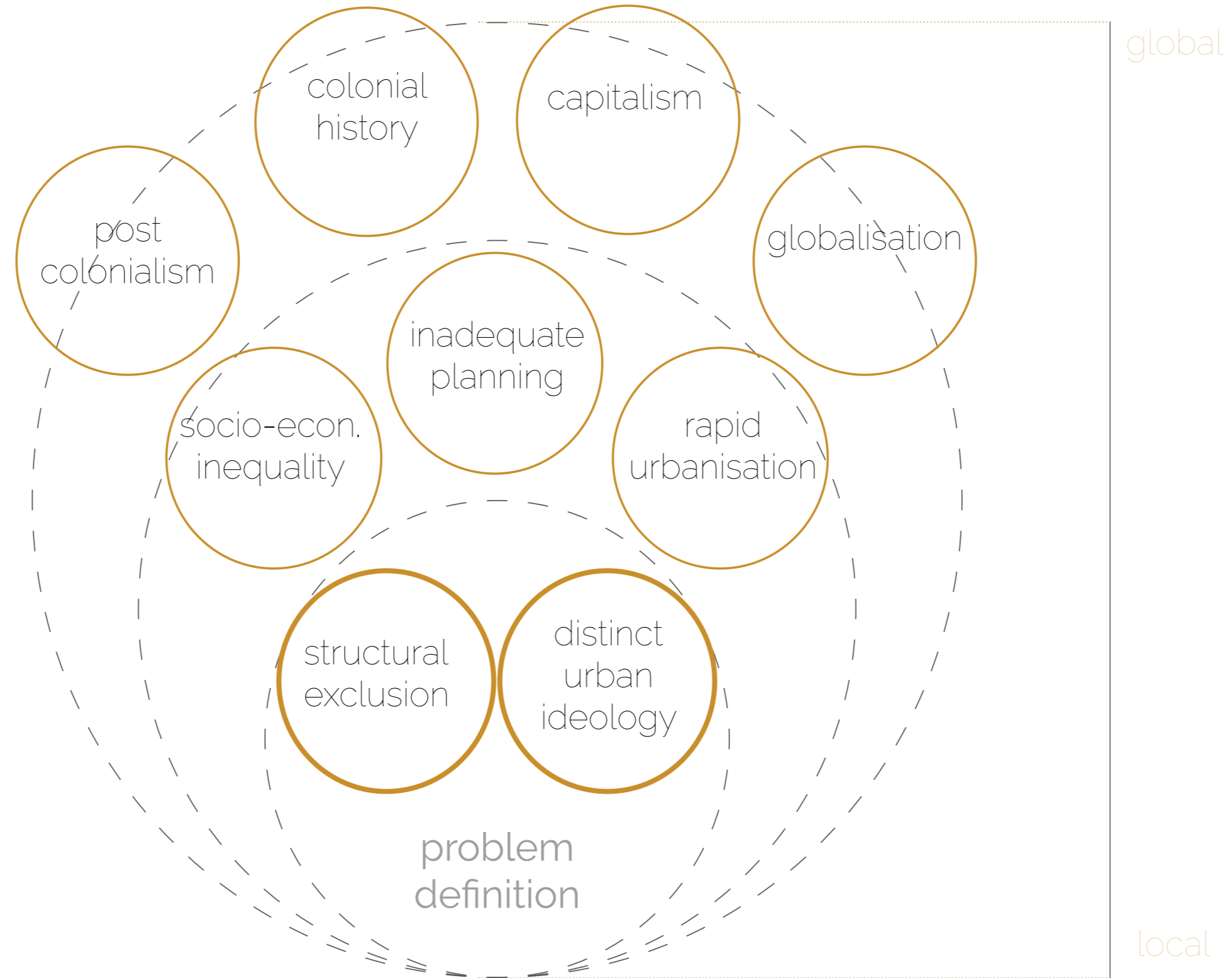
**do not meet resident's  
needs (culturally inappropriate)**

**lack of quality (buildings  
or technical facilities)**



<https://www.kenya-today.com/news/picture-speak-raila-odinga-kibera-development-projects-shines-statehouse-propaganda-defeated>

# 1 problem statement



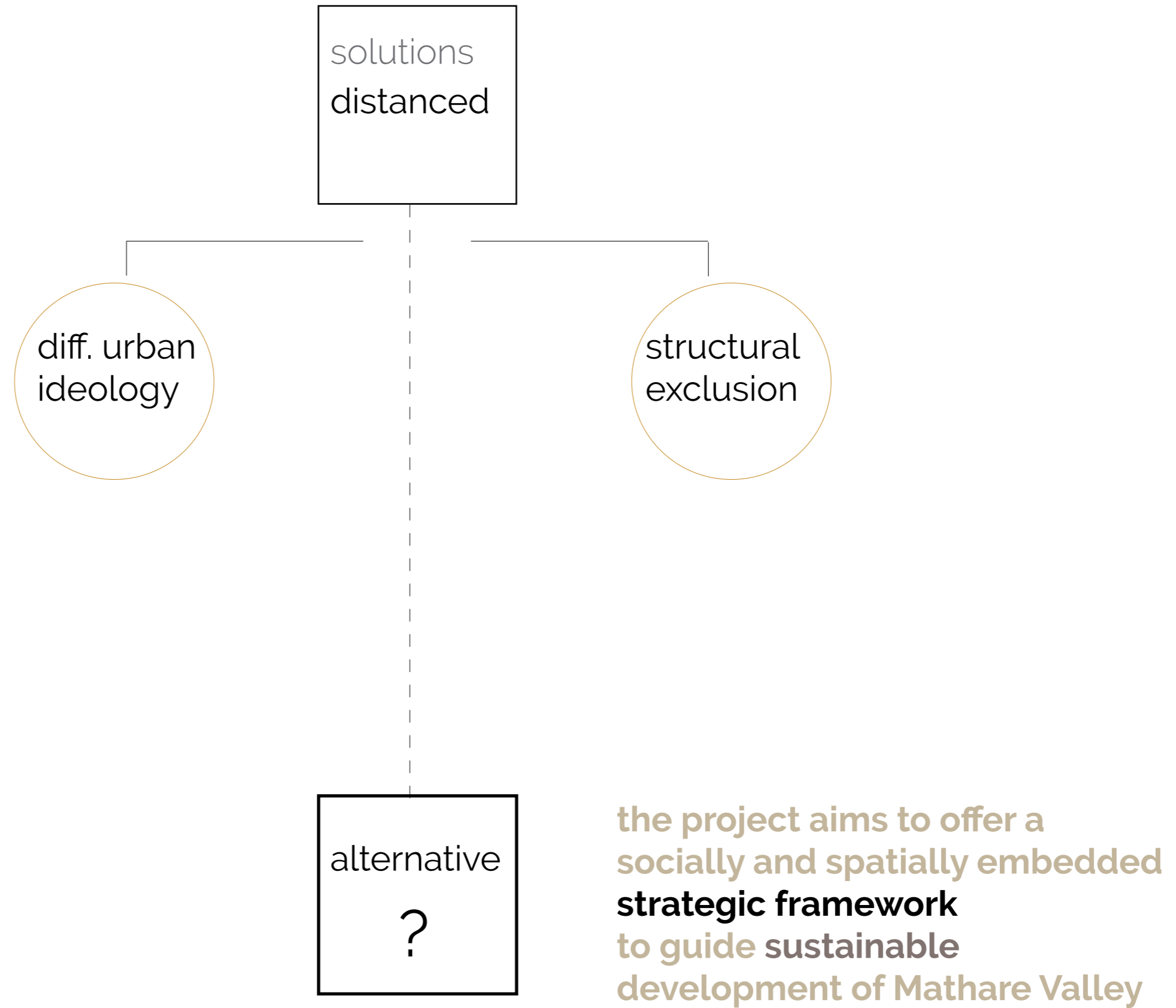
# 1 problem statement

**... current endeavours fail to recognise the potential of informal views and processes and the understanding of local needs (...) This results in socio-culturally and spatially distanced solutions that do not achieve sustainable change.**



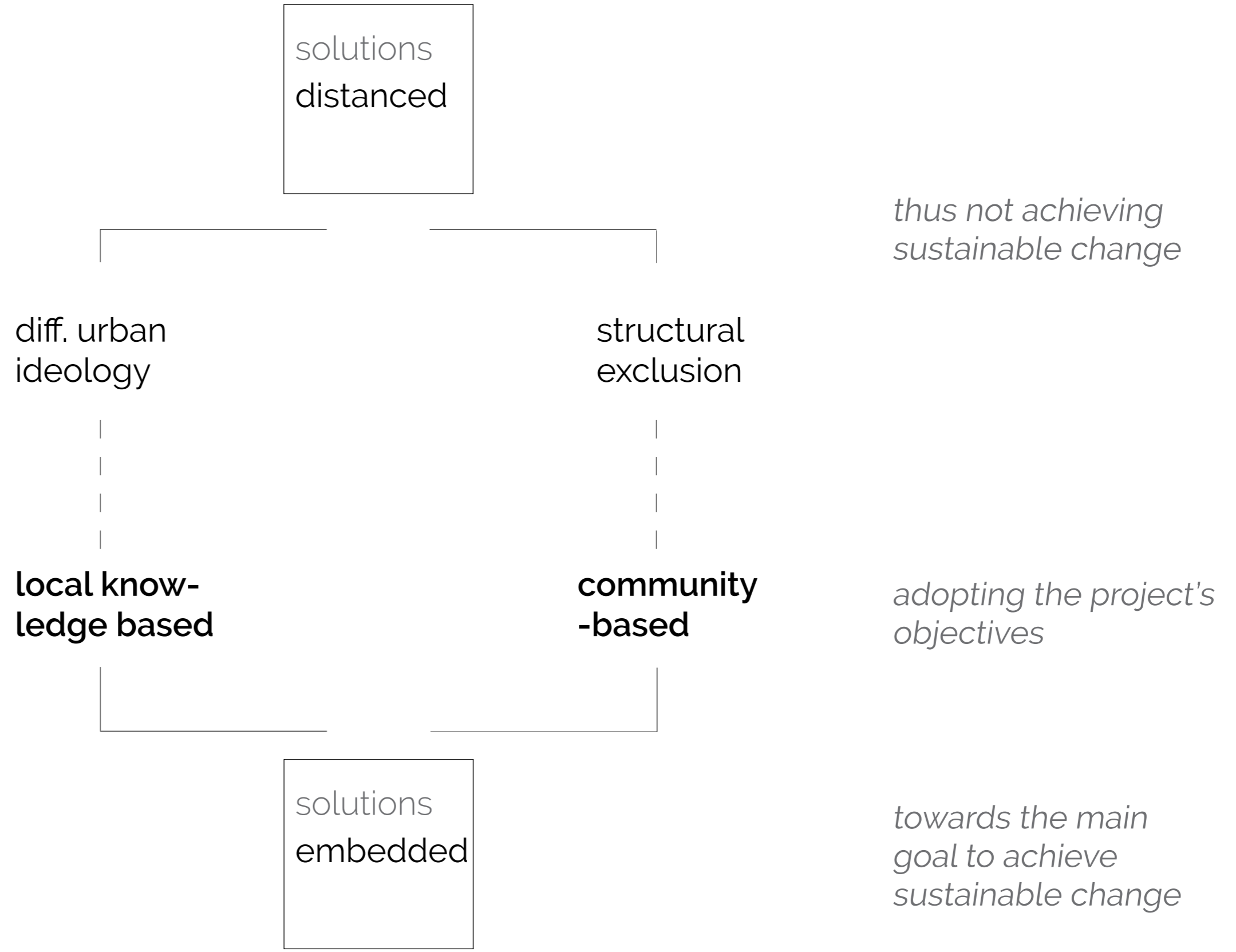
*thus not achieving sustainable change*

# 1 project definition





# 1 project definition





# 1 project definition

**local know-  
ledge based**

**community  
-based**

'subaltern urbanism' (Roy, 2011)

'morphology of resistance' (Varley, 2013).

'the reversal of the colonial model' (Brillembourg, 2004)

1

---

context

problem statement

project definition

2

---

analysis

conclusions

3

---

strategic f/w

strategic layers

SL1 - co-operative comm.

SL4 - public space network

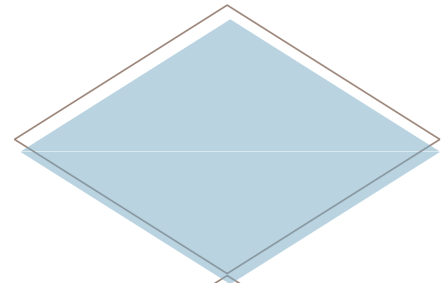
site design

4

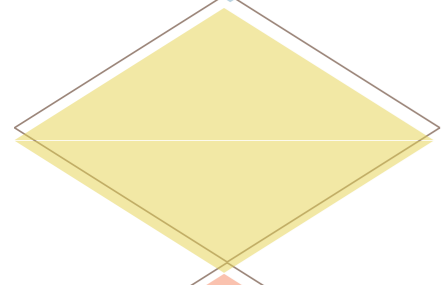
---

reflection

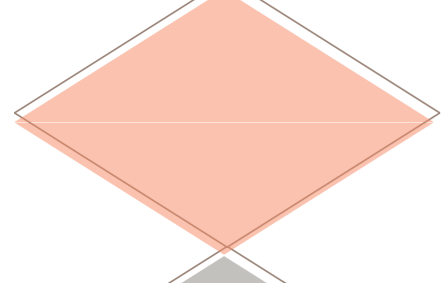
## 2 analysis



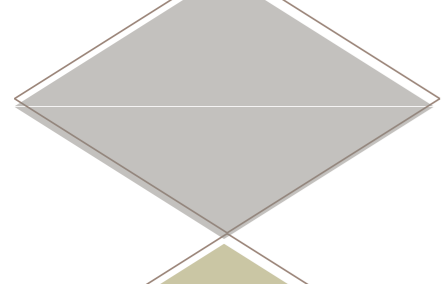
POLICY & GOVERNANCE



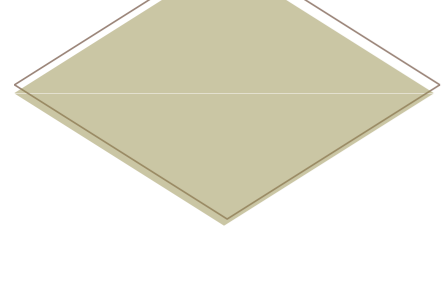
SOCIO-SPATIAL NETWORKS



ECONOMIC NETWORKS



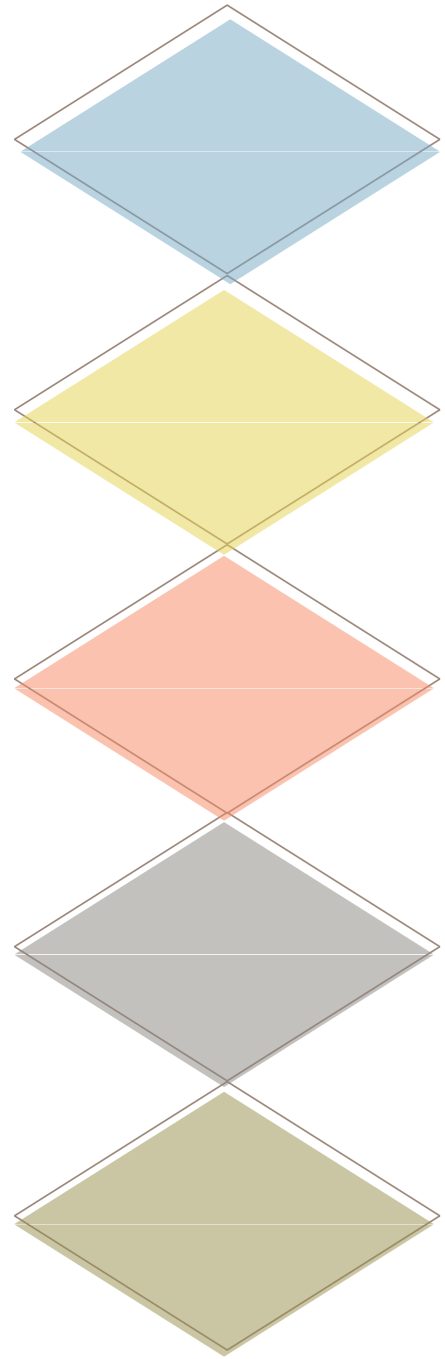
TECHNICAL NETWORKS



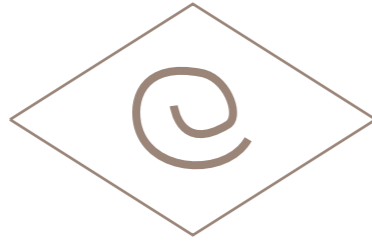
GEOGRAPHY



## 2 analysis

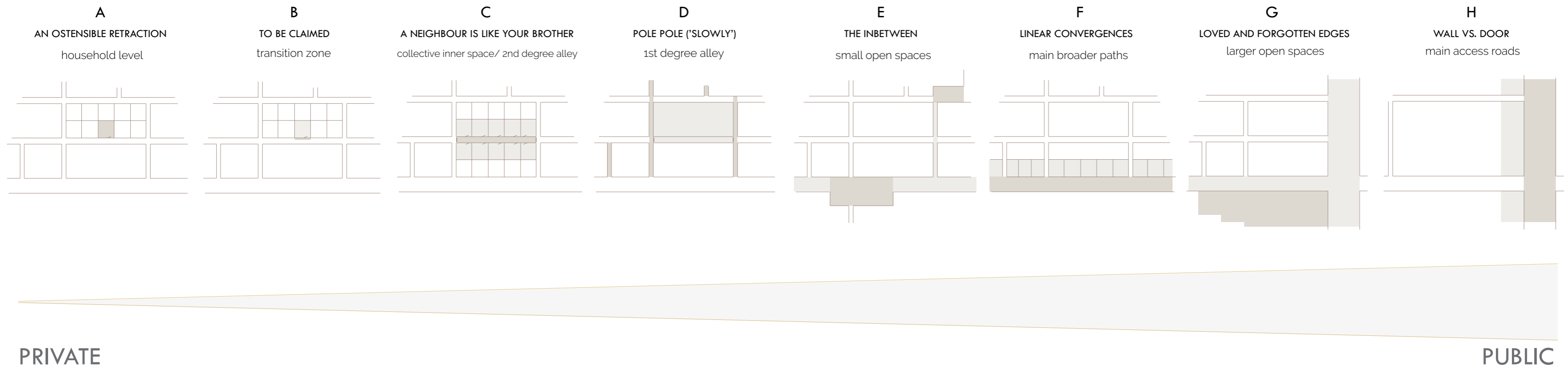


pressured  
spaces





## 2 analysis



### LOCAL KNOWLEDGE

“ internal zoning system of implicit arrangements of spaces, demands upon spaces, and responsibilities over spaces “



(slidenevssina)

ZONE A



(own image)

ZONE B



(own image)

ZONE C



(own image)

ZONE D



Laura Craft (2010)

ZONE E



(own image)

ZONE F



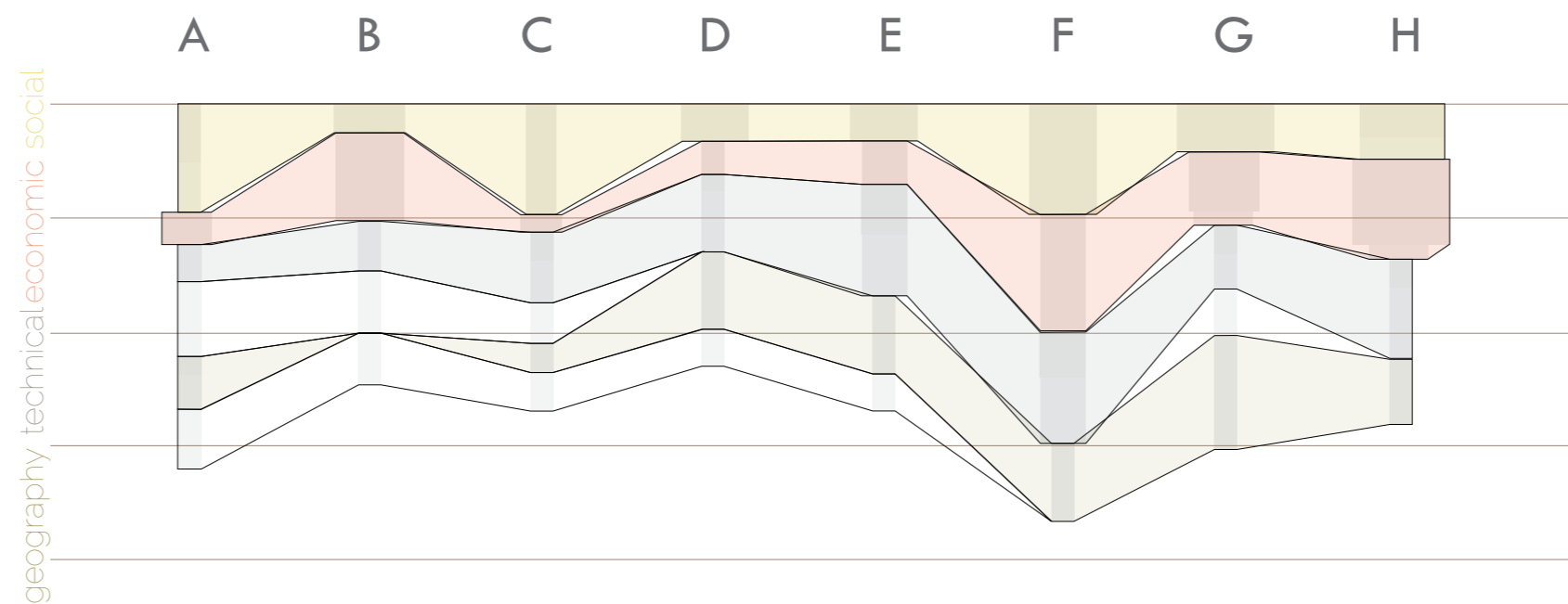
(own image)

ZONE G



(own image)

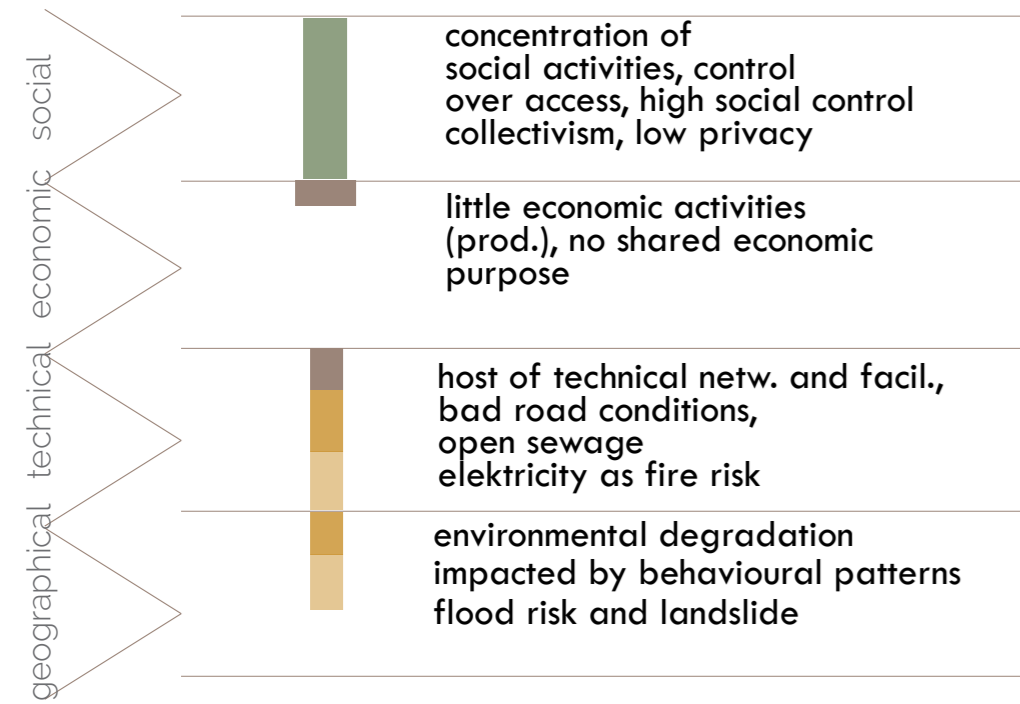
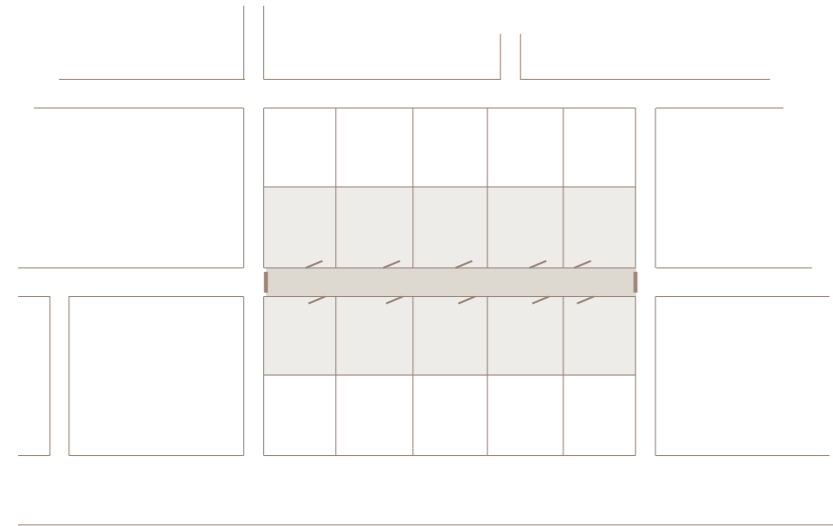
ZONE H



PRESENCE OF THE LAYERS  
THROUGHOUT THE ZONES



## 2 analysis



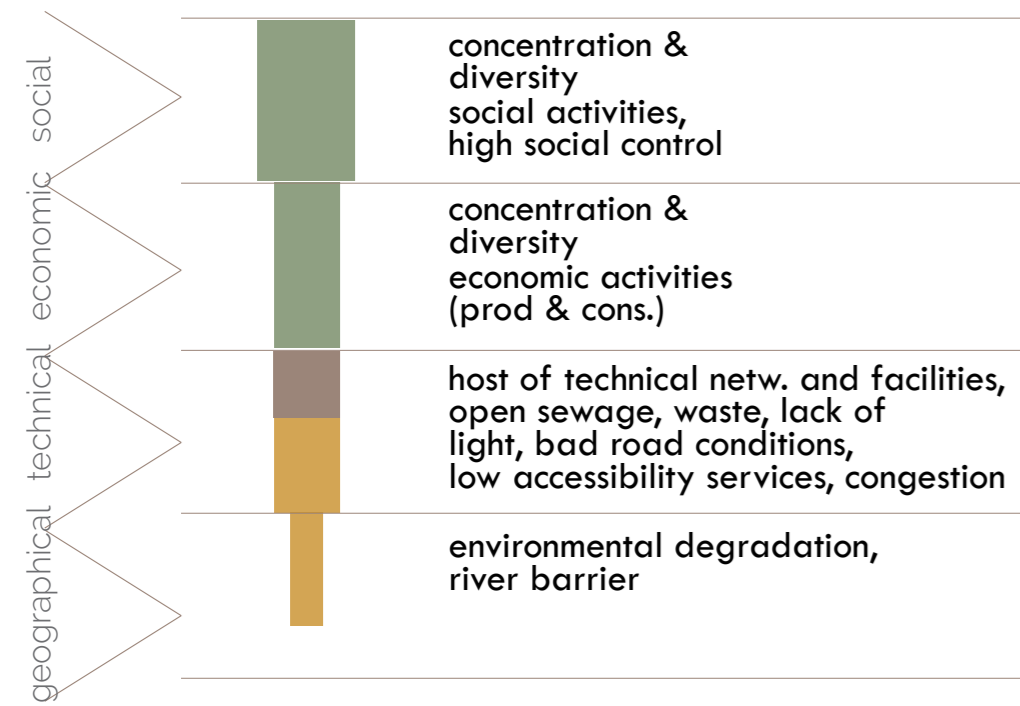
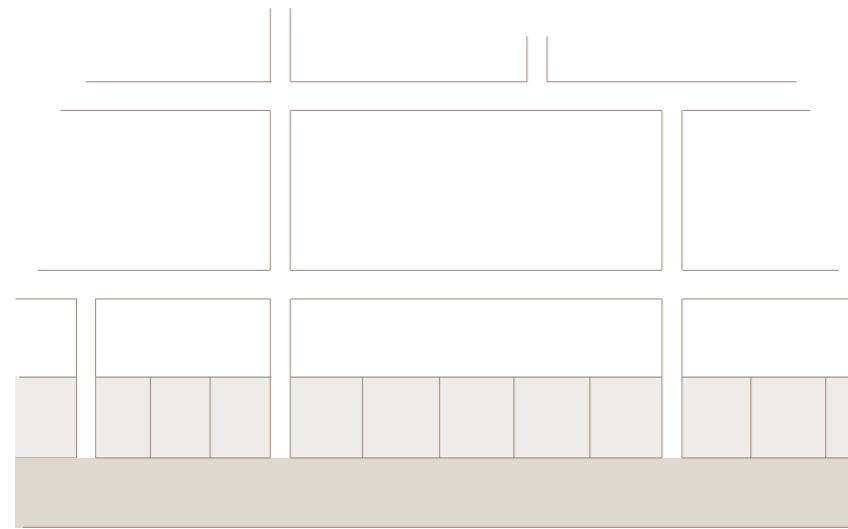
### ZONE C

A NEIGHBOUR IS LIKE YOUR BROTHER  
shared inner space





## 2 analysis



### ZONE F LINEAR CONVERGENCES inner mainstreets





## 2 conclusions

local knowledge  
based

community  
-based



conclusions



## 2 conclusions

C-B



oppressive factors (internal & external) impedes peoples' growth and ability to stand for rights



(muungano.net)



## 2 conclusions

C-B



oppressive factors (internal & external) impedes peoples' growth and ability to stand for rights

lack of access to finance, space, and support/knowledge



(globalgiving.org)

(nbv.co.uk/events-networking/access-finance-workshop/)

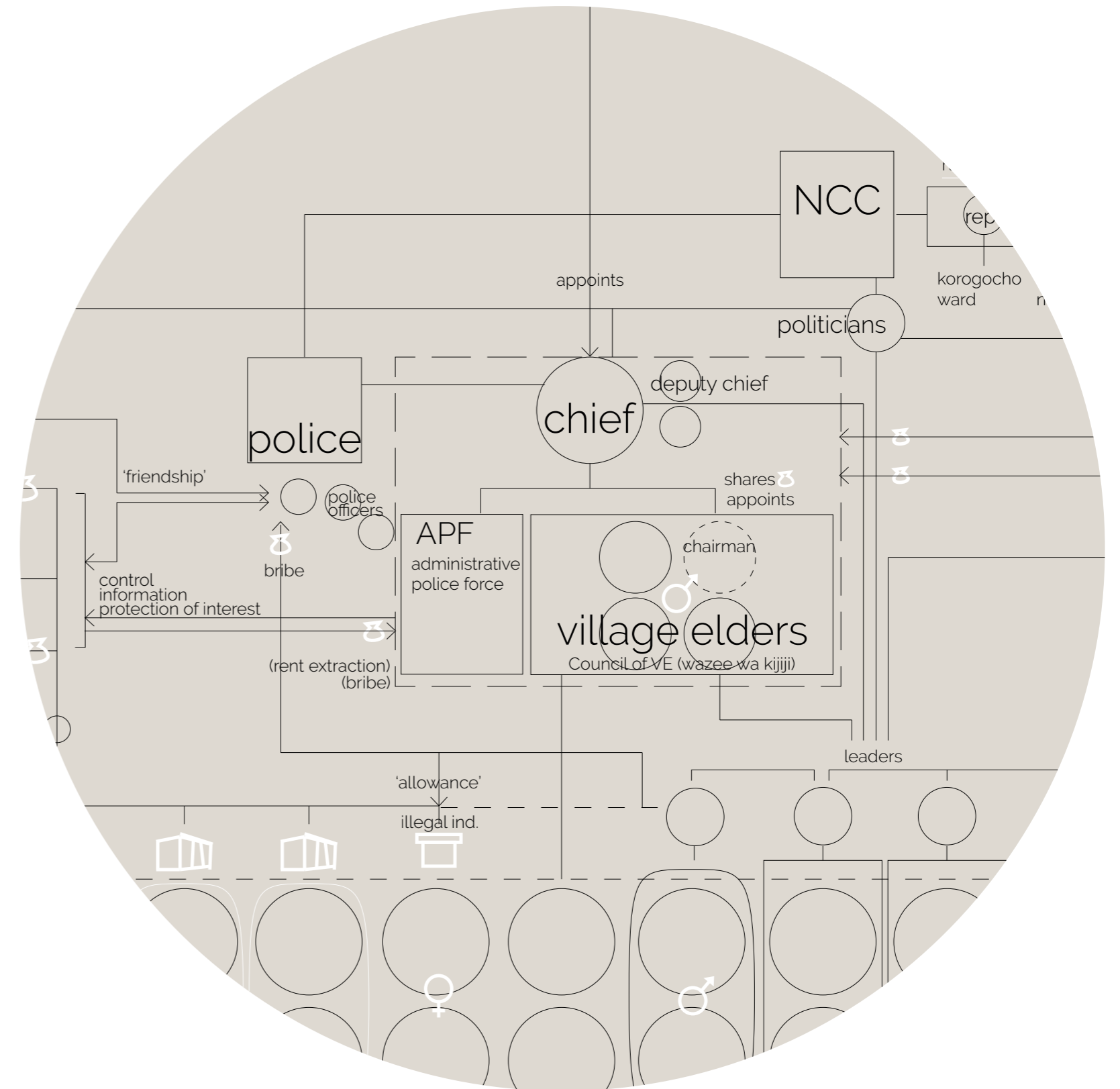
(commons.wikimedia.org/wiki/File:The\_Co-operative\_Bank\_-\_Ealing\_(9415463884).jpg)

## 2 conclusions

LK



local power distributions



(own image)



## 2 conclusions

LK



local power  
distributions

ownership as  
potential (exis-  
ting social ties)



(own image)



## 2 conclusions

LK



local power  
distributions

ownership as  
potential (exis-  
ting social ties)

social & economic  
networks threate-  
ned by technical  
and geographical



(the storyteller studios)  
(own images)



1

---

context

problem statement

project definition

2

---

analysis

conclusions

3

---

strategic f/w

strategic layers

SL1 - co-operative comm.

SL4 - public space network

site design

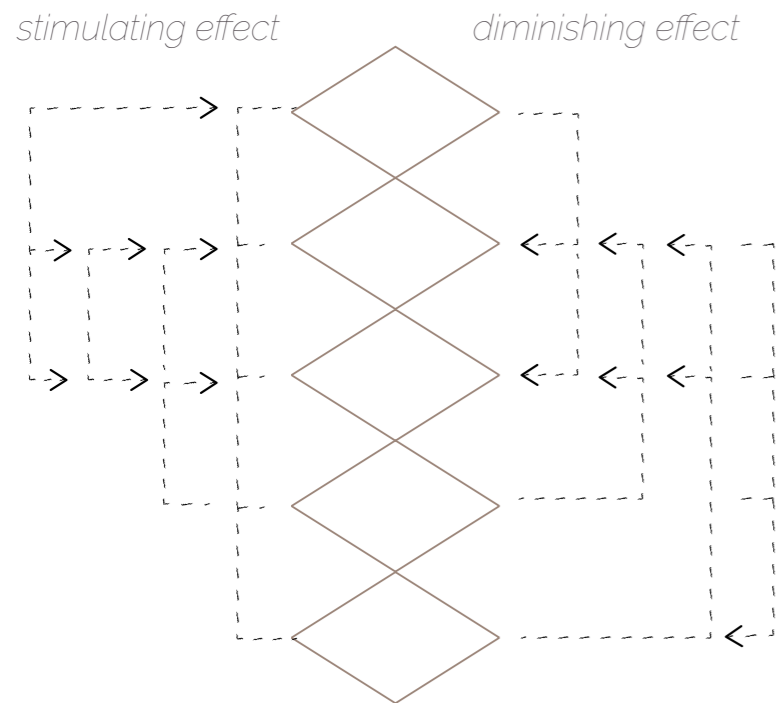
4

---

reflection

# 3 strategic framework

## DEFINING INTERRELATIONS & SPATIAL IMPLICATIONS



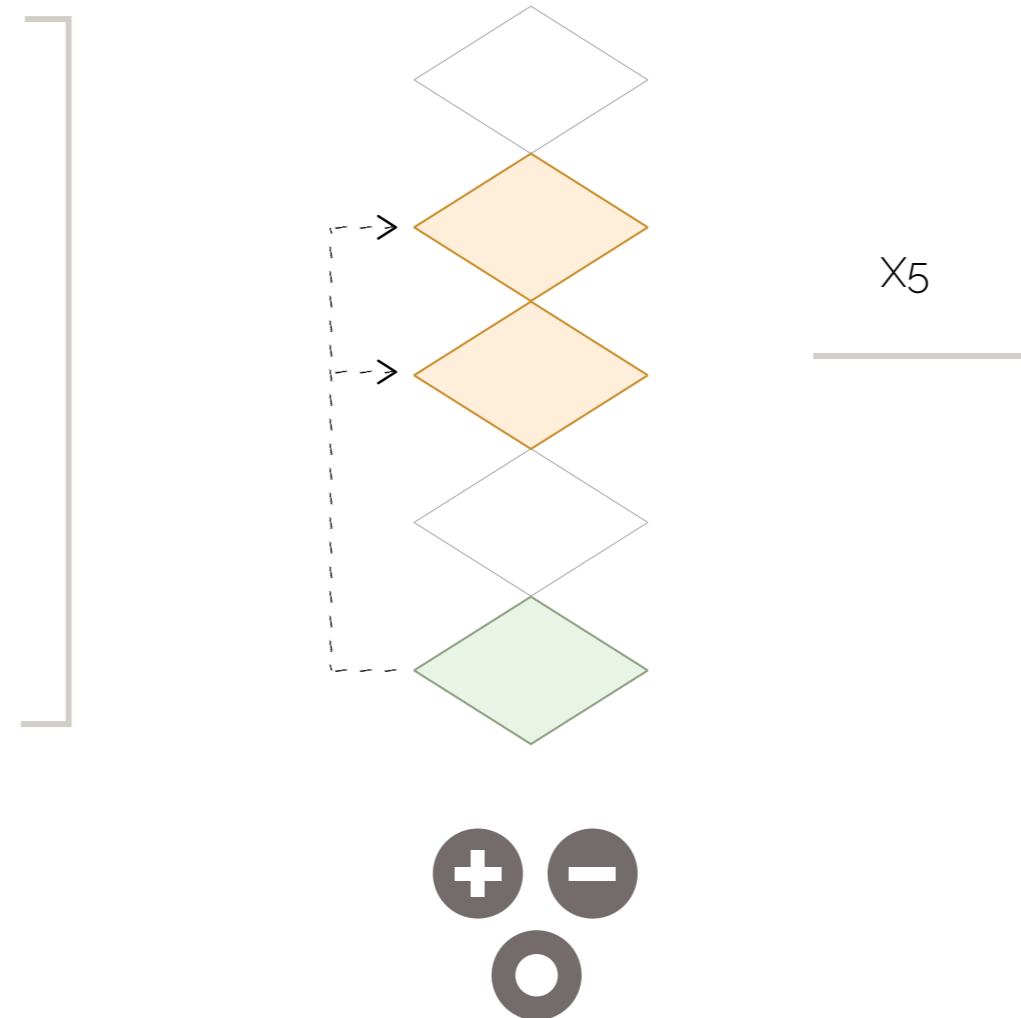
## DEFINING POTENTIALS & THREATS



## DEFINING INTERVENTIONS



## STRATEGIC PRINCIPLES MITIGATING THREATS, USING AND STRENGTHENING POTENTIALS

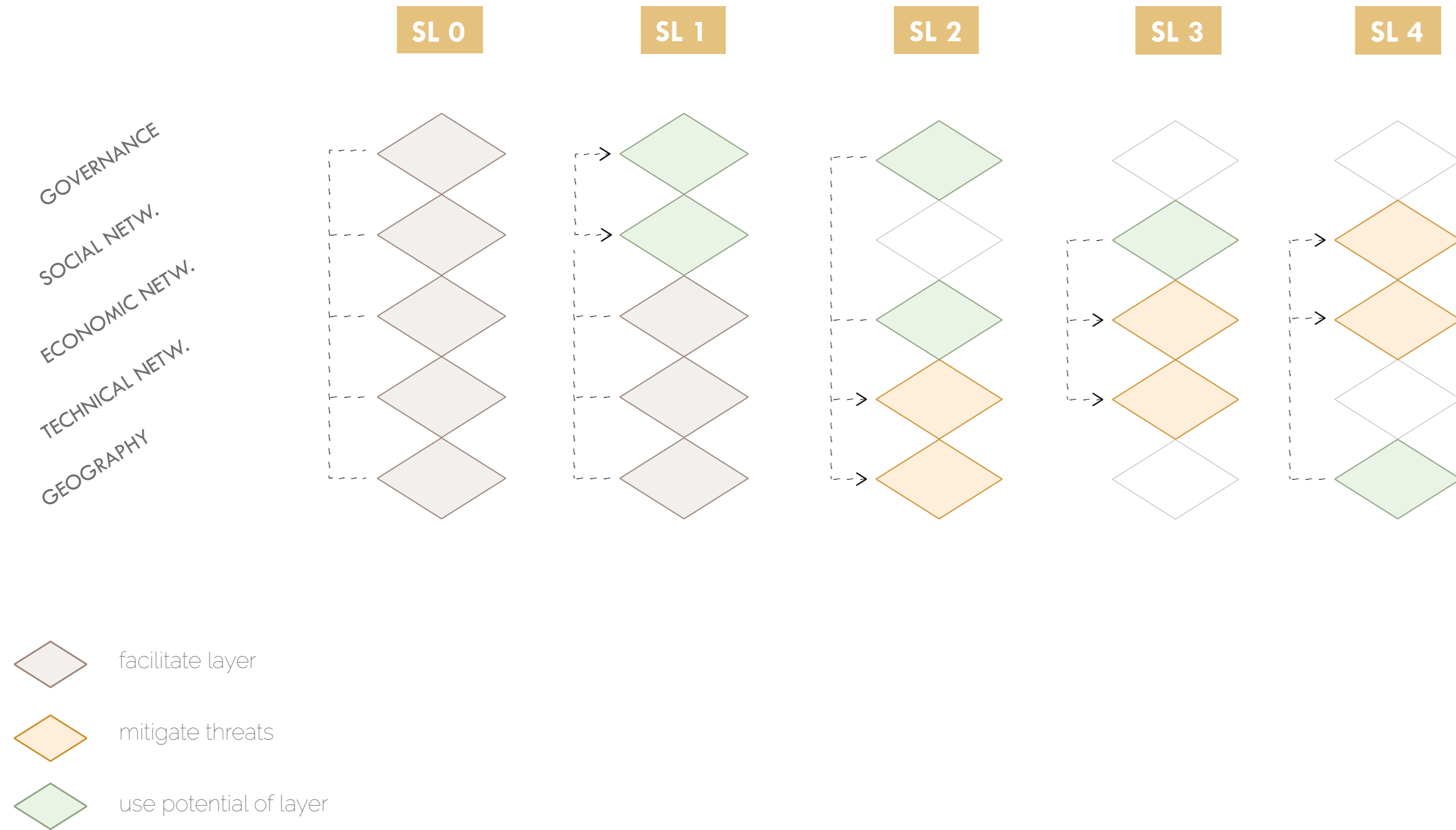


## 5 STRATEGIC LAYERS



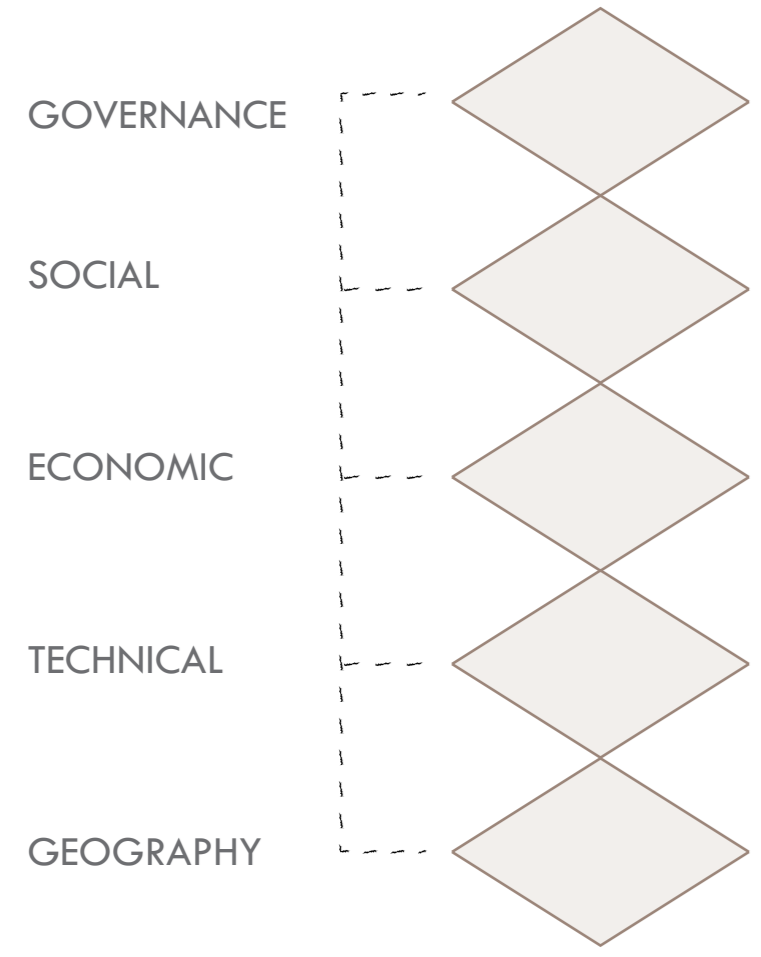





# 3 strategic framework



# 3 strategic layers

## SL 0 THE BASE



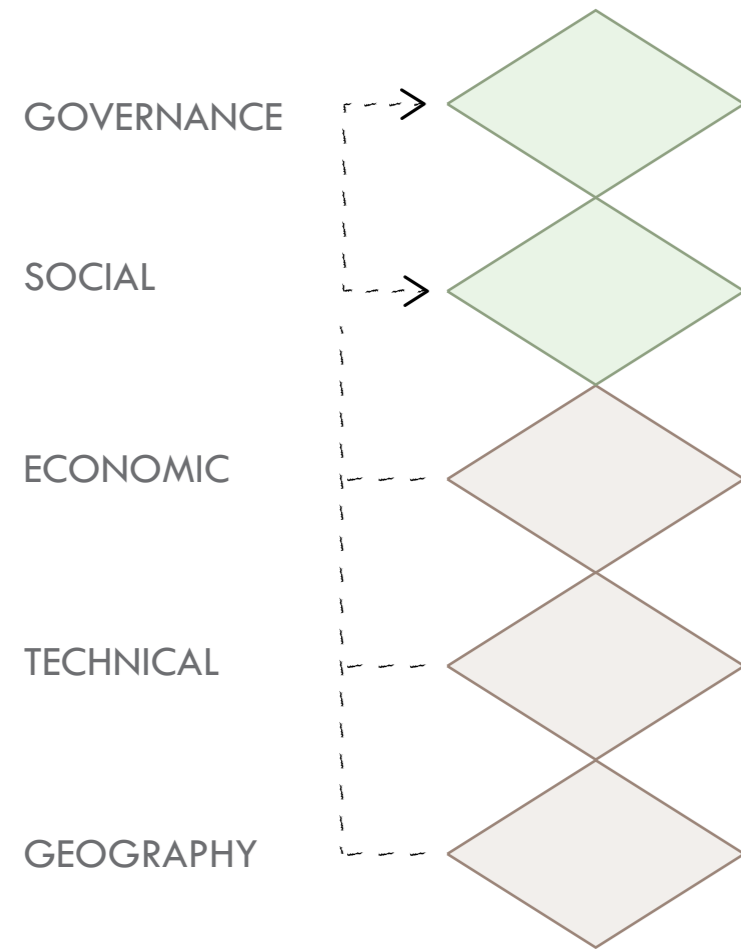
-  facilitate layer networks
-  mitigate threats
-  use potential of layer/networks





# 3 strategic layers

## SL 1 CO-OPERATIVE COMMUNITY



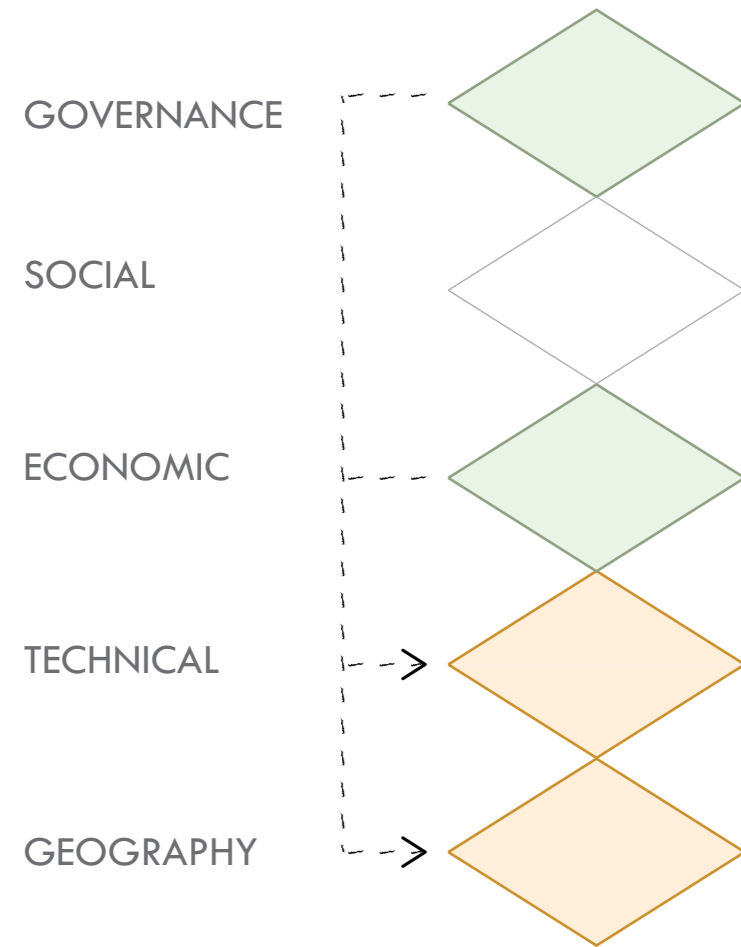
- facilitate layer networks
- mitigate threats
- use potential of layer/networks






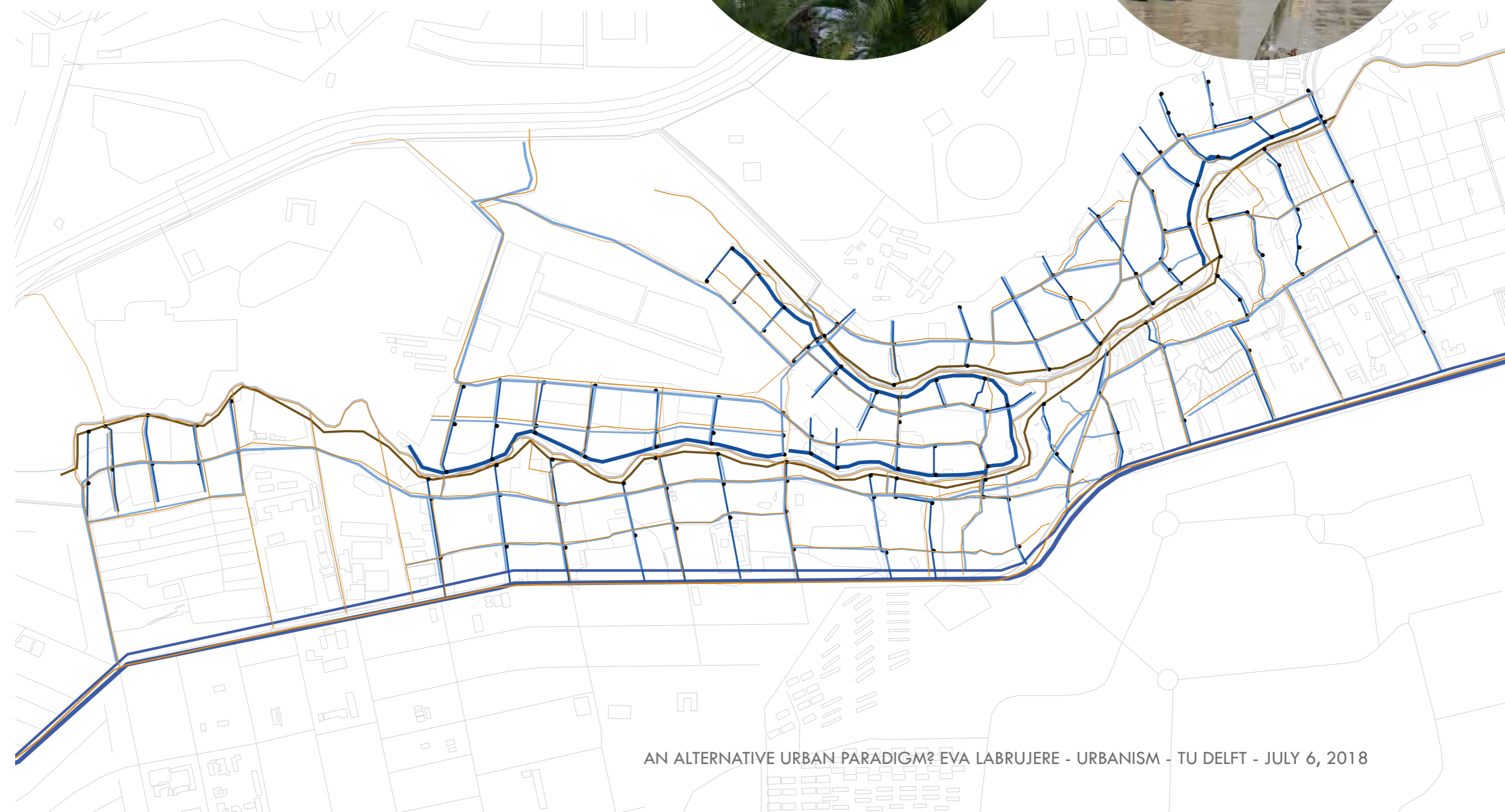


# 3 strategic layers

## SL 2 A SAFE ENVIRONMENT



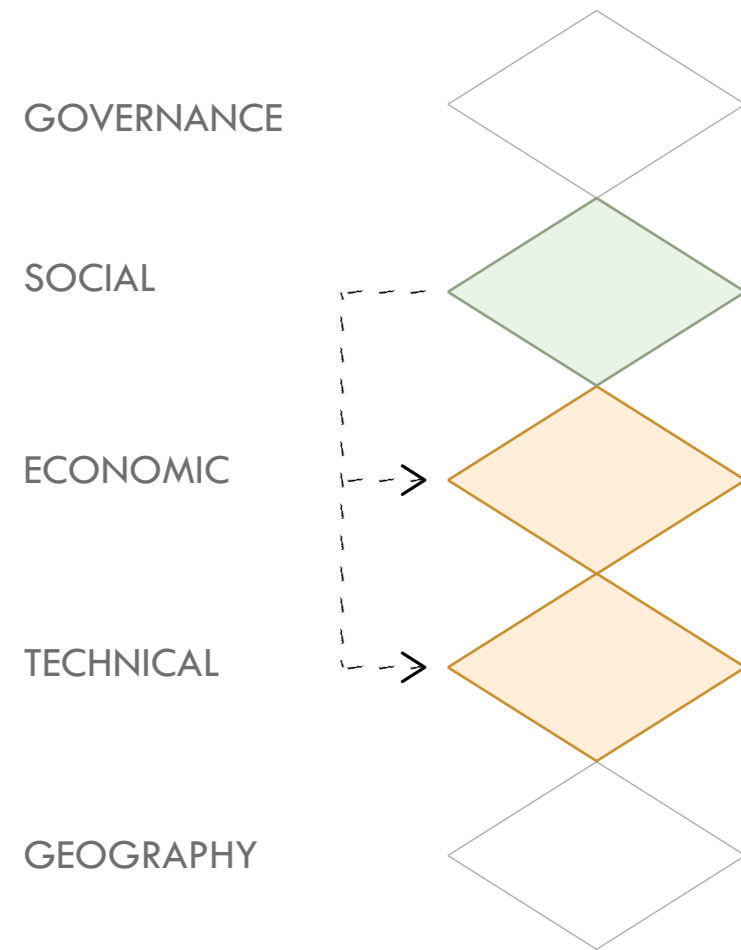
-  facilitate layer networks
-  mitigate threats
-  use potential of layer/networks





# 3 strategic layers

## SL 3 INCREMENTAL HOUSING



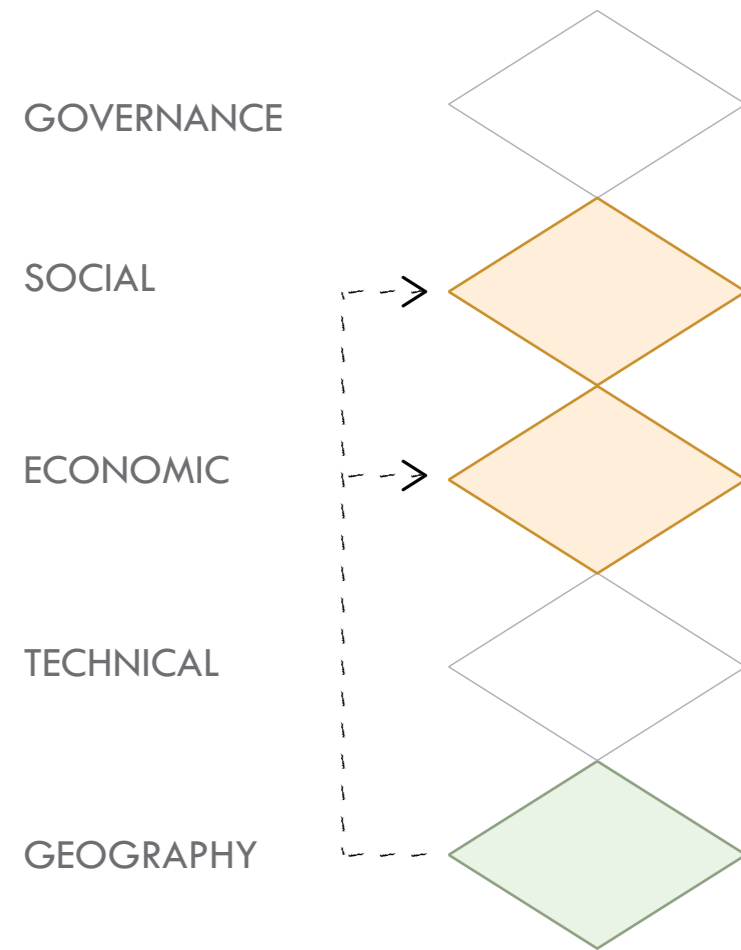
- facilitate layer networks
- mitigate threats
- use potential of layer/networks





# 3 strategic layers

## SL 4 PUBLIC SPACE NETWORK

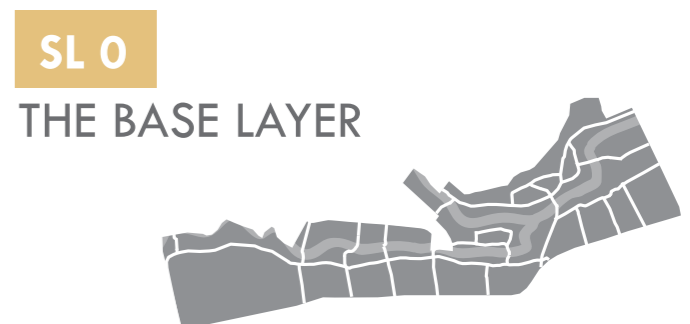


- facilitate layer networks
- mitigate threats
- use potential of layer/networks





### 3 strategic layers



### 3 strategic layers

#### SL 1 CO-OPERATIVE COMMUNITY





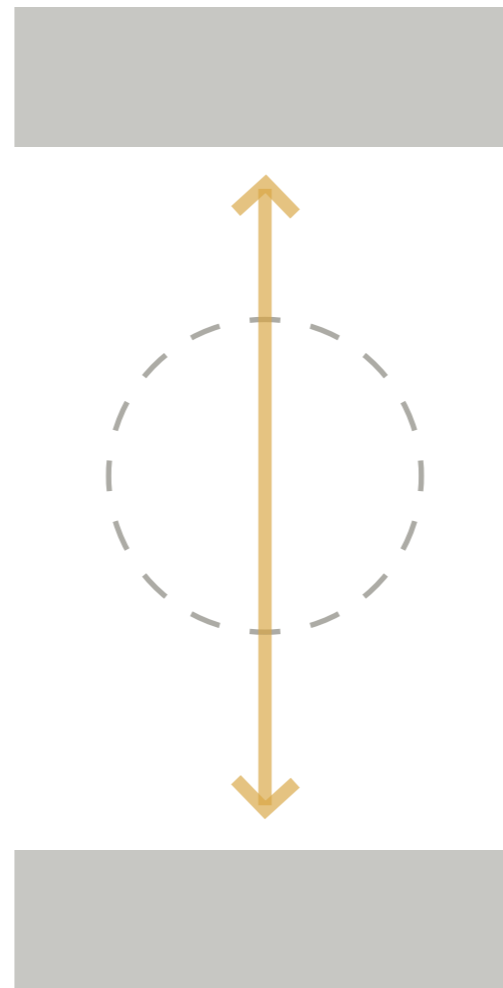
### 3 strategic layers

#### SL 1 CO-OPERATIVE COMMUNITY

##### cooperative principles

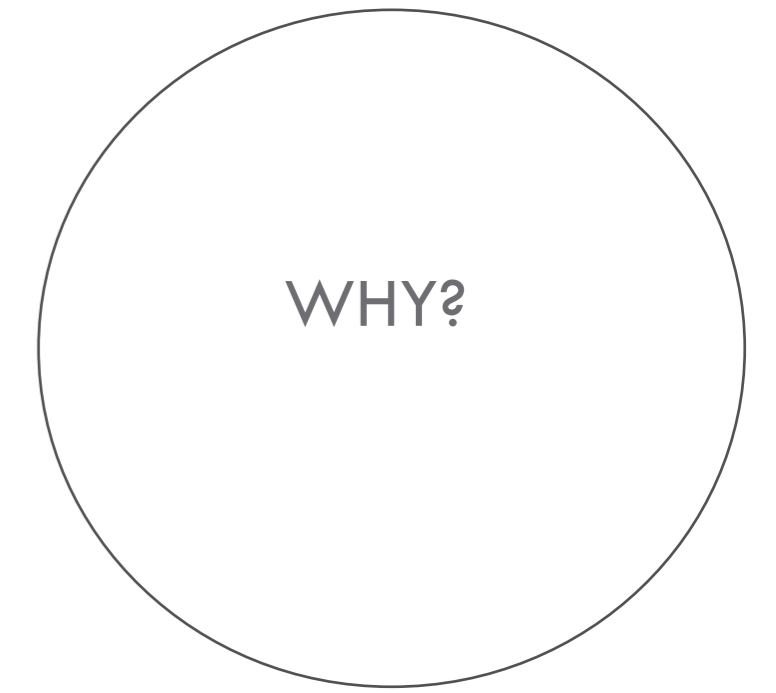
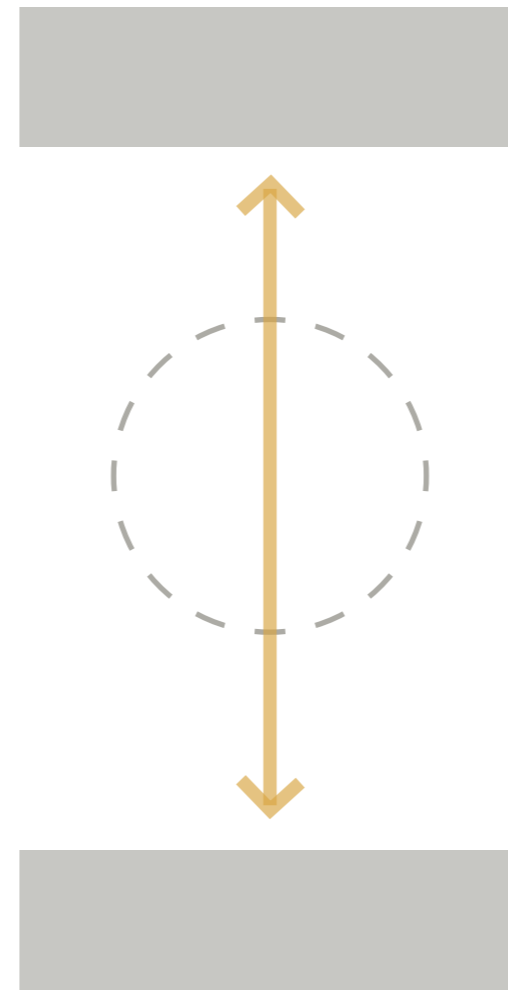
- voluntary and open membership
- democratic member control
- member economic participation
- autonomy and independence
- education, training and information
- cooperation among cooperatives
- concern for community

(Wanyama, 2014)



### 3 strategic layers

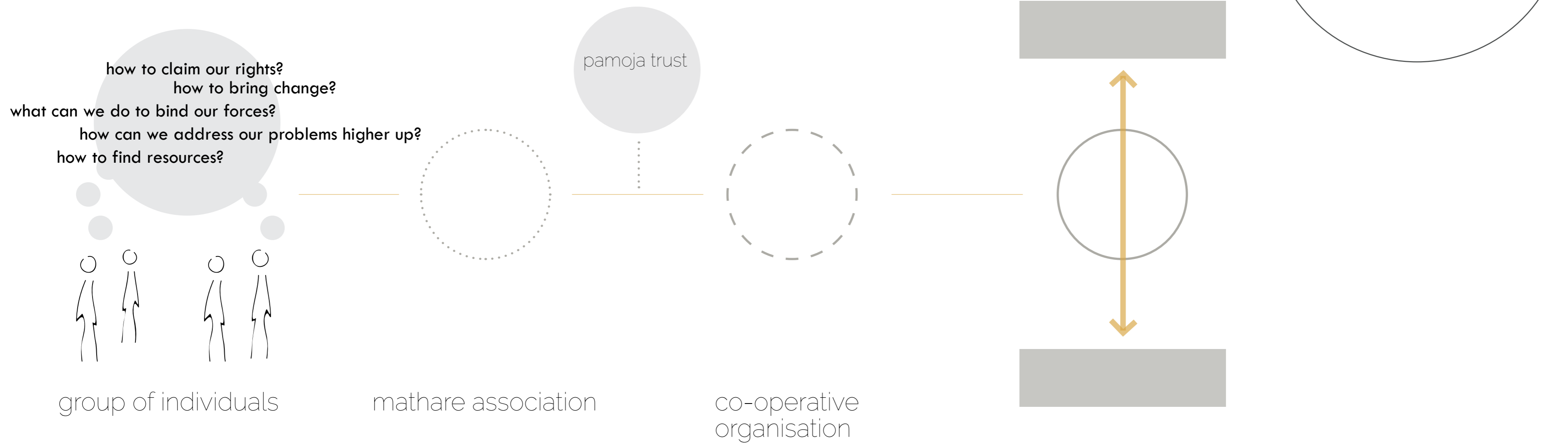
#### SL 1 CO-OPERATIVE COMMUNITY





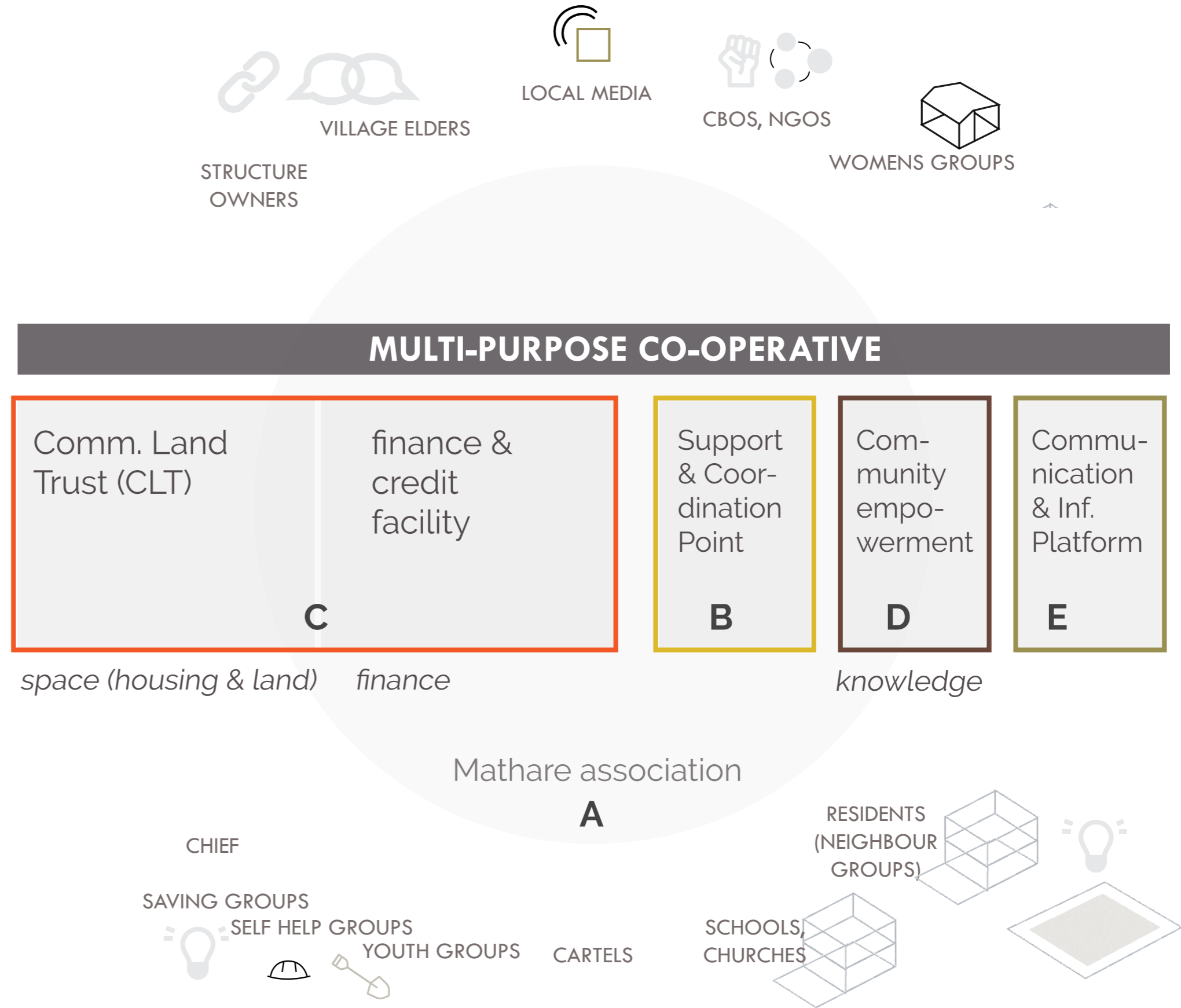
### 3 strategic layers

#### SL 1 CO-OPERATIVE COMMUNITY



# 3 strategic layers

## SL 1 CO-OPERATIVE COMMUNITY

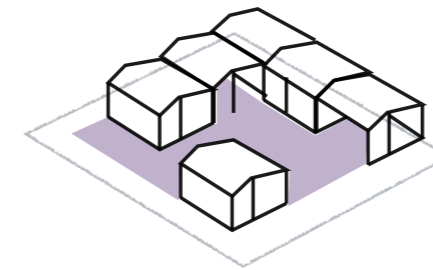




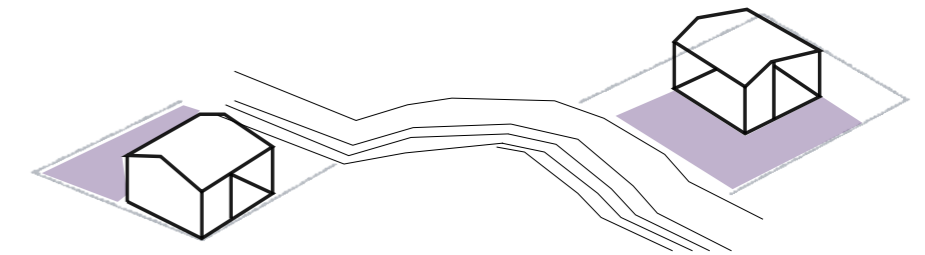
# 3 strategic layers

## SL 1 CO-OPERATIVE COMMUNITY

- A
- B
- C
- D
- E



MATHARE CENTER



NEIGHBOURHOOD PAVILLIONS



(fromlandscapetoroofscape, 2016)  
(Kounkuey Design Initiative)  
(ikhayalami.org)

(fromlandscapetoroofscape, 2016)

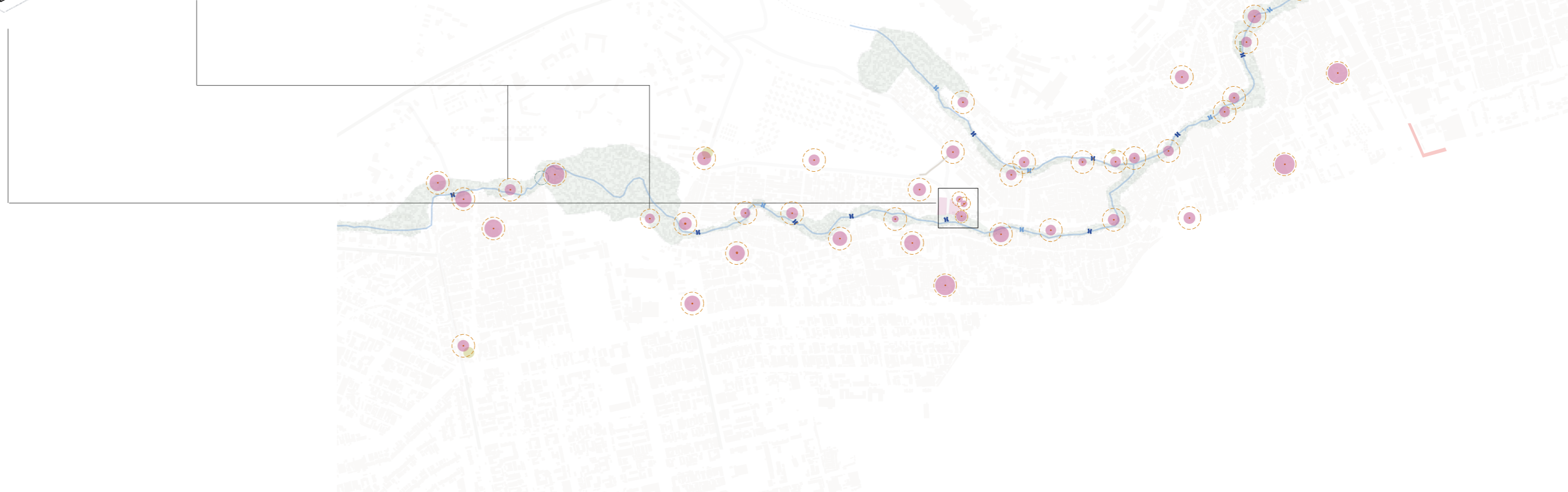
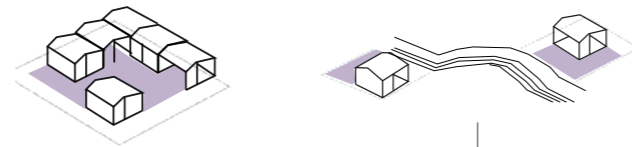
### 3 strategic layers

SL 4

## PUBLIC SPACE NETWORK



CO-OP. SPACES





### 3 strategic layers

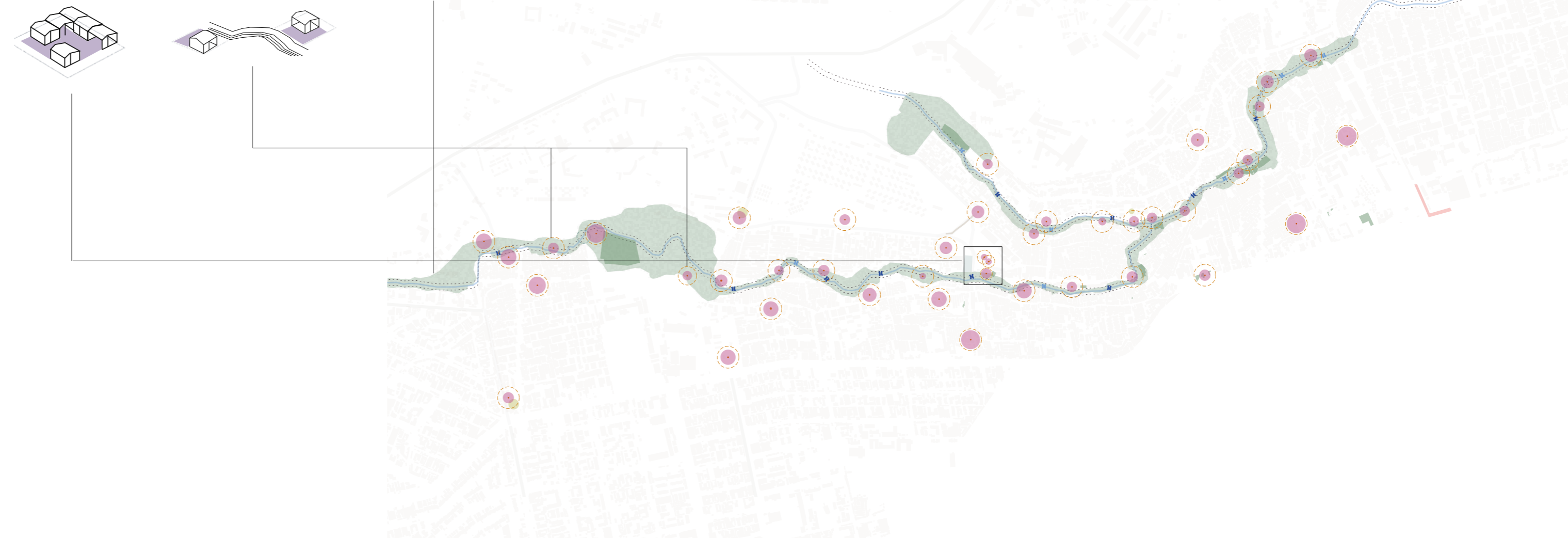
SL 4

## PUBLIC SPACE NETWORK



CO-OP. SPACES

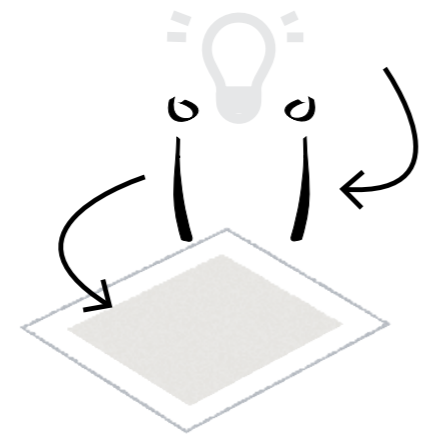
RIPARIAN ZONE



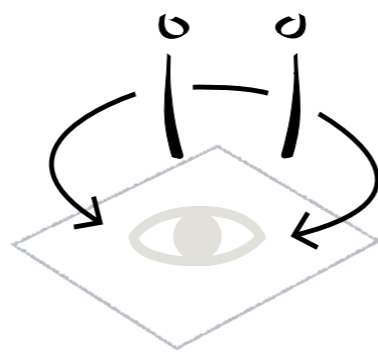
### 3 strategic layers

#### SL 4

## PUBLIC SPACE NETWORK



TRANSFORM NEEDS OF SOCIAL GROUPS TO SPATIAL INITIATIVES



OWNERSHIP OVER SPACE

- A ■
- B □
- C □
- D □
- E □





### 3 strategic layers

SL 4

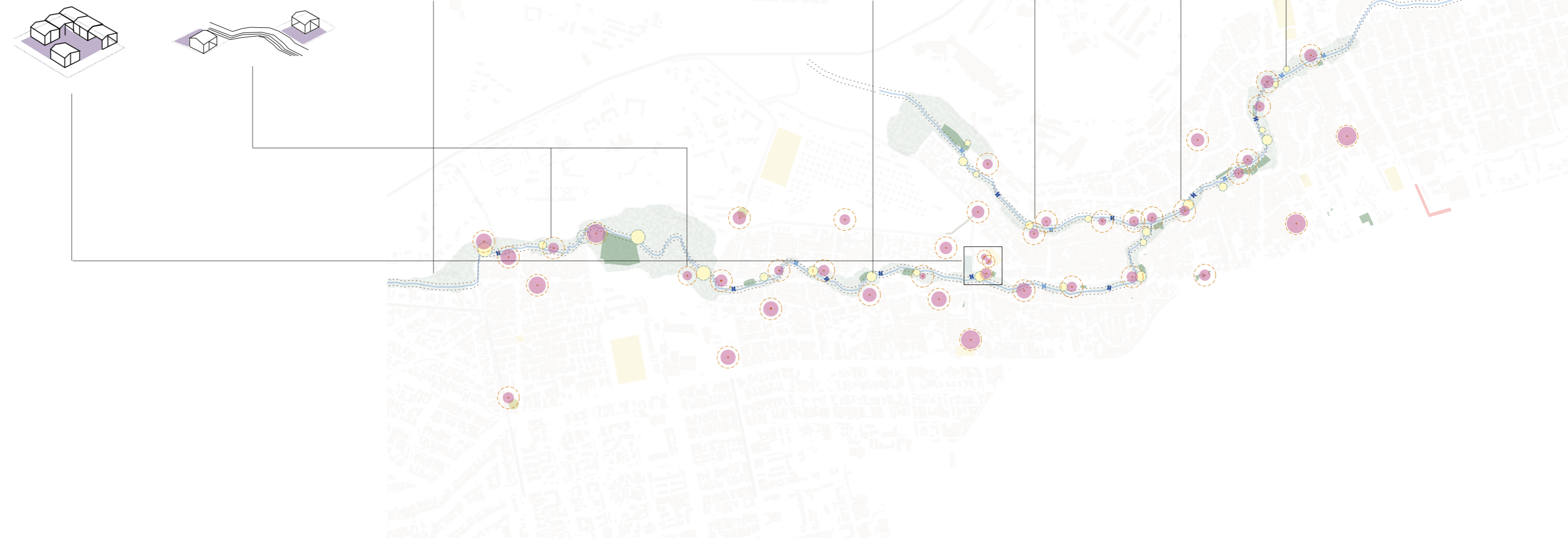
## PUBLIC SPACE NETWORK



CO-OP. SPACES

RIPARIAN

COMMUNITY PROJECTS





# 3 strategic layers

SL 4

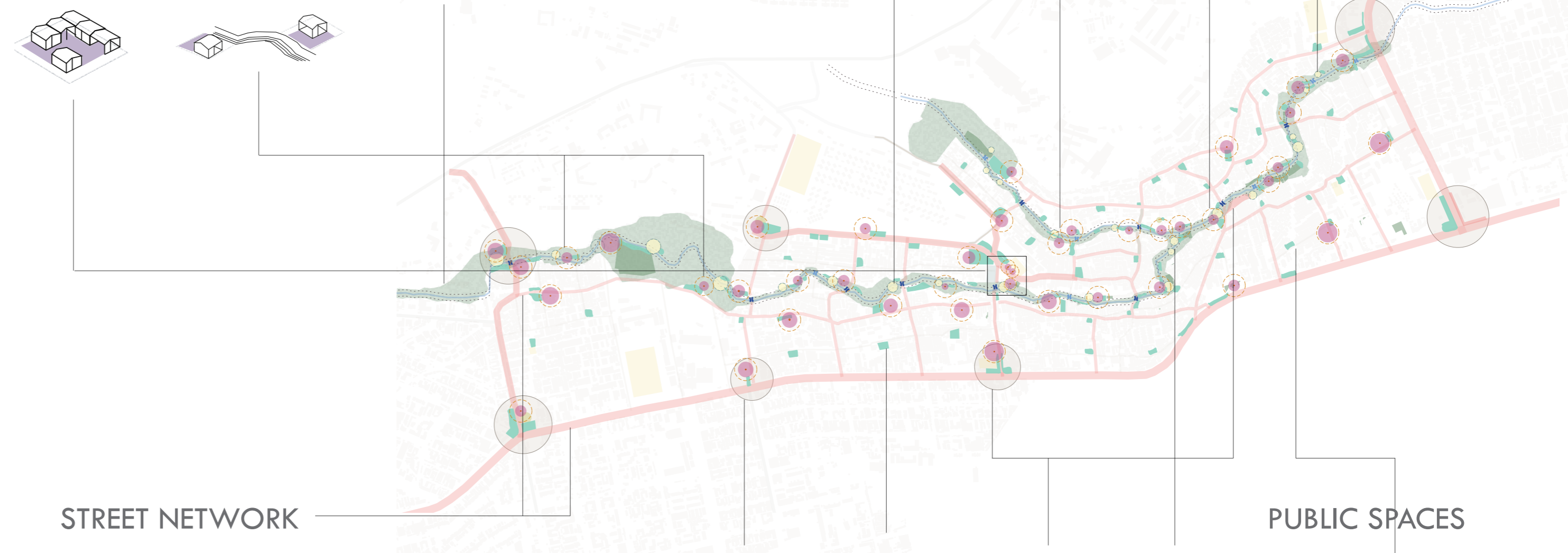
## PUBLIC SPACE NETWORK



CO-OP. SPACES

RIPARIAN

COMMUNITY PROJECTS



STREET NETWORK

PUBLIC SPACES





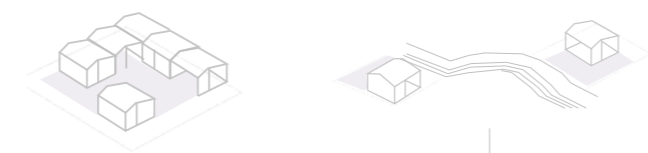
### 3 demonstration on the site



CO-OP. SPACES

RIPARIAN

COMMUNITY PROJECTS



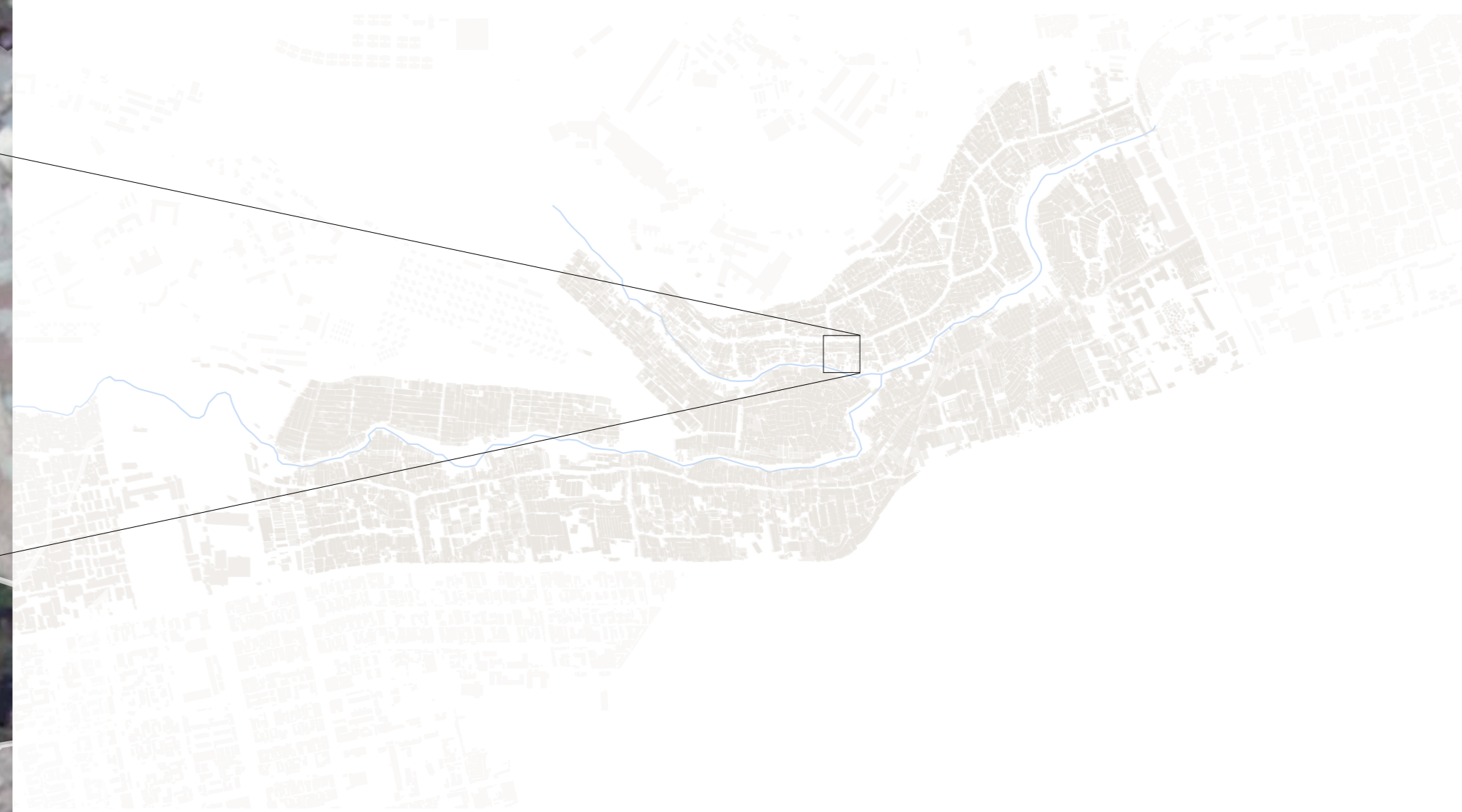
STREET NETWORK

PUBLIC SPACES





### 3 demonstration on the site





### 3 demonstration on the site

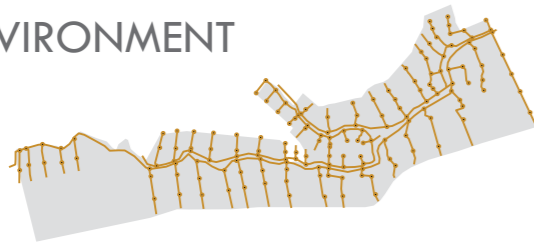
PUBLIC SPACE NETWORK



INCREMENTAL HOUSING



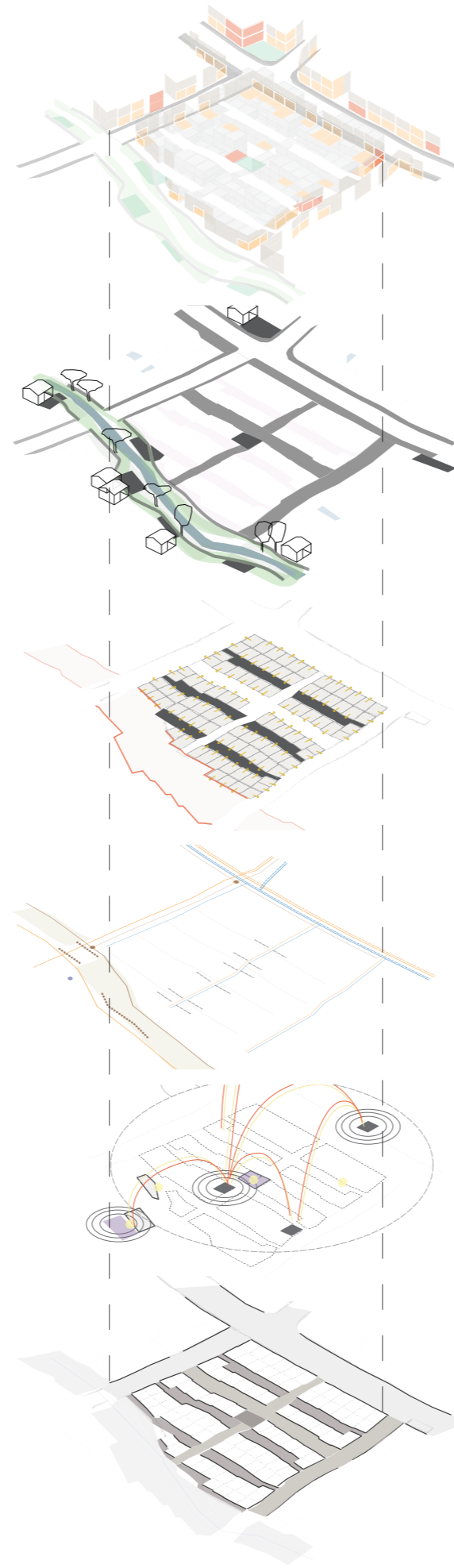
A SAFE ENVIRONMENT



CO-OPERATIVE COMMUNITY



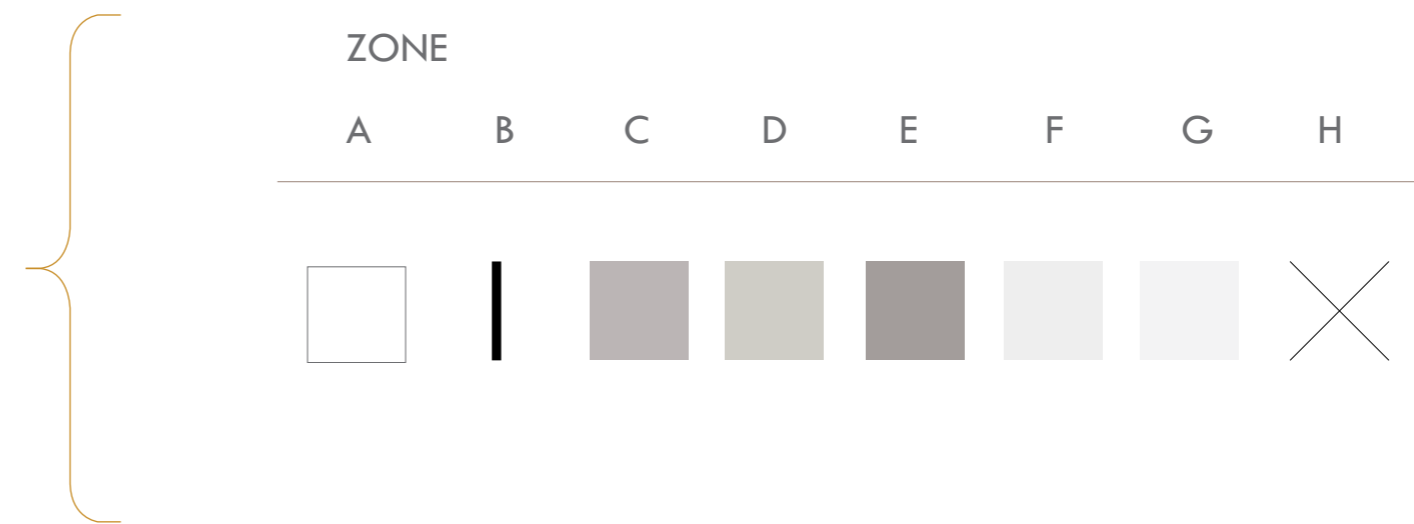
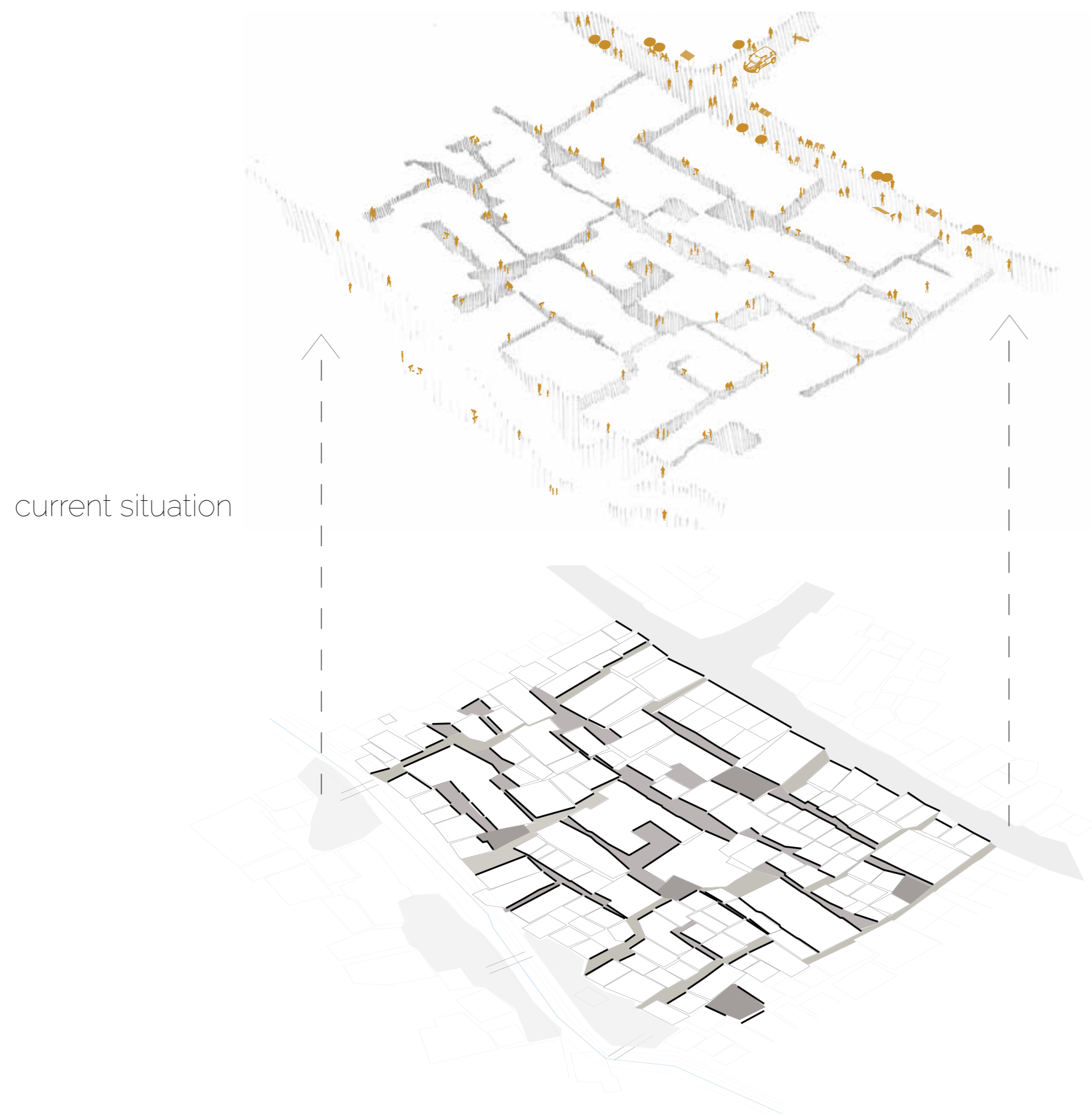
THE BASE LAYER



BASIC PRINCIPLE

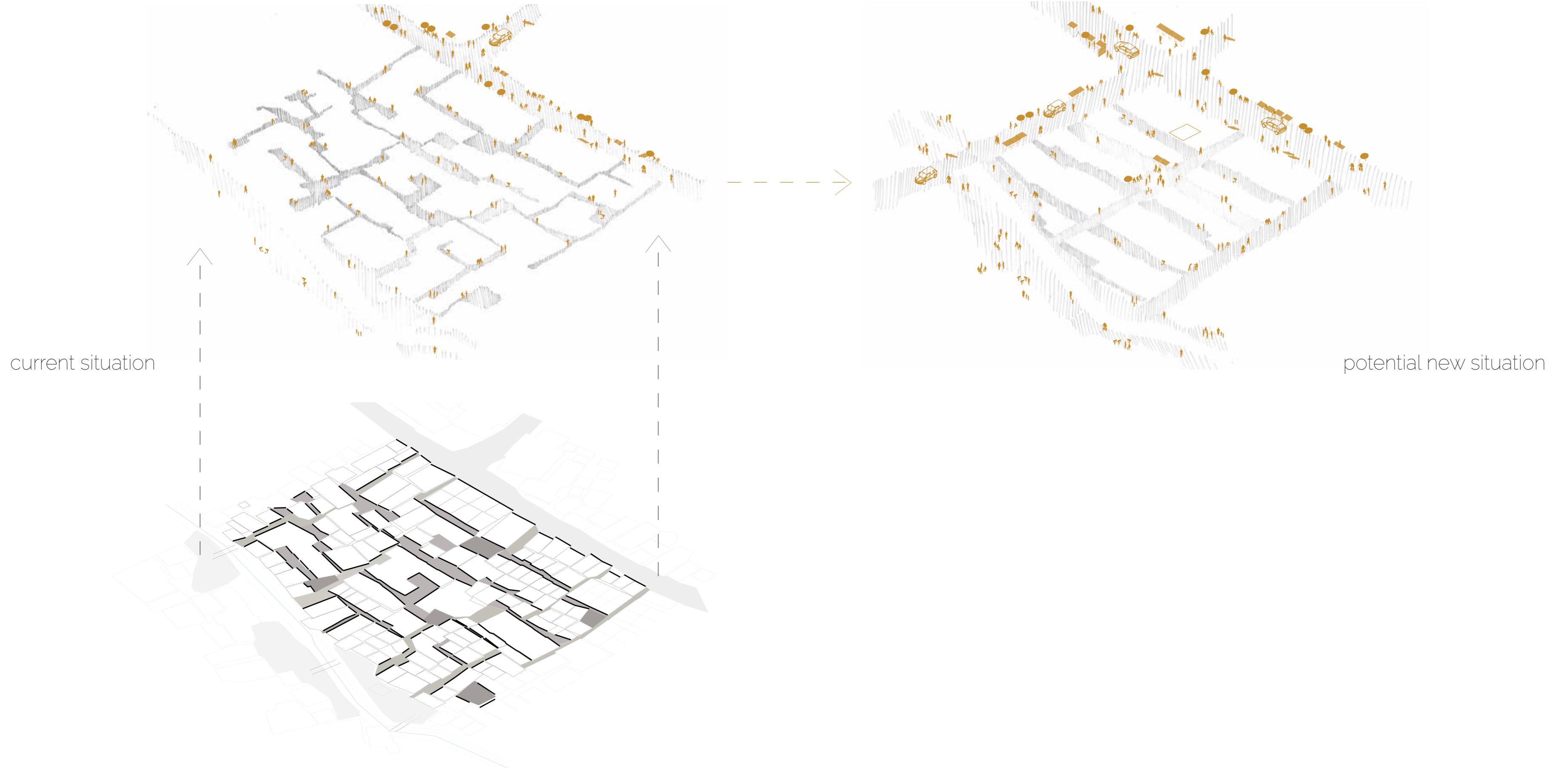


### 3 demonstration on the site

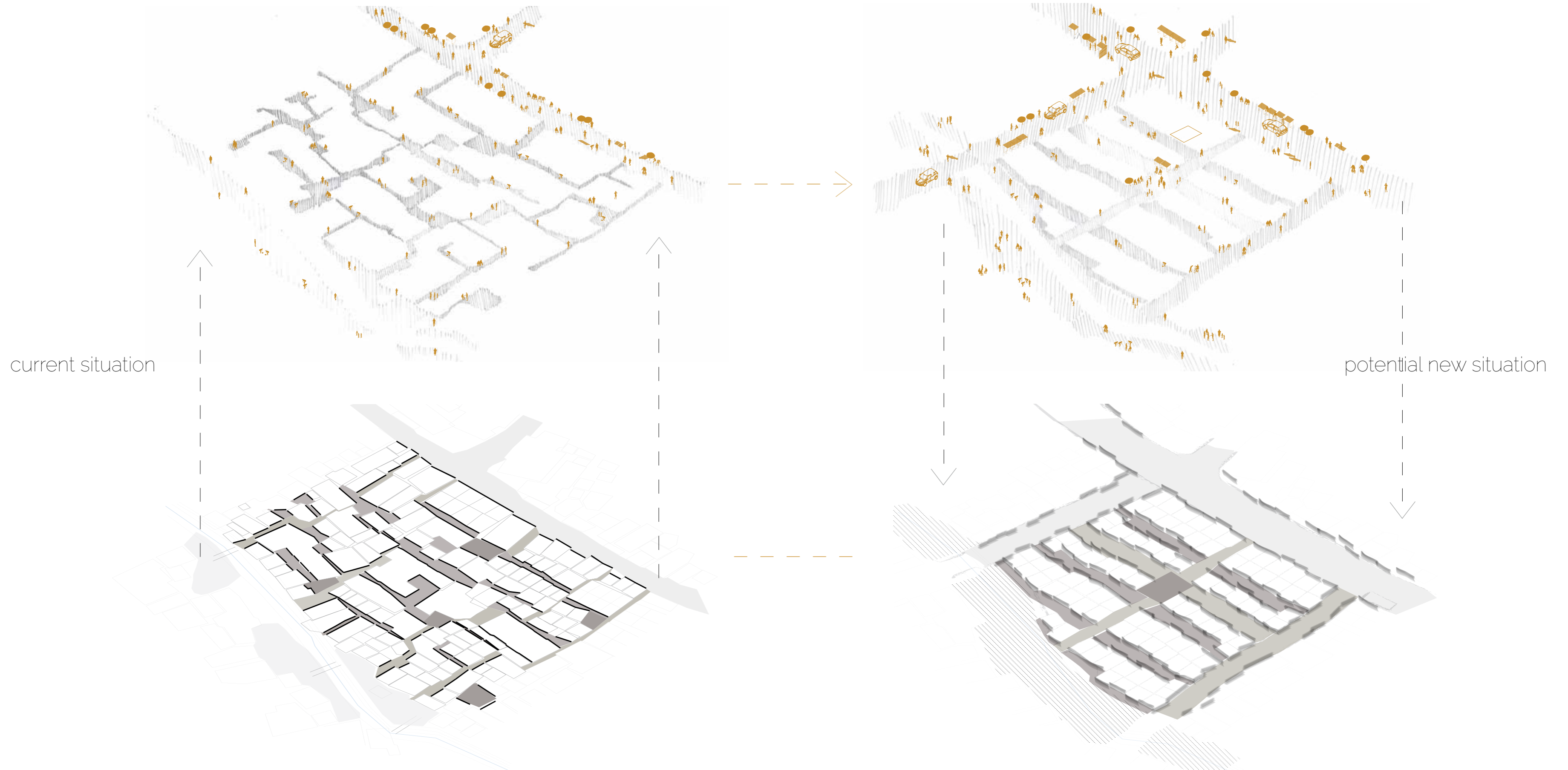




### 3 demonstration on the site

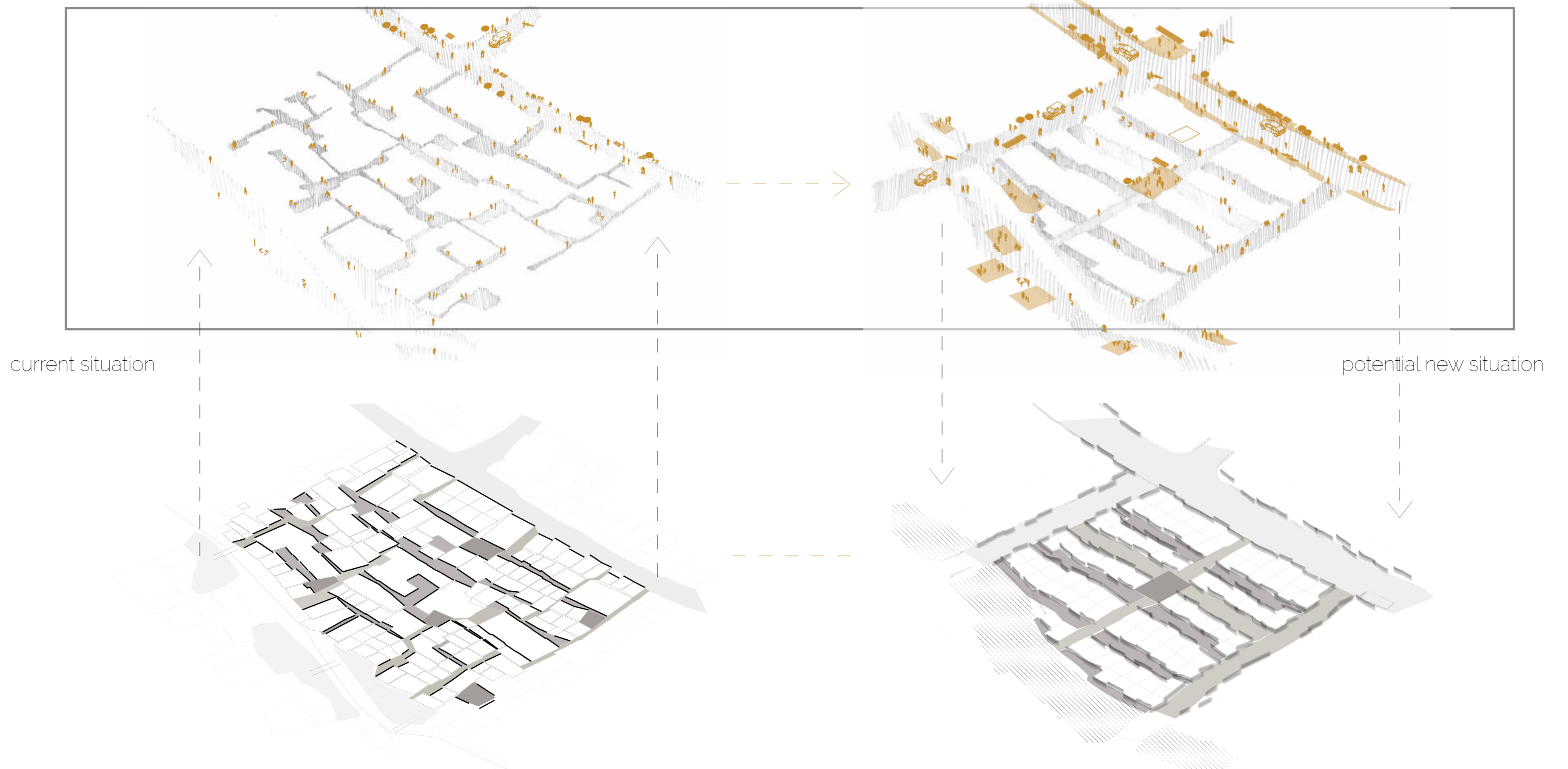


### 3 demonstration on the site





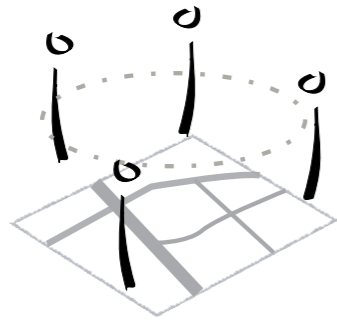
### 3 demonstration on the site



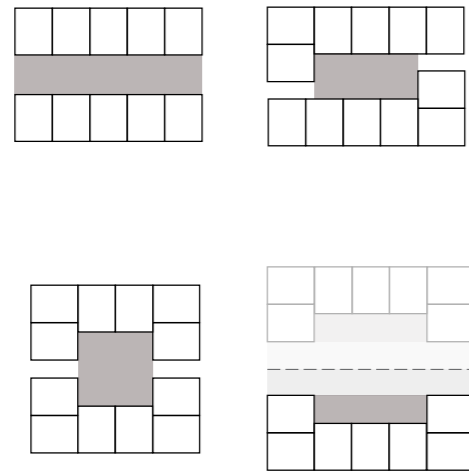
current situation

potential new situation

### 3 demonstration on the site



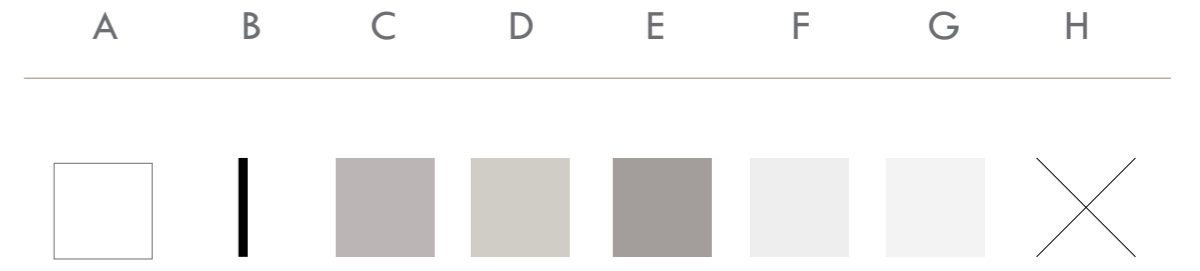
CONSENSUS ON  
VILLAGE DEMARCATION  
PLAN

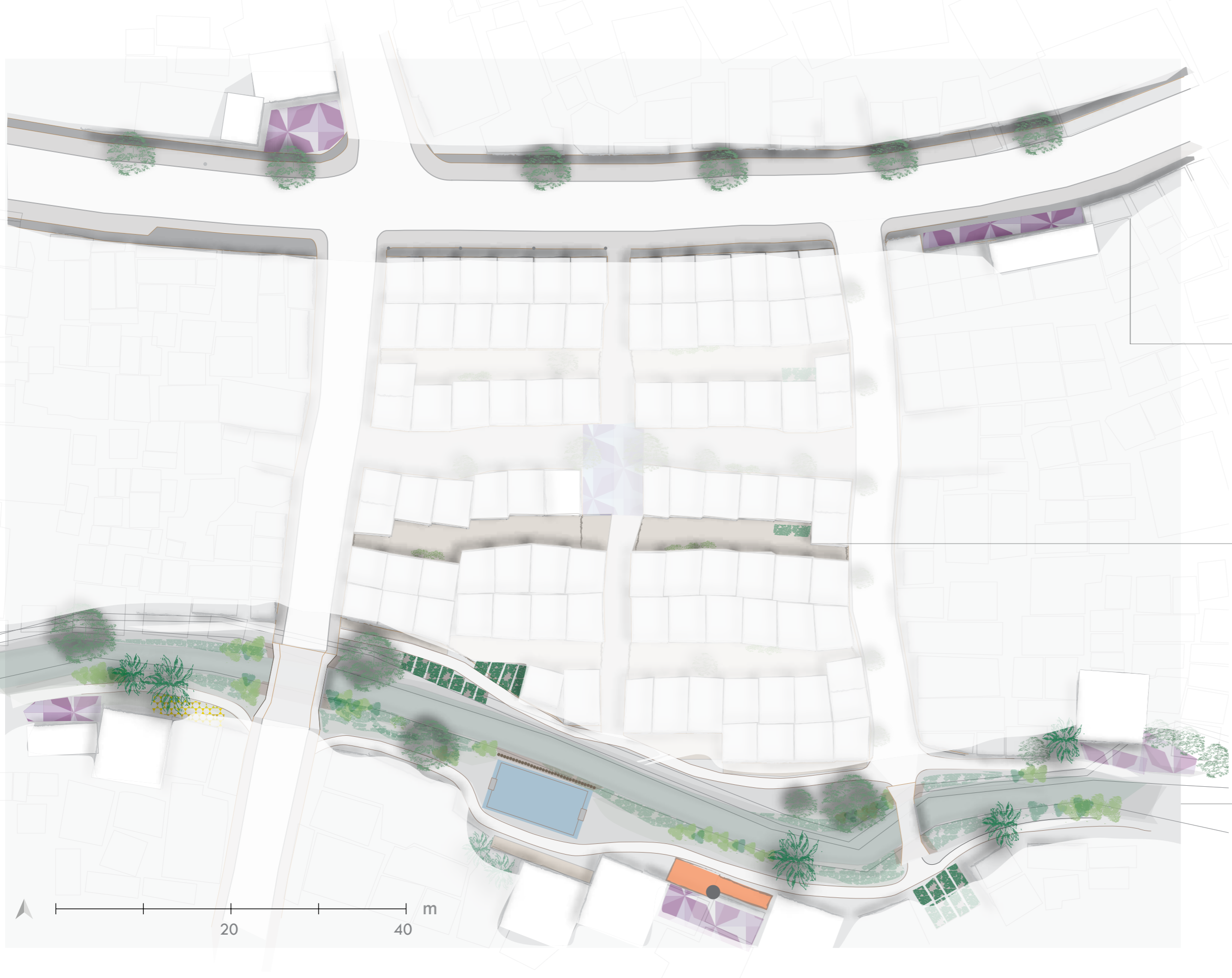


REORDERING THE  
SPATIAL ZONING SYSTEM:  
BASIC PRINCIPLE









A B C D E F G H



**ZONE F**

**LINEAR CONVERGENCES**  
inner main streets

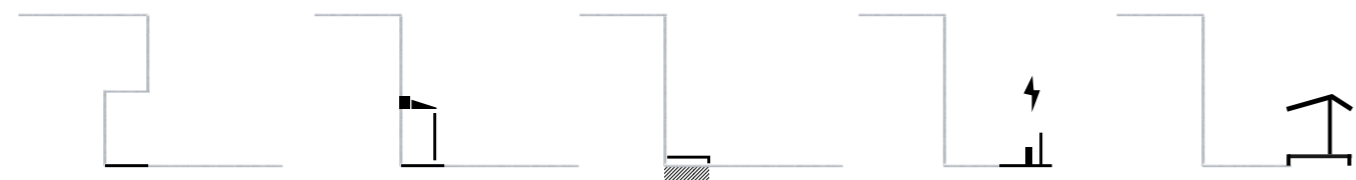
**ZONE C**

**A NEIGHBOUR IS LIKE YOUR BROTHER**  
collective spaces

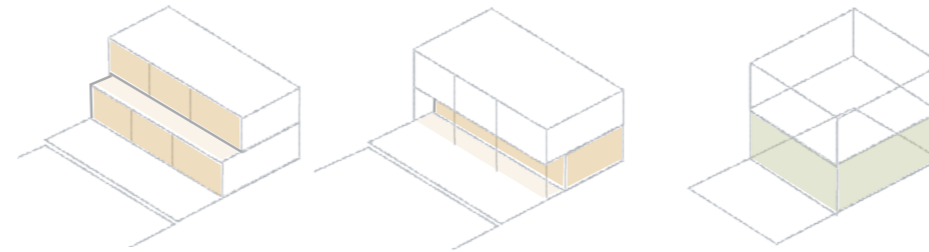
**ZONE G**

**LOVED AND FORGOTTEN EDGES**  
larger open spaces





MATERIALISE TRANSITION ZONES

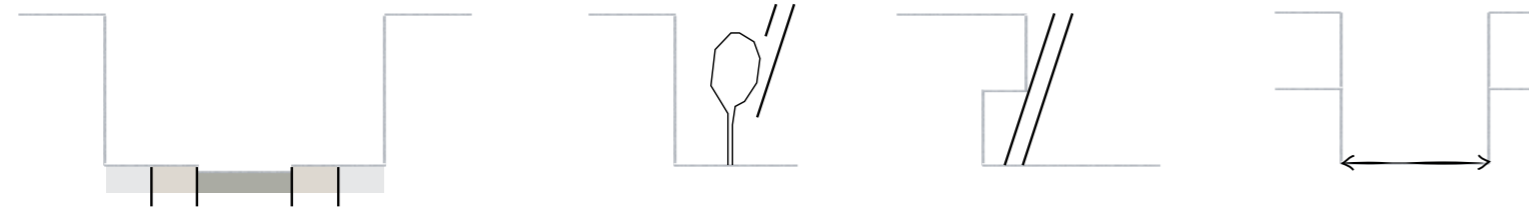
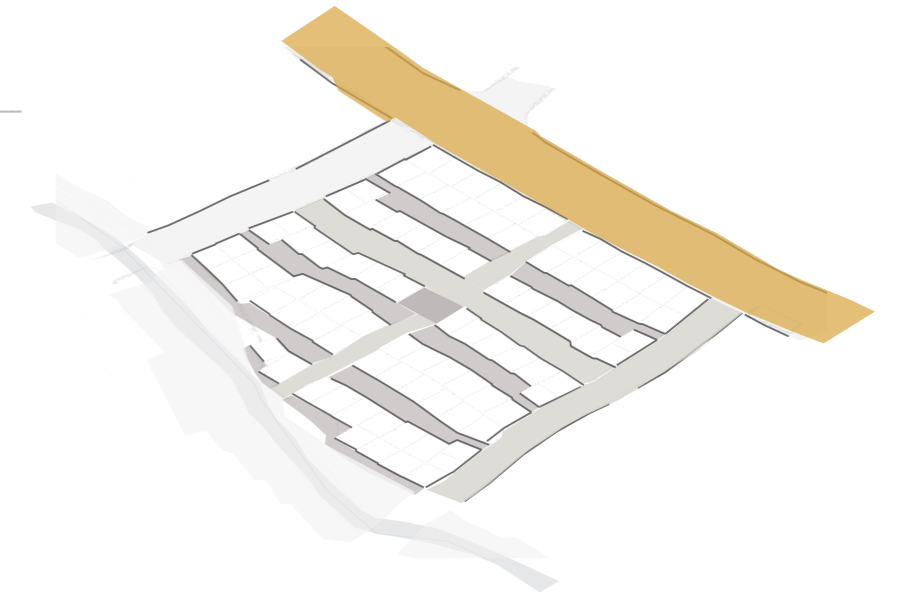


MIXED FUNCTIONALITY

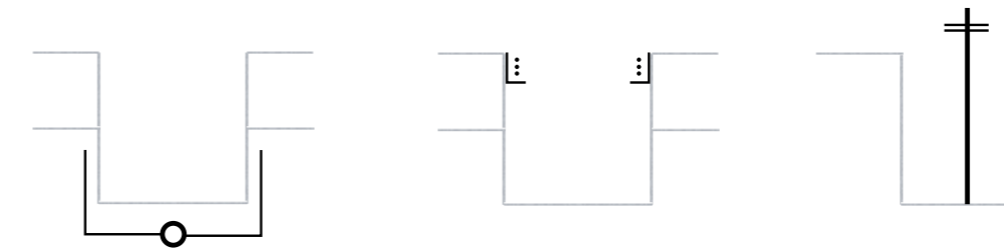
## ZONE F

### LINEAR CONVERGENCES

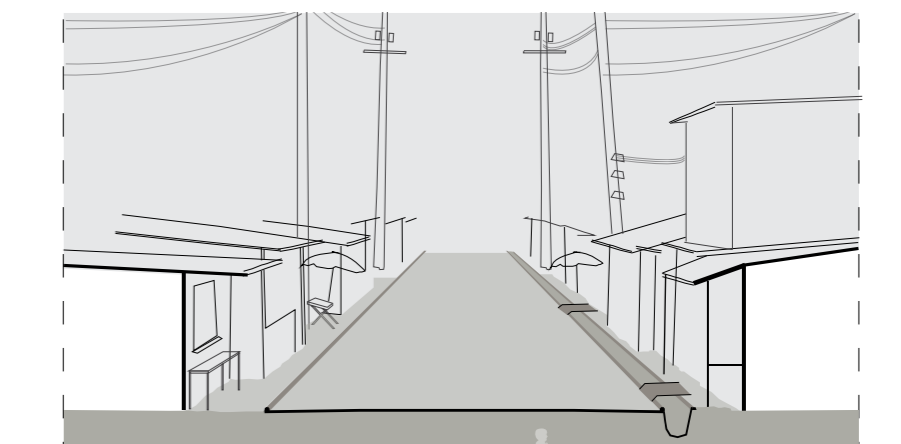
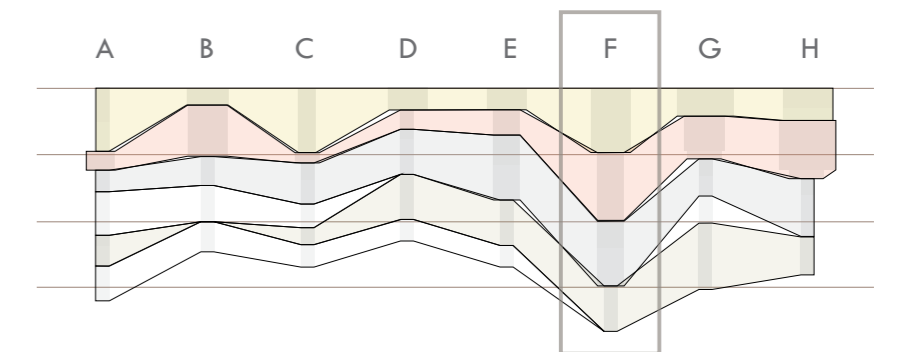
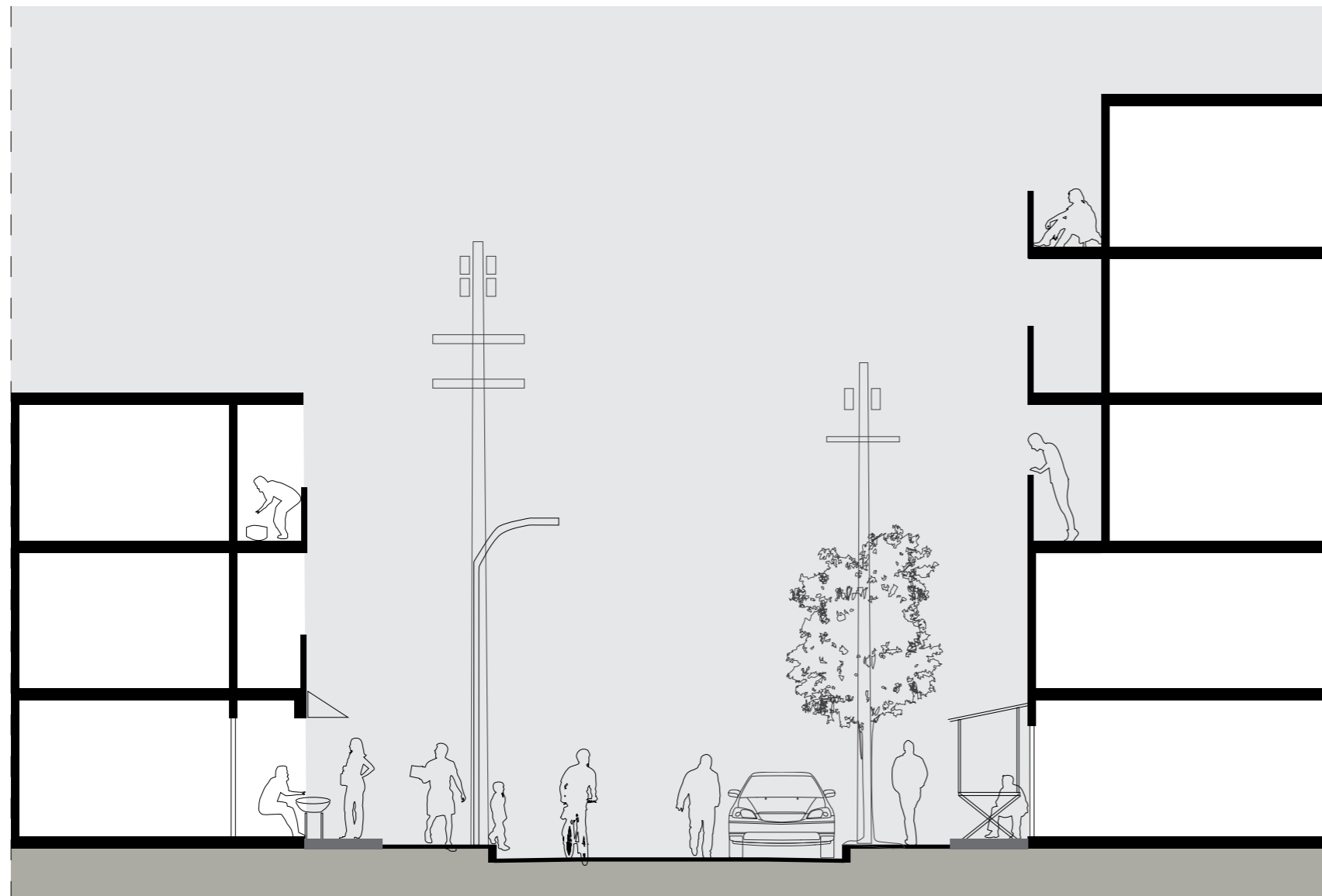
inner main streets  
multi-user zone

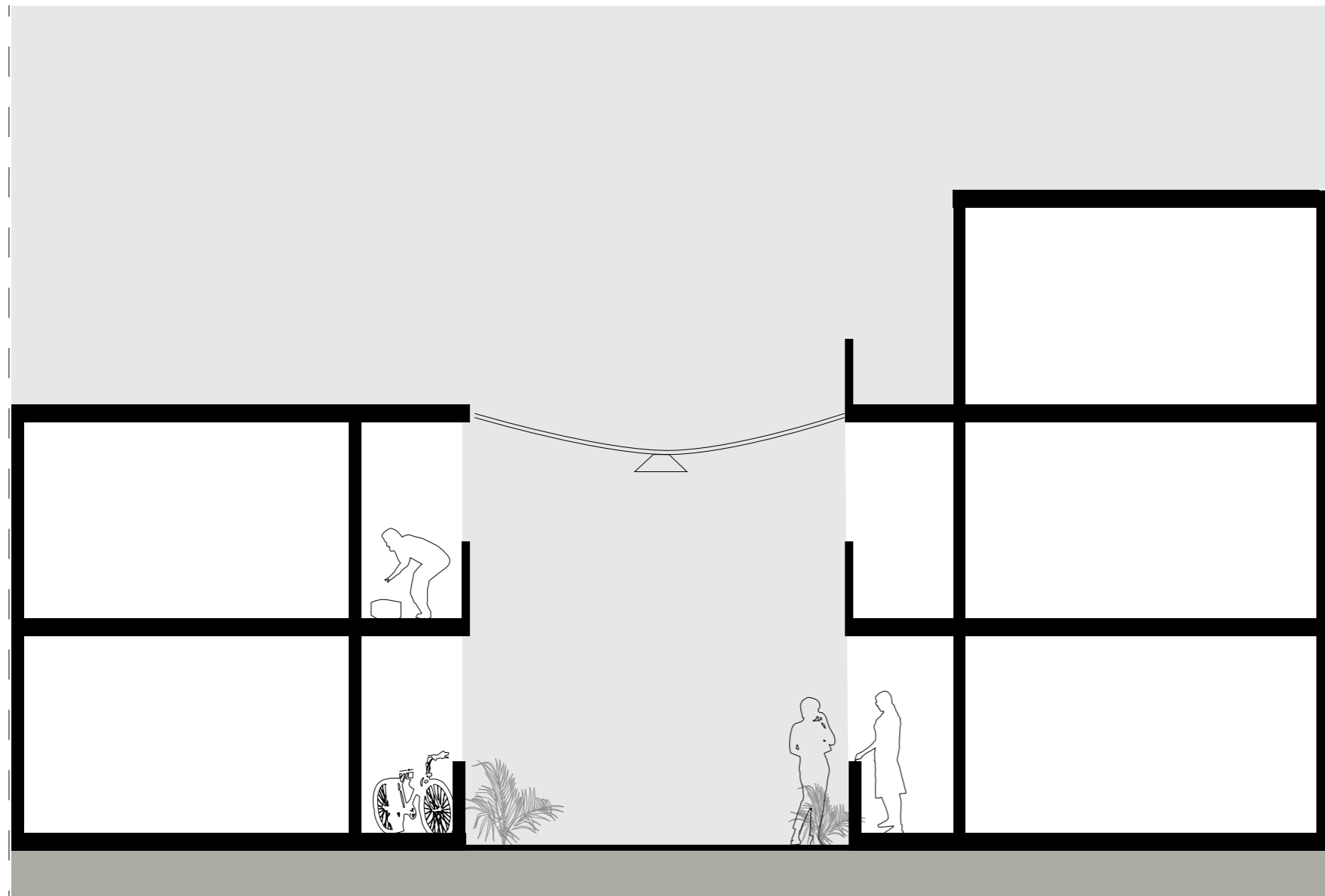


INCREASE LEGIBILITY AND ACCESSIBILITY



CARRIERS OF INFRASTRUCTURE

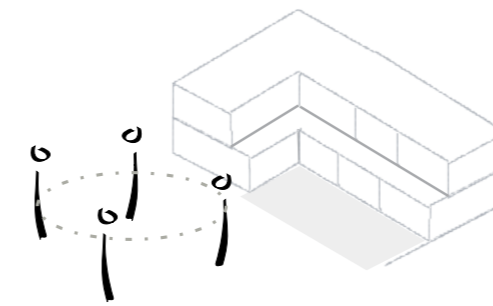
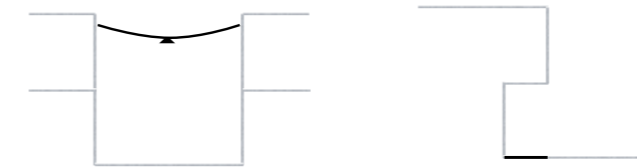




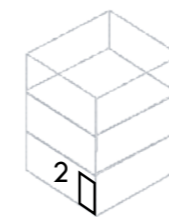
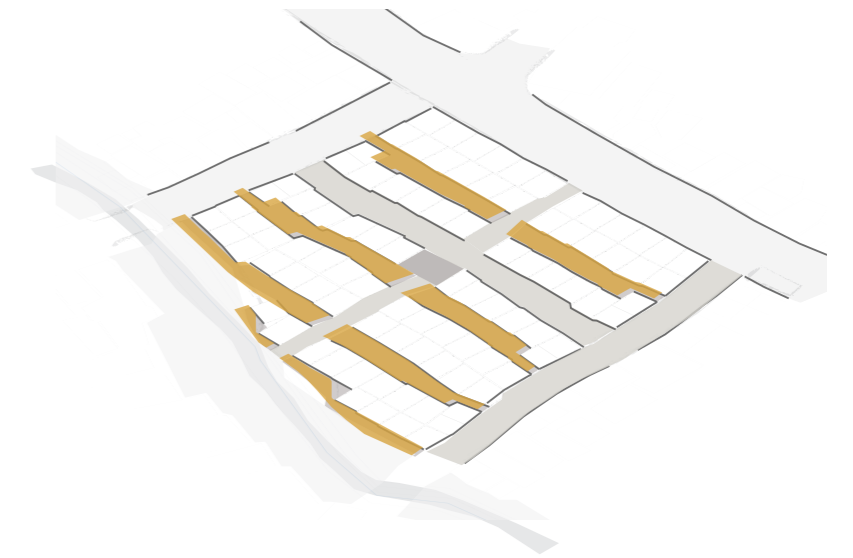
## ZONE C

A NEIGHBOUR IS LIKE YOUR BROTHER

collective spaces  
pedestrian & cyclist zone



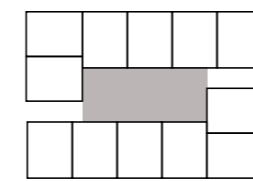
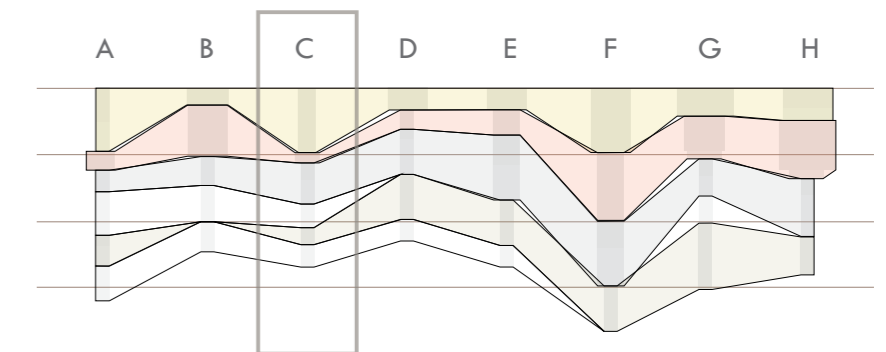
RESIDENTS' COLLECTIVE OWNERSHIP



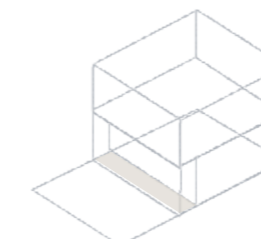
MAX HOUSEHOLD TO SHARE ENTRANCES



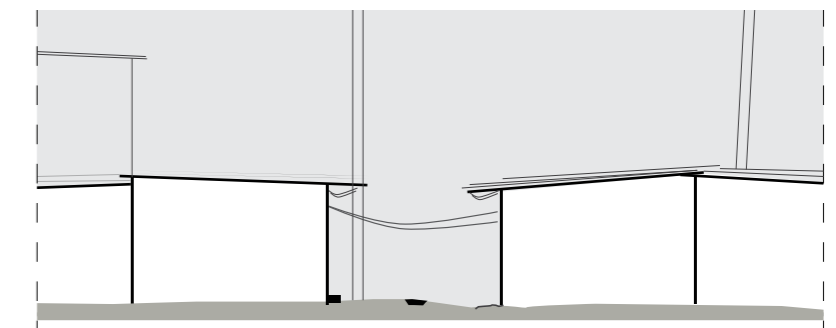
H = MAX. 2X WIDTH



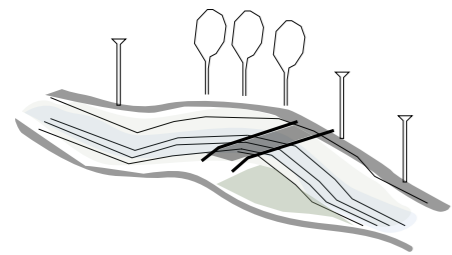
FLEXIBLE BLOCKING LAYOUT  
8-14 HOUSEHOLDS



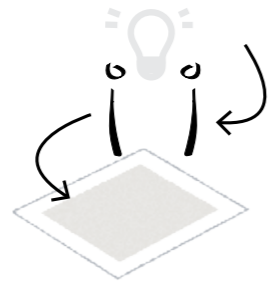
PROVIDING OUTDOOR SPACE: ADAPTATION



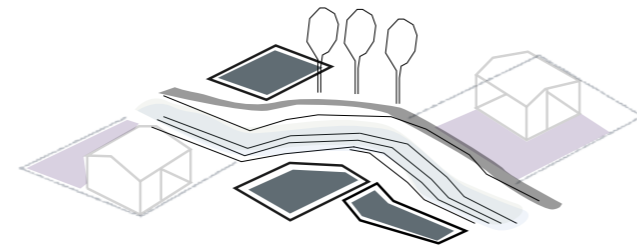




RIPARIAN ZONE



TRANSFORM NEEDS OF SOCIAL GROUPS TO SPATIAL INITIATIVES



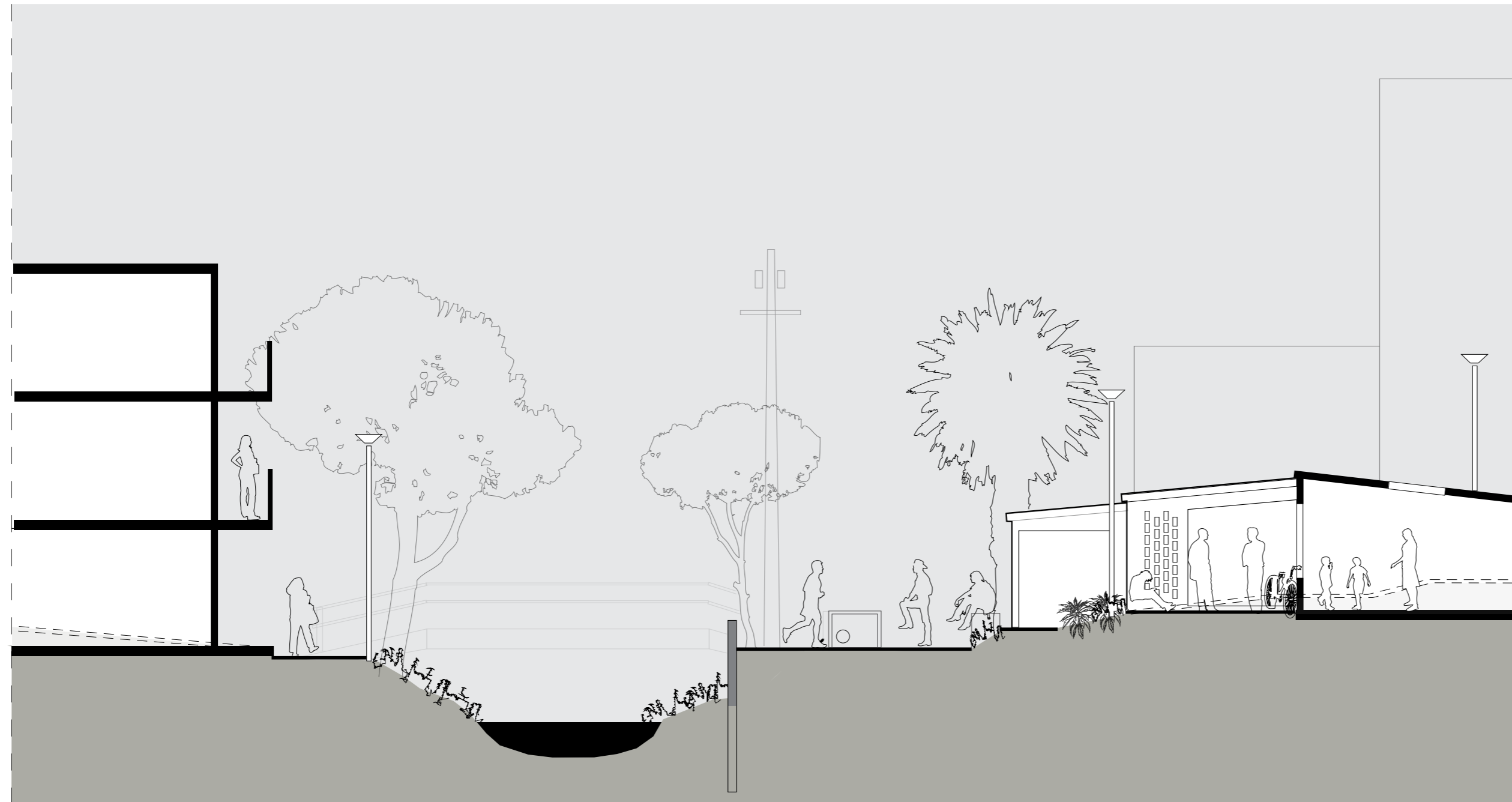
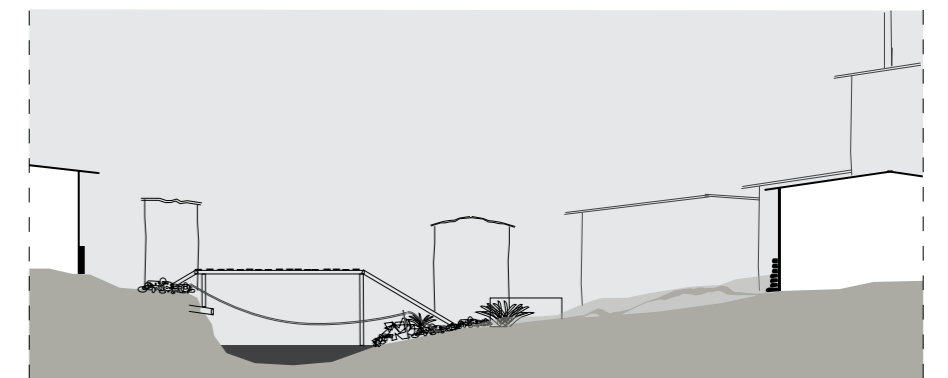
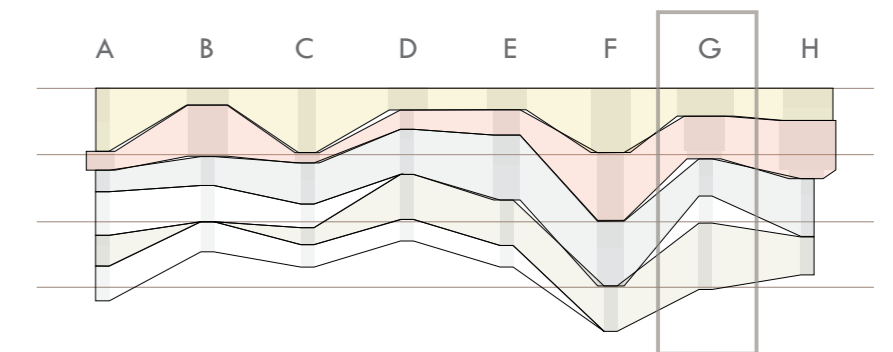
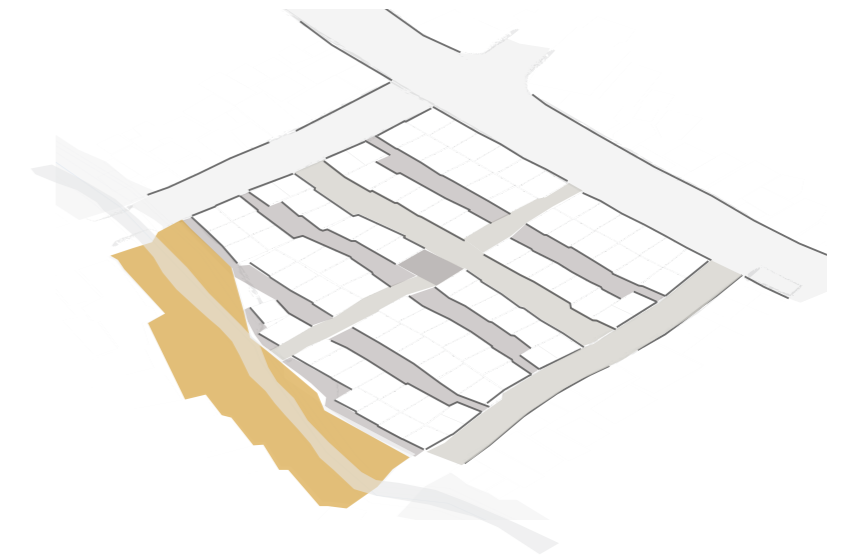
NEIGHBOURHOOD PAVILLIONS

INFILL RIPARIAN PUBLIC SPACES BY RESIDENTS INITIATIVES

## ZONE G

### LOVED AND FORGOTTEN EDGES

larger open spaces  
pedestrian & cyclist zone



1

---

context

problem statement

project definition

2

---

analysis

conclusions

3

---

strategic f/w

strategic layers

SL1 - co-operative comm.

SL4 - public space network

site design

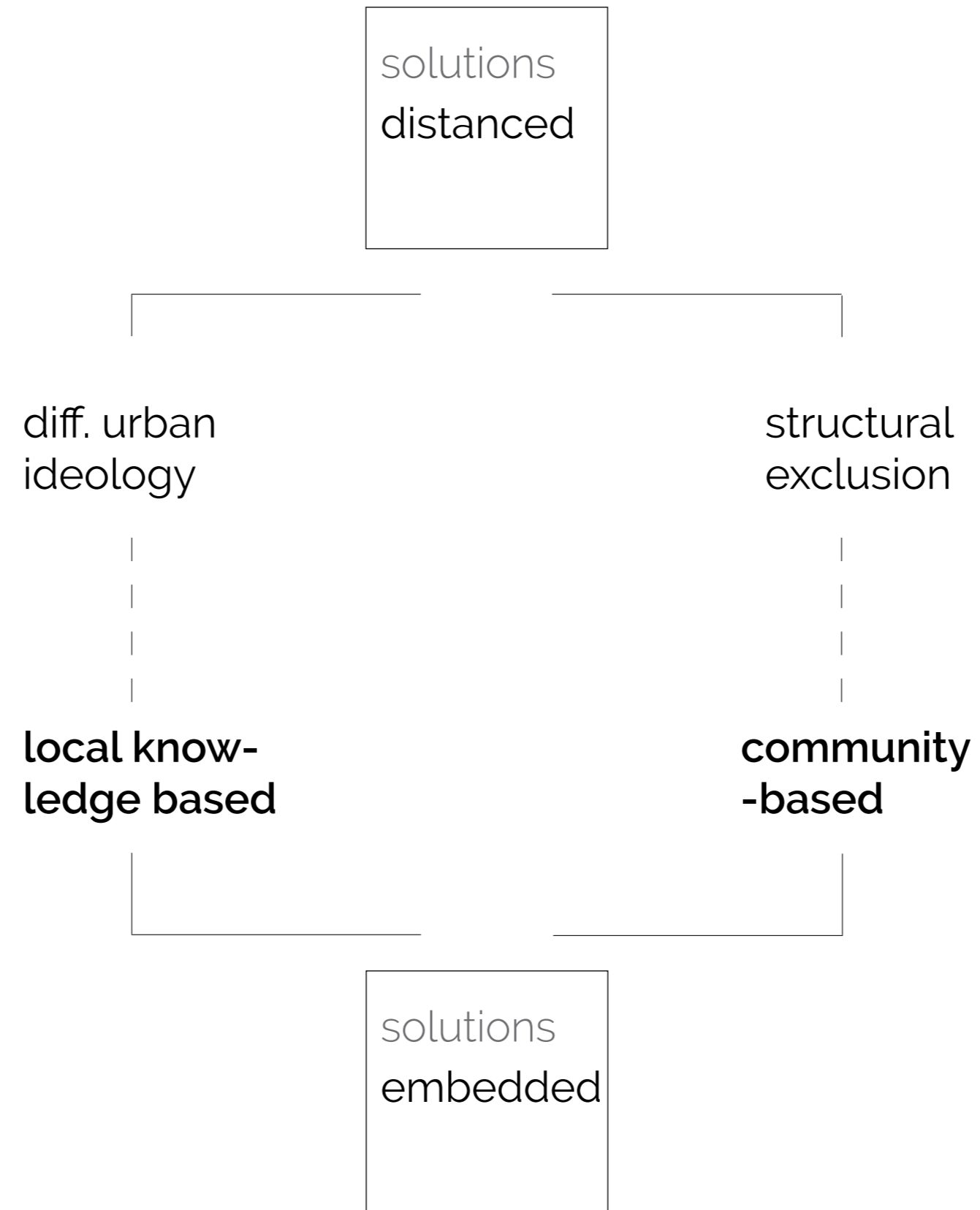
4

---

reflection



# 4 reflection



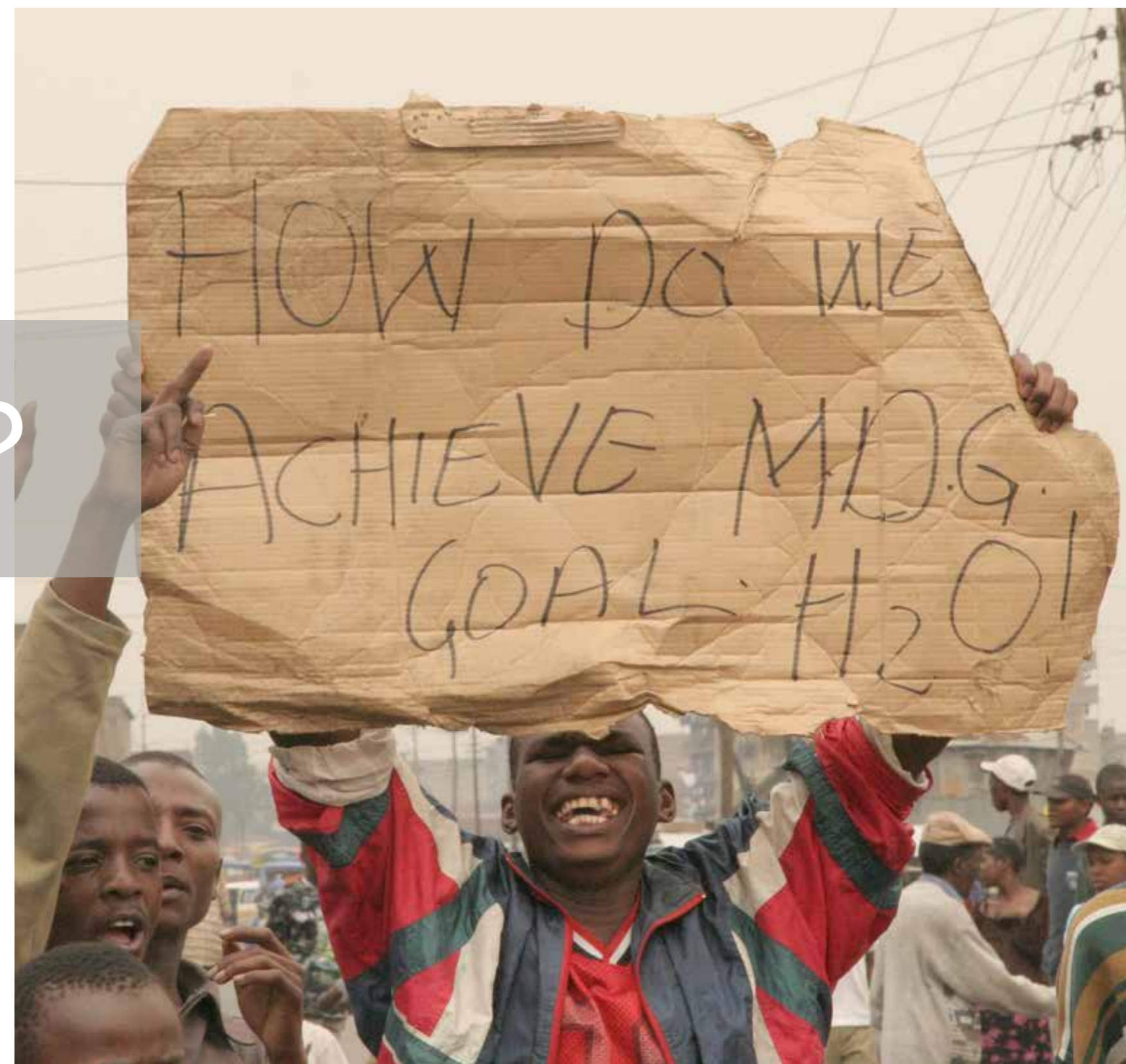


# 4 reflection



an alternative urban paradigm?









thank you