

FLEXIBILITY

an alternative development strategy
in new urban areas in Hanoi.

The case of [Vietnam] [Hanoi] [Nam An Khanh]

P5 presentation - Wouter van Faassen
Luisa Calabrese, Qu Lei, Leo van den Burg



BANGLADESH

BIRMA

THAILAND

Bangkok

LAOS

CAMBODIA

VIETNAM

Ho Chi Minh City

HANOI

CHINA

Guangzhou

Hong Kong

TAIWAN

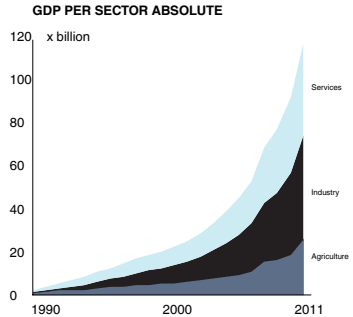
PHILIPPINES



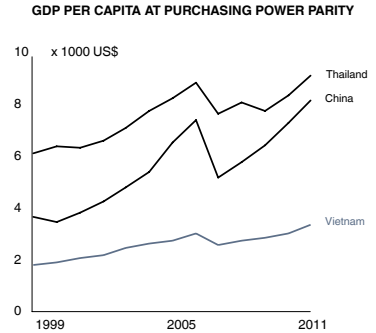




RAPIDLY GROWING ECONOMY



Source: General Statistics Office of Vietnam, accessed: April, 2013

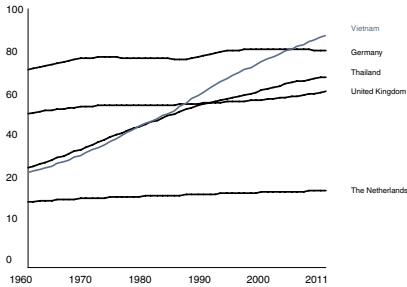


Source: CIA Factbook, accessed: April, 2013

RAPIDLY GROWING PURCHASING POWER

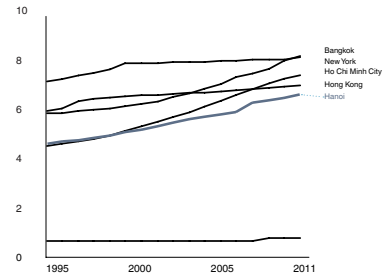
RAPIDLY GROWING POPULATION

fig. 1 Population Vietnam (million people)



Source: database Worldbank, 2013

Population Hanoi (million people)



Source: CIA Factbook, accessed March, 2013

FAST URBANIZATION MAINLY IN LARGE CITIES

BOOMING HOUSING MARKET



speculation
safe investment
second home







ON HOLD

ON HOLD
Bac An Khanh

splendor

ON HOLD
GHOST TOWN

ON HOLD



Nam An Khanh
ON HOLD

bao son paradise

amusement park

HOUSING

persistent need for space

GROWING POPULATION

HOUSING

persistent need for space

GROWING POPULATION

CHANGING FAMILY COMPOSITION

HOUSING

persistent need for space

GROWING POPULATION

CHANGING FAMILY COMPOSITION

INCREASED WEALTH AND NEED MORE M2/PERSON

HOUSING

persistent need for space

GROWING POPULATION

CHANGING FAMILY COMPOSITION

INCREASED WEALTH AND NEED MORE M2/PERSON

LESS ACCEPTANCE OF OVER-CROWDING

Research question

In what way can flexibility, understood as the ability for modification and adaptation in plan and process, be incorporated in the contemporary urban planning model and the urban design of new urban areas in Hanoi?



*In this thesis I will propose an
alternative development strategy
for new urban areas in Hanoi.*

*A story about Hanoi, Vietnam
that could have been elsewhere in Asia.*

the context

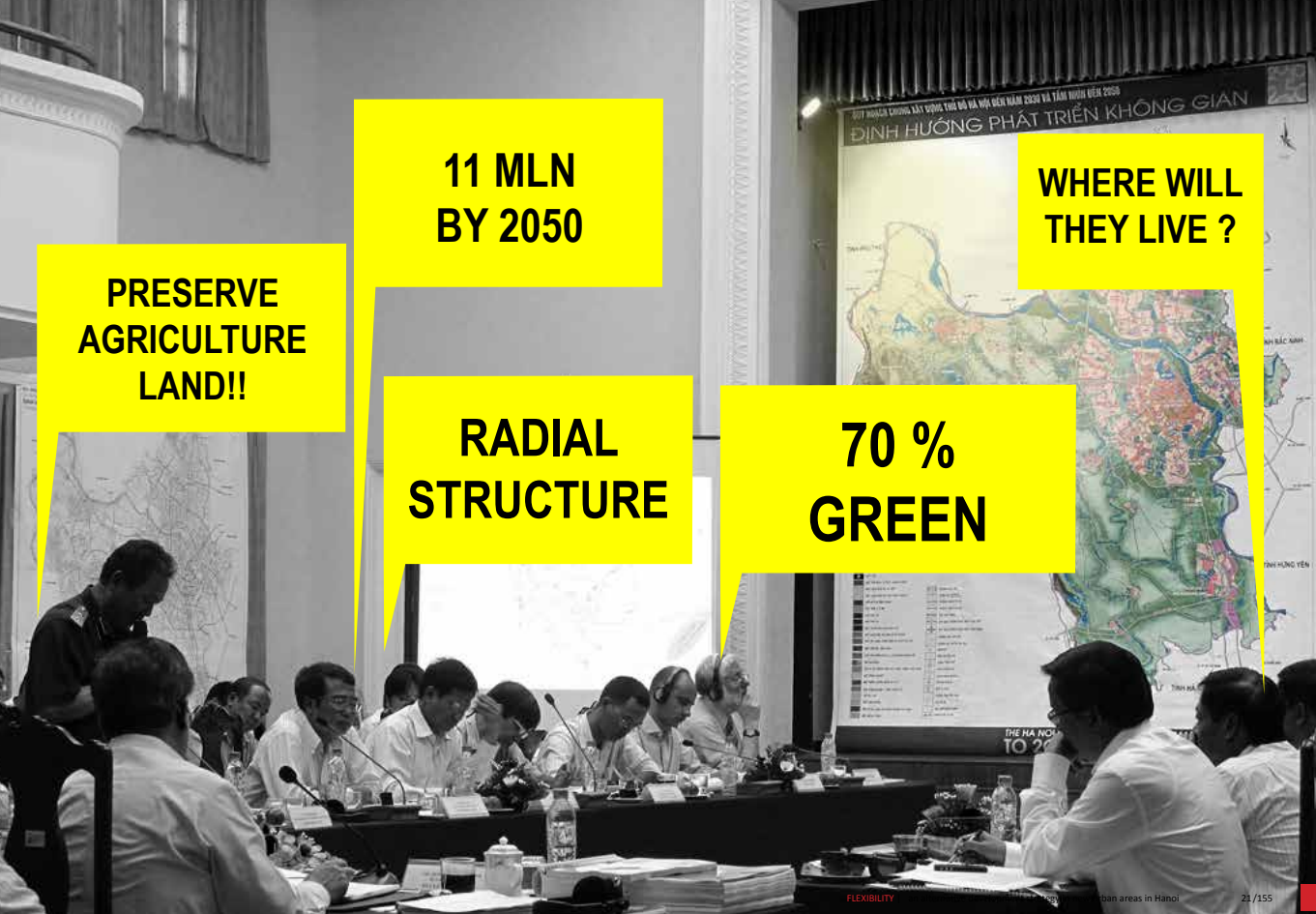
posco

Perkins Eastman
JINA DESIGN KNOWLEDGE

ĐỊNH HƯỚNG PHÁT TRIỂN KHÔNG GIAN



THÀNH HỒN
TO 20



**11 MLN
BY 2050**

**WHERE WILL
THEY LIVE ?**

**PRESERVE
AGRICULTURE
LAND!!**

**RADIAL
STRUCTURE**

**70 %
GREEN**

ĐỊNH HƯỚNG PHÁT TRIỂN KHÔNG GIAN

THÀNH PHỐ HÀ NỘI
ĐẾN NĂM 2050

Hanoi 2014

total pop. 3.5 million
NUA's pop. 0.7 million (25%)
density: 60,000 people/km²



Hanoi 2050

total pop. 11 million
NUA's pop. 6 million (65%)
density 35,000 people/km²



- urban villages
- traditional townhouses
- popular housing
- new urban areas
- ♀ = 100,000 people

*'growth will take place
in the New Urban Areas'*

however...





therefore...

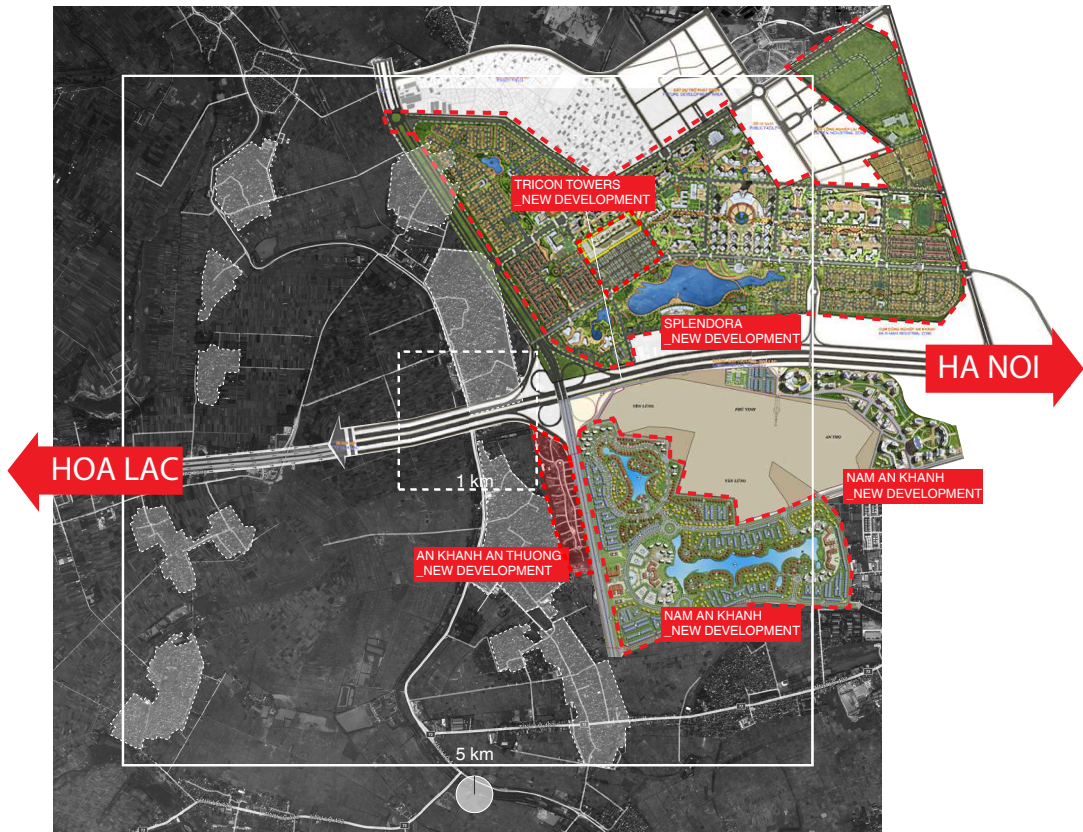
Masterplan Hanoi 2020 constitutes an important change in how people live and in how urban space is produced.



rapid change in lifestyle and culture

test site

Nam An Khanh







Disney world? Investors heaven? Image of assumed modernity? California? Toscane? Dubai?





New urban areas in [...] Hanoi [are] *political symbols* mirroring the emerging aspirations of Vietnamese nouveaux riches to belong to an *imagined modern, global community*.

- Waibel (2006) 46:7

Nam An Khanh New urban area

- Legend**
- Informal village
 - New village
 - Construction site
 - Road widenings
 - Orchard
 - shallow water
 - deeper water
 - public square
 - other public spaces
 - Industrial uses
 - foundations of buildings



Nam An Khanh New urban area

- Legend**
- Informal village
 - New village
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 - Orchard
 - shallow water
 - deeper water
 - public square
 - other public spaces
 - Industrial uses
 - foundations of buildings







Nam An Khanh CBD

An Khanh An Thuong

Nam An Khanh

2 km

3 km

4 km









Characteristics



No correlation between housing needs and the market economy.



Generic, blue-print plans that do not relate to the existing context



Purely profit driven developers



Speculation in real estate market.
Urbansim as a financial product.

More adaptive strategy in New Town development is necessary!

More flexibility!

*definition of
'flexibility'*

flexibility, n.

Flexibility in urban planning and design:

1. The capacity of the built environment to adapt to new conditions in society and economy.
2. The capacity for ready physical or functional alteration and the adaptation of new uses.

flexibility, n.

Flexibility in urban planning and design:

1. The capacity of the built environment to adapt to new conditions in society and economy.
2. The capacity for ready physical or functional alteration and the adaptation to new uses.

Sustainable and resilient

*'Most people presume that something is only flexible when adaptation or modification can happen **without unacceptable penalties** in time effort, costs and resources.'*

- van Leeuwen (2013, p.151)

Discipline of urbanism

'Planning needs to respond to the changing and uncertain social environment but [planning...] is also a process for changing that social environment and creating more certainty.'

- John Abbott (2005, p. 237)

Users needs

'flexibility [used] as a reaction on differentiated needs of users.'

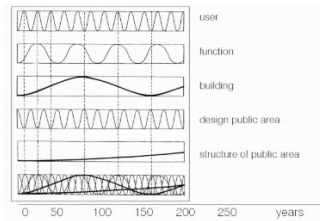
- Bouten (2008, p.25)

Balance

*'To survive, organizations have to maintain a **balance** between their **stability** and their **flexibility** to change in response to changing external circumstances'*

- Selznick (1948), Weick (1969)

Time



Factor of time: 'the heart beats of the city'

- Uhrhanh 2013

Changing environment

'In a rapidly changing environment [...] uncertainty is so great that the only sensible approach for an organization is one of adjustment in incremental steps as the environment changes'

- Lindblom (1959)

process

research conclusion

The failure of the original Nam An Khanh project is the sum of a number of factors that involve the:

planning model

financial model

*urban architectural
model*

stakeholder model



Planning model: *blue-print plan*

The 'tabula rasa' approach

Blue-print plan

Large early investments

it is therefore a strategy that bears large risks.





Urban architectural model: *mono...*

Monofunctionality and monotomy
in zones of exactly the same typologies.

betting on one horse



Financial model: *purely profit driven*

based on investment in real estate

speculation in the housing market

development as a financial investment product

small share of the houses of owner-occupiers.

*Combined with purely profit driven developers
the ideal recipe for a bubble.*



Stakeholder model: *no balance*

out of balance

Sudico decides everything

end users are not part of the process

villagers only suffer

No ability to quickly respond and adapt to rapidly changing circumstances .

But research showed that this is not the only problem...

PROBLEM

vacancy and ghost towns

There is a general disconnection between housing supply and users needs.

AT LEAST 25 GHOST TOWNS IN HANOI

NEW URBAN AREAS ON HOLD

“Hanoi stops considering proposals of commercial housing” - Hanoitimes, March 2012

- conversion from commercial to social housing
- adjust plan scale
- product diversification
- adjust business operation:
 - reduce prices
 - flexible sales methods
 - use loans in right purpose
 - transparent commitments
- low interest loans for low income people
- loans to property business which build social housing or convert projects in social housing

The screenshot shows the Hanoitimes website interface. At the top, there's a navigation bar with links for Home page, News, Investment, Travel, My HaNoi, Social affair, Economy, Arts & Entertainment, and Health & Education. Below the navigation bar, the main headline reads "HN stops considering proposals of commercial housing" with a sub-headline "Updated at Sunday, 31 Mar 2013, 22:07". The article text discusses the Ha Noi People's Committee's decision to stop considering commercial housing proposals and lists several measures: adjusting plan scale, product diversification, and adjusting business operations (reducing prices, flexible sales methods, using loans in right purpose, and transparent commitments). The article also mentions that the city will provide low-interest loans for low-income people and that bad debts of real-estate businesses will be reviewed. The author is identified as Minh Tuan.

HN stops considering proposals of commercial housing
Updated at Sunday, 31 Mar 2013, 22:07

The *Hanoitimes*- Ha Noi stops to consider proposals for building commercial housing from now to 31December 2014, the Ha Noi People's Committee said in its recent report.

The Ha Noi People's Committee held a conference on removing difficulties for enterprises with participation of local businesses' representatives, city leaders and banks to find solutions to restore production and business.

Under the report, Ha Noi has applied a number of solutions to solve difficulties for real-estate market:

- The city creates conditions for conversion of commercial housing to social housing, resettlement, and public service housing. The city currently has 5,789 vacant apartments.

Many projects are also being considered to switch from commercial apartments to social housing for low-income people.

- Ha Noi adjusts plan and scale of the real-estate projects, standard norms of large apartments to small apartments, facilitating product diversification.
- Ha Noi guides and supports real estate enterprises to proactively adjust their business operation, restructure their businesses in appropriate ways such as reducing prices, restructuring the range of products; applying flexible sale methods, encouraging enterprises to use loans and capital mobilized from customers in right purposes, performing transparent commitments to create customer trust.
- The city will provide low-interest loans with suitable due date for low-income peoples, civil servants, and officials in armed forces to rent and buy social housing, commercial housing of less than 70m2 with the price of less than VND15 million/m2

The city also provide privilege loans with suitable due date to property businesses which build social housing or convert their investment projects into social housing.

- Bad debts of real-estate businesses will also be reviewed. The city directed commercial banks to assure credit quality, treat bad debts, and continue lending uncompleted projects.

By Minh Tuan

Standstill...

The hypothesis of this thesis is that a more incremental and more flexible planning strategy is necessary as an alternative system for urban development, in order to deal with the volatile nature of the economic and social resurrection of Vietnam.

This involves a strategy that fosters spatial integration and local economic growth and enables real users to be a stakeholder in this process. It involves a strategy a plan and a process that has the ability to be flexible.

Nam An Khanh is a typical example of a purely profit driven development in Hanoi that will serve as a test site for the hypothesis.

Design

design ≠ design

design = development strategy

design = vision

design = scenarios

design = visualization of
possible outcomes

DESIGN AIMS

a different approach



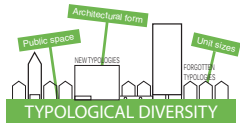
DESIGN AIMS

a different approach



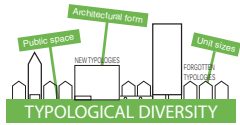
DESIGN AIMS

a different approach



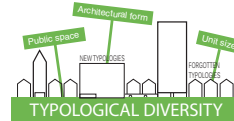
DESIGN AIMS

a different approach



DESIGN AIMS

a different approach



CONCEPT

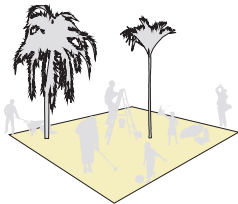
integrated but step
by step approach



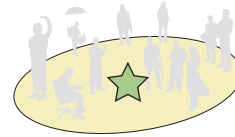
connectivity and integration



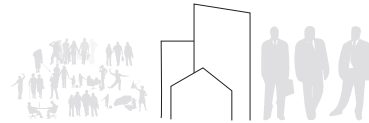
urban catalysts



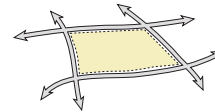
temporary use as a placemaking tool



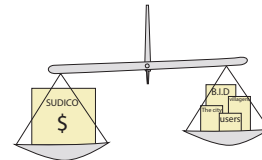
local community in neighborhoods



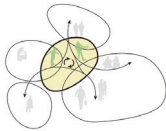
diversity in users, typologies and developers



strong framework, flexible infill



balancing the stakeholders:
empowerment of the user
and of collectives



connectivity and integration

create connectivity

reduce borders between villages and new towns

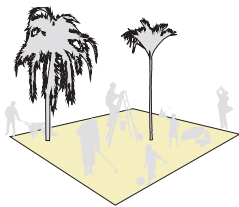


urban catalysts

kick-start local economy

give villagers jobs

bring activity in the area



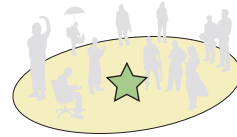
temporary use as a placemaking tool

empty land needs temporary function

place making!

sense of place

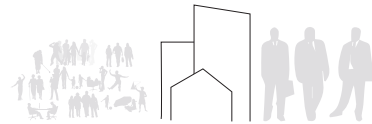
make use of village communities



local community in neighborhoods

diversification of target groups to reduce risk

and to improve adaptability of plans and designs

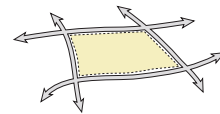


diversity in users, typologies and developers

Existing roads and ponds are already a strong framework

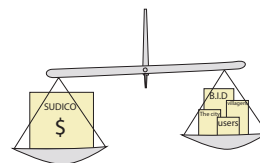
The infill of urban blocks, with typologies, needs more freedom.

Step by step development.



strong framework, flexible infill

involve other stakeholders in the process
value other aims and qualities



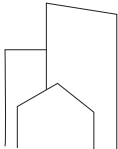
balancing the stakeholders:
empowerment of the user
and of collectives



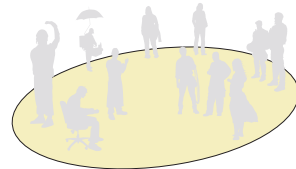
Sudico



New users



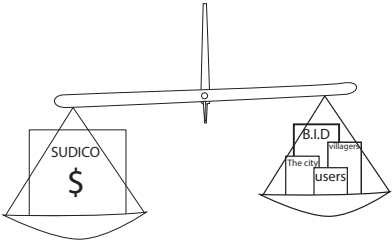
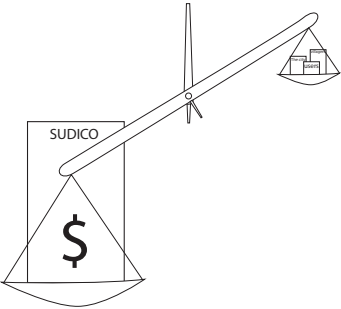
The city



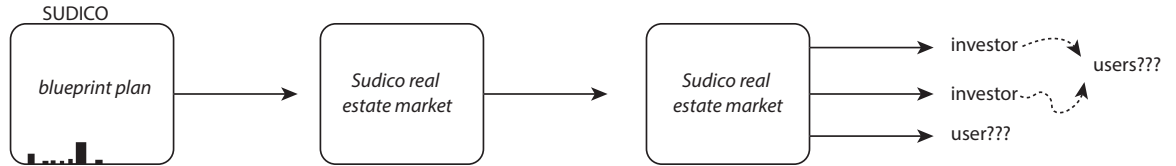
Old villagers

CONCEPT

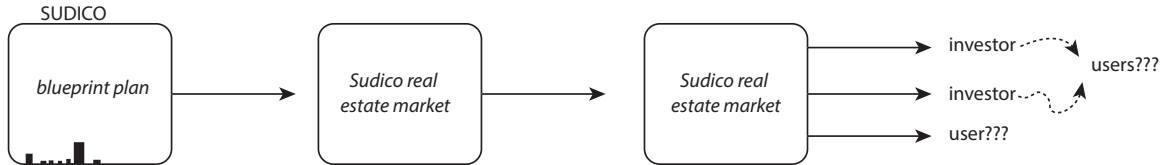
balancing stakeholders



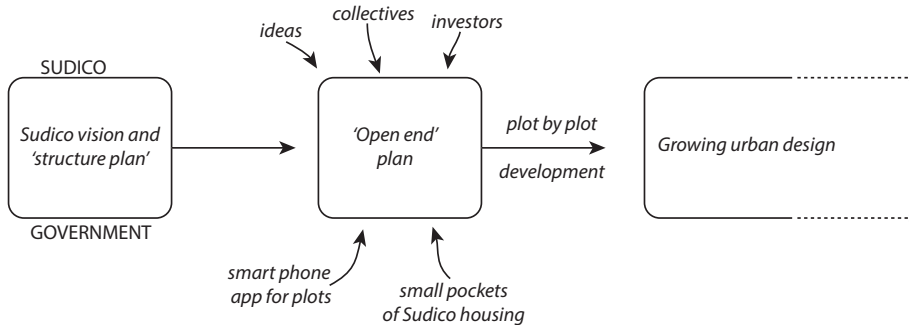
Current model



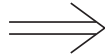
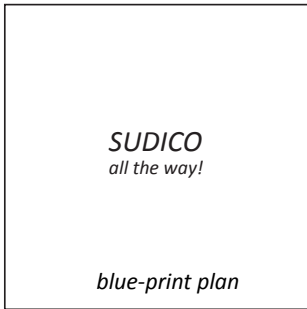
Current model



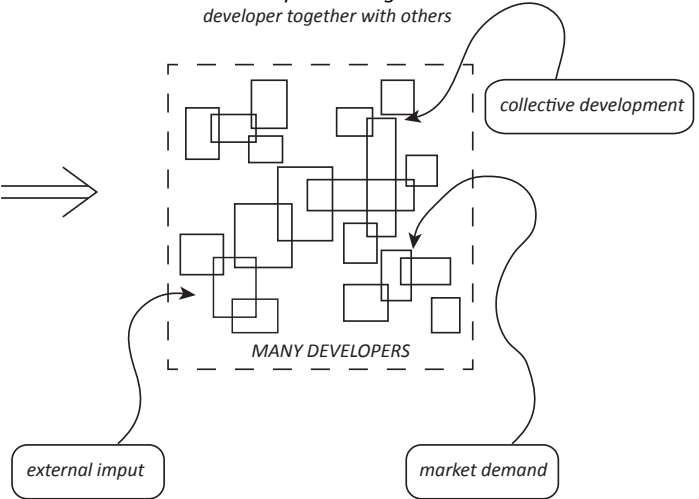
New model



Sudico = everything



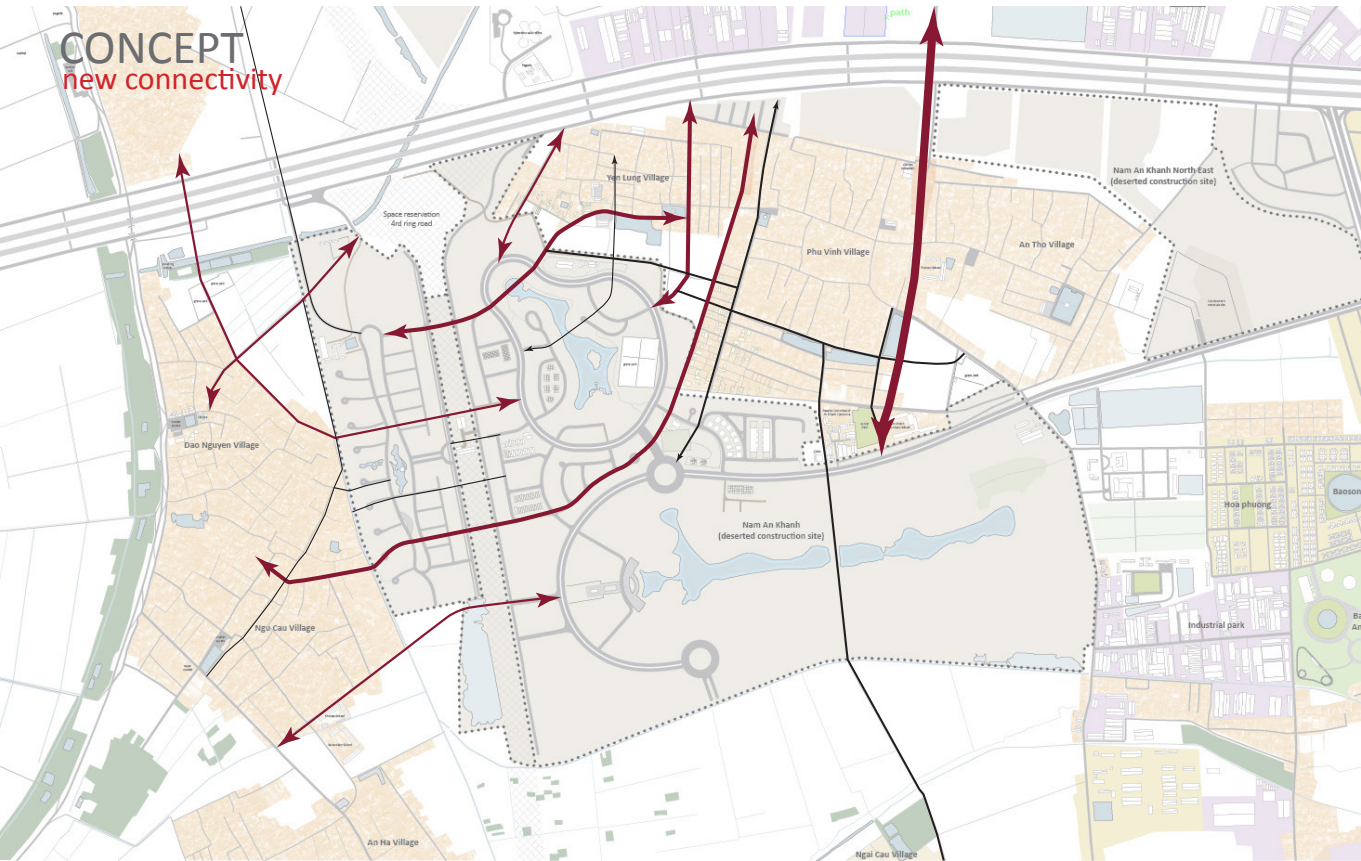
*Sudico = process organizer
developer together with others*



step by step

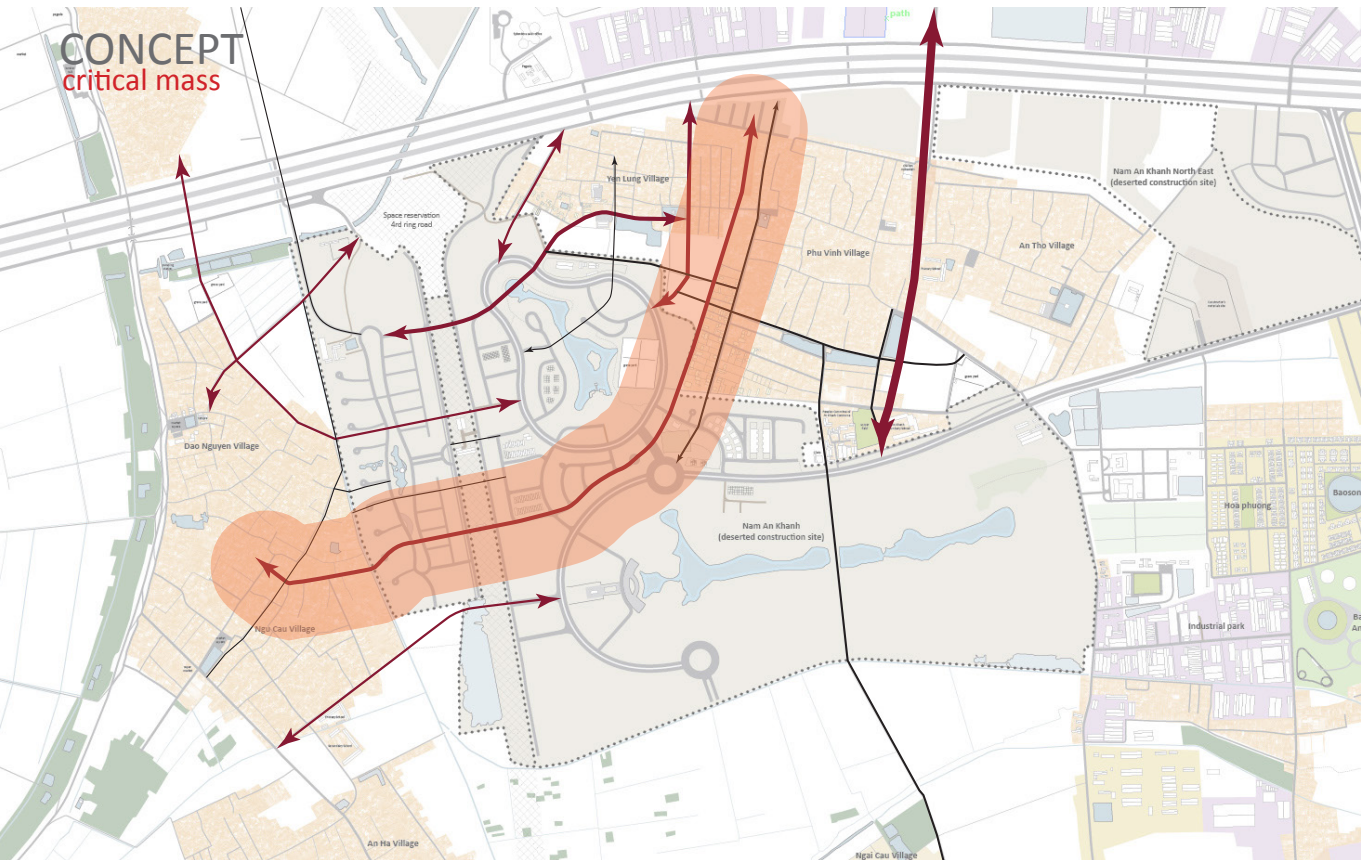
CONCEPT

new connectivity

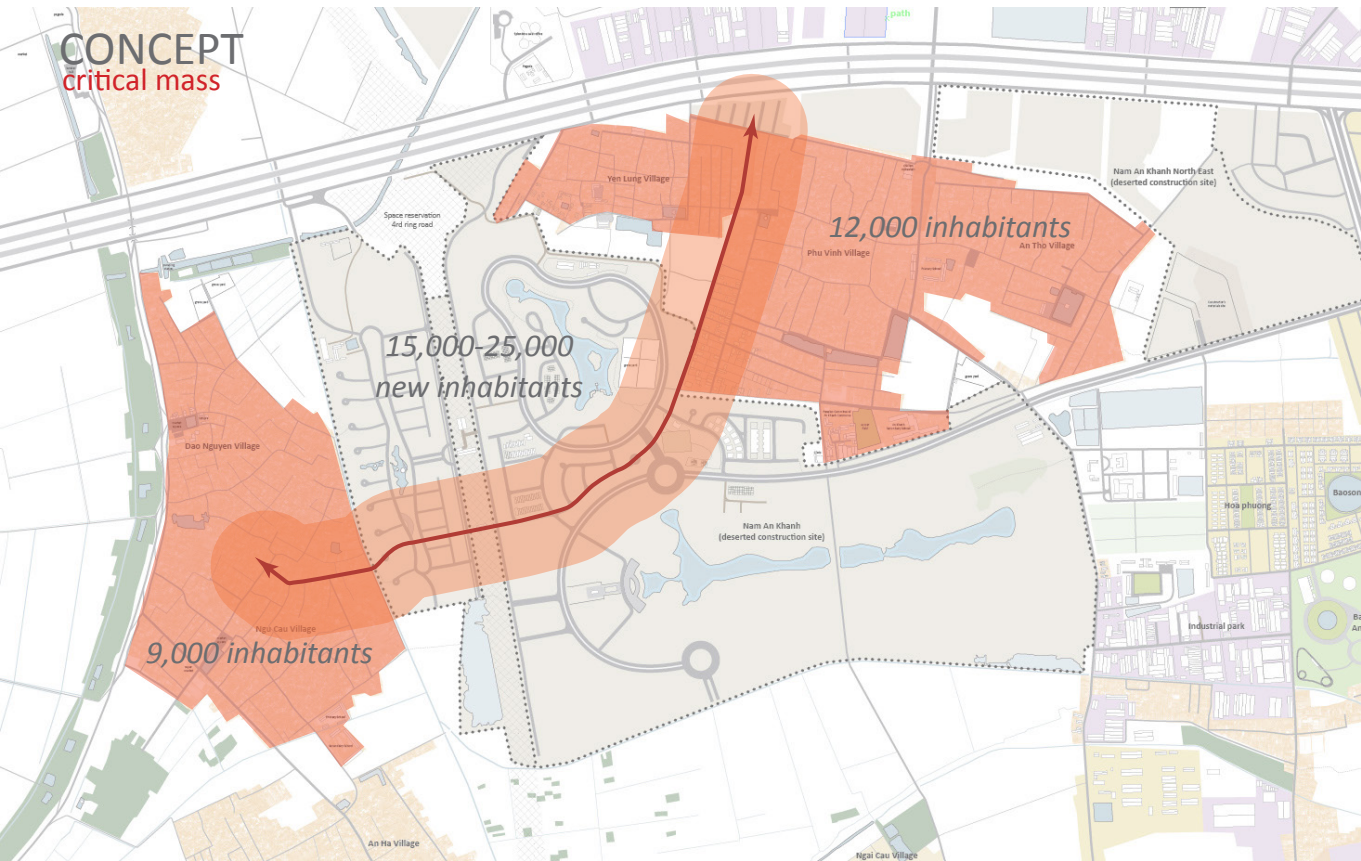


CONCEPT

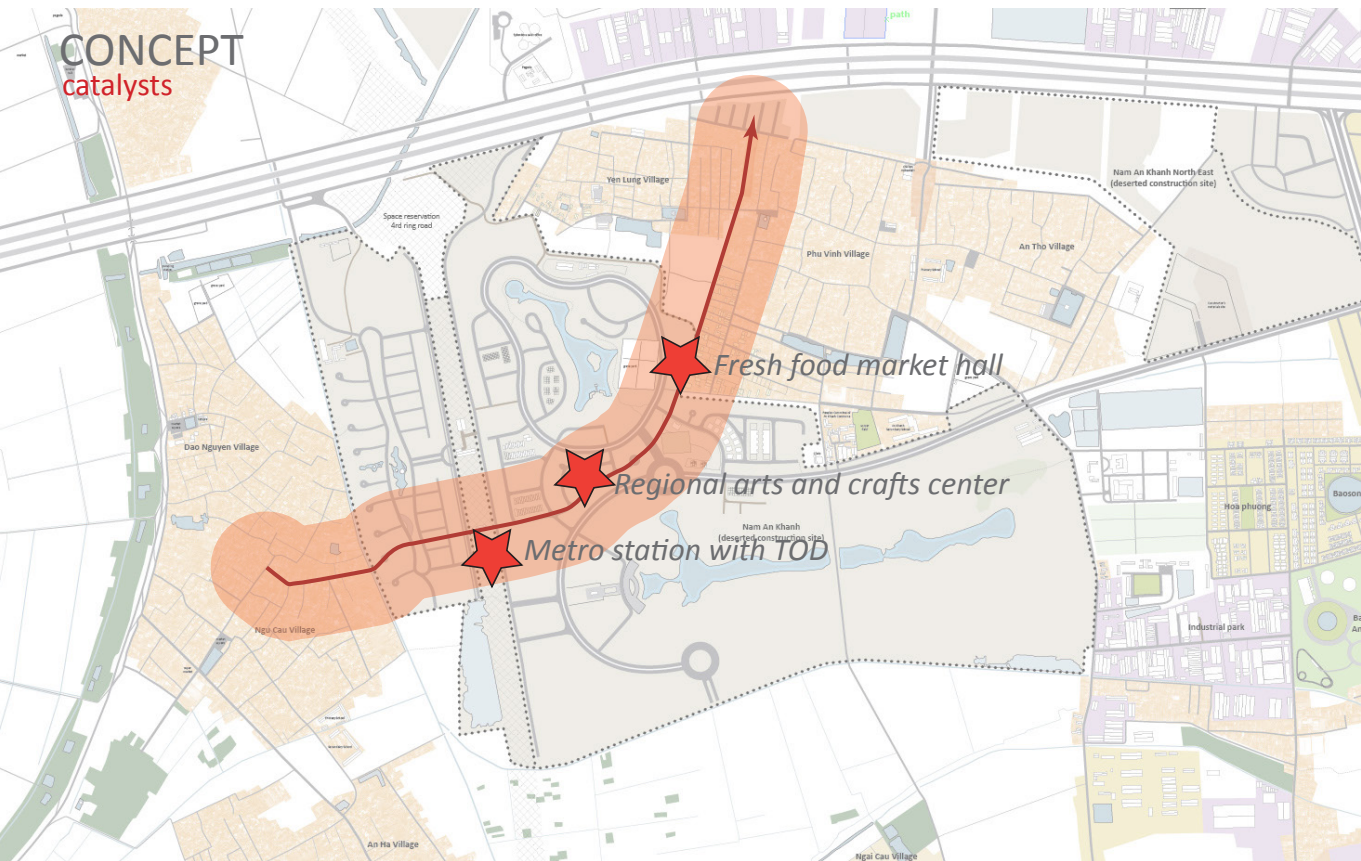
critical mass



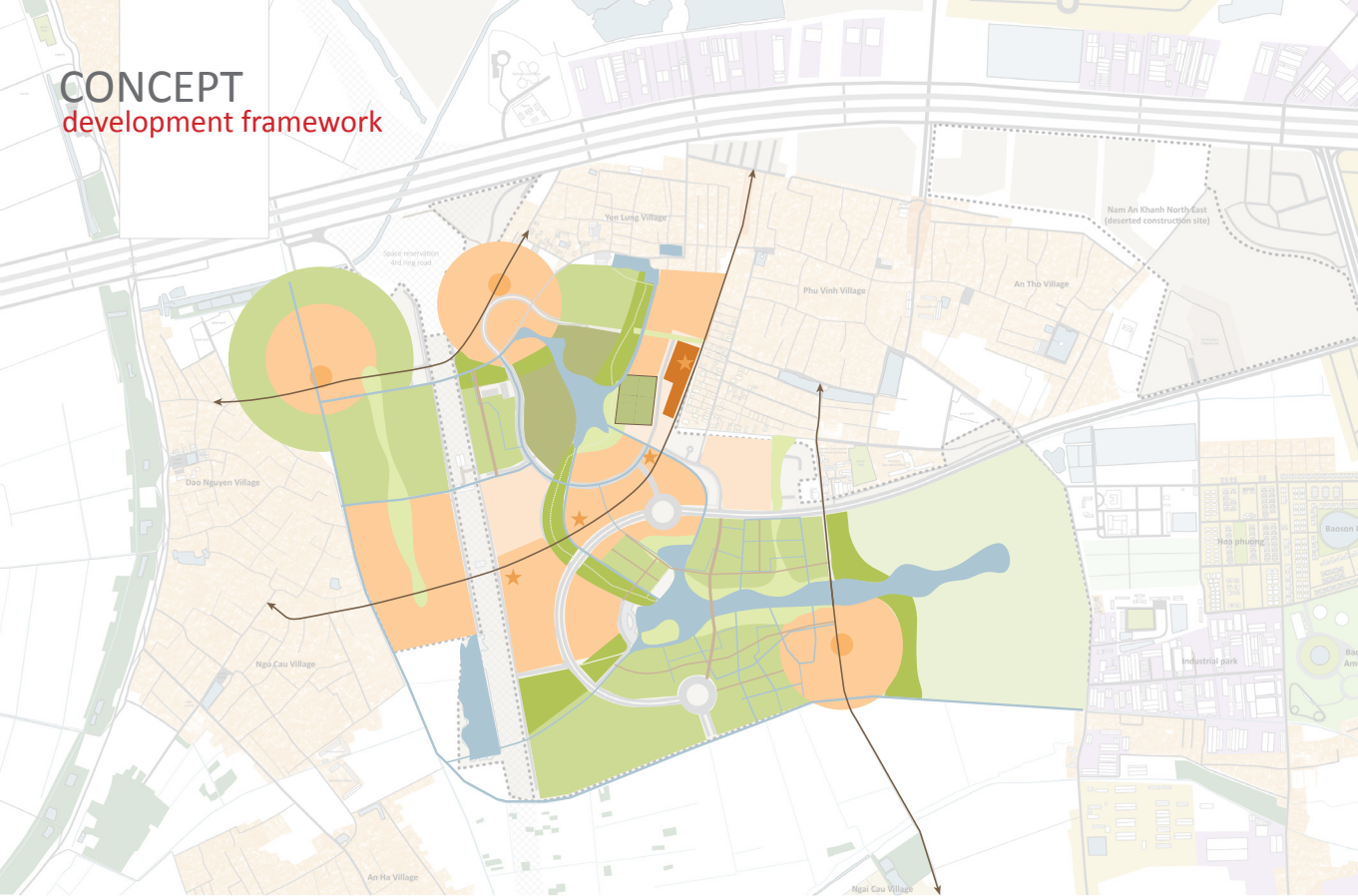
CONCEPT
critical mass



CONCEPT catalysts



CONCEPT development framework



CONCEPT

new user groups



The rich and famous



Investors



Families with children



New middle class



Local artists and craftsman



Recreational/cultural visitors



Village returners



Gardeners from the city



Youngsters from the village



Collectives



People with innovative ideas

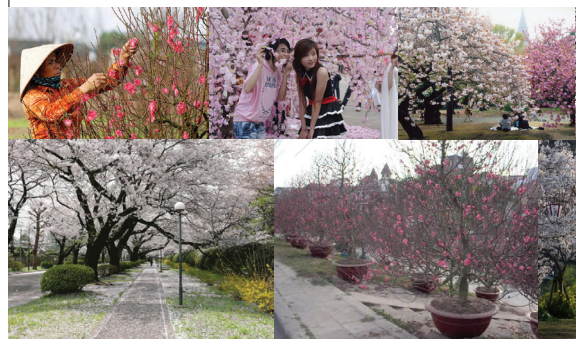
CONCEPT neighborhoods



How to make Nam An Khanh alive?

step 1: direct action

_flower and garden exposition



_fruit orchards

_festivals and events

_gardens of delight





in two years: urban catalysts

_fresh food market hall



_community center with tea garden

_regional art and crafts center



in 10 years time: from temporary to definitive use

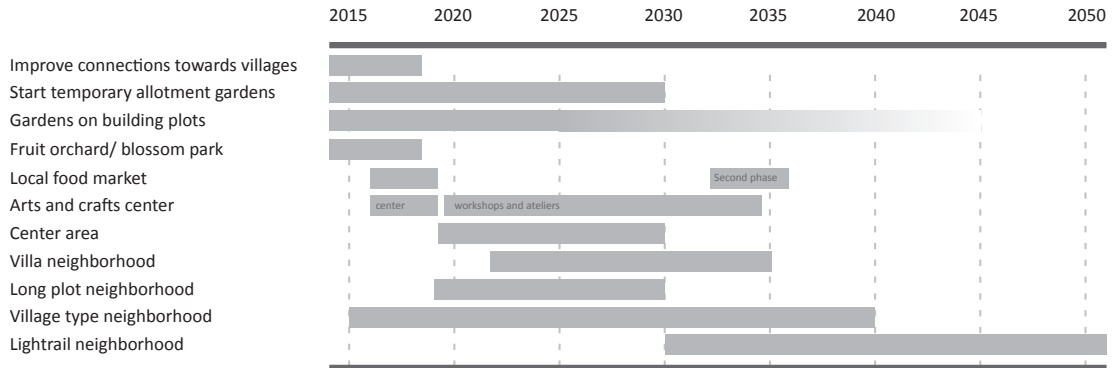
_public domain

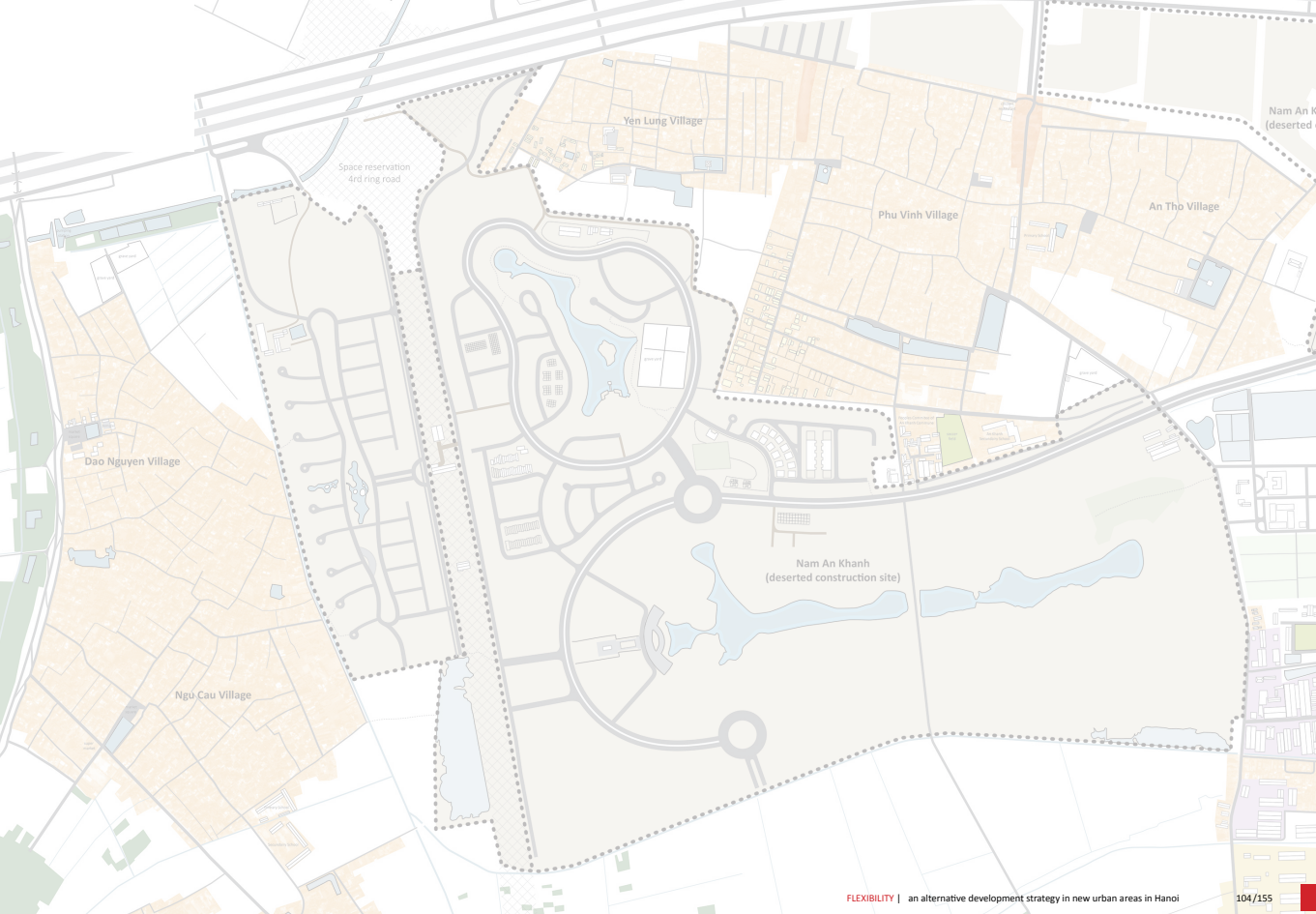
_conversion of temporary uses

_center area

_suburban residential neighborhoods

Agenda





Nam An K
(deserted

Yen Lung Village

Space reservation
4rd ring road

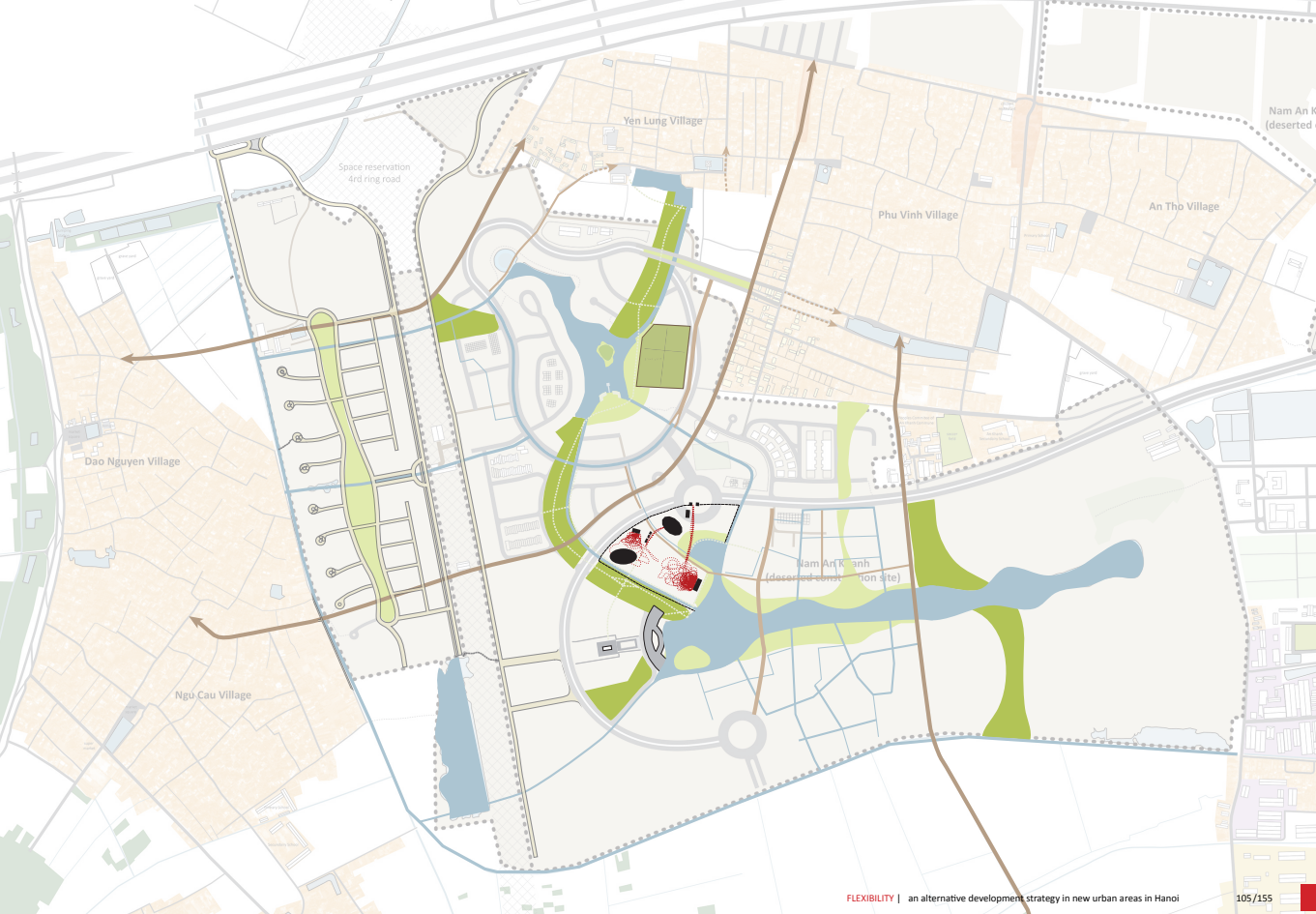
Phu Vinh Village

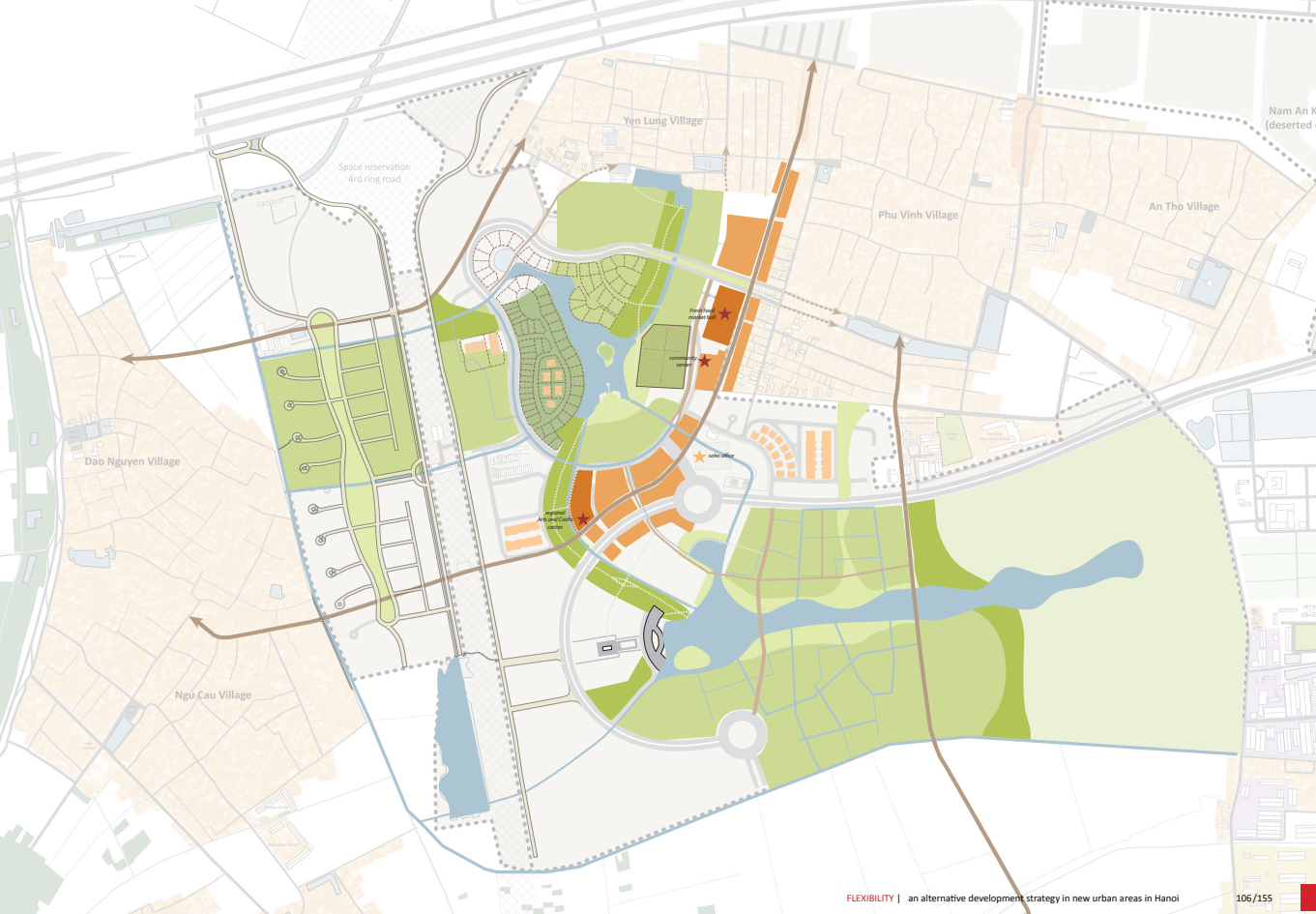
An Tho Village

Dao Nguyen Village

Ngũ Cầu Village

Nam An Khanh
(deserted construction site)





Dao Nguyen Village

Ngõ Cau Village

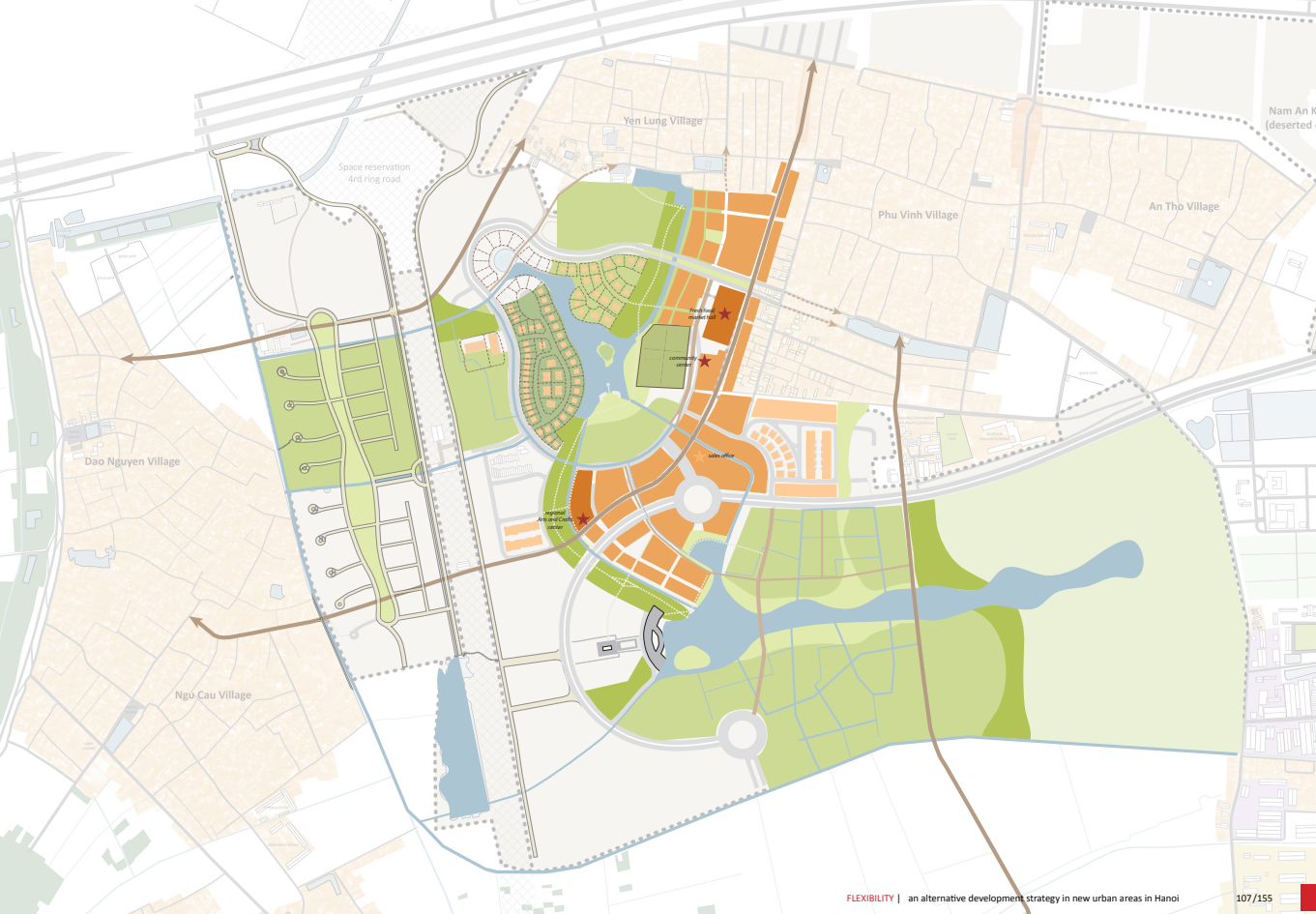
Space reservation
4th ring road

Yen Lung Village

Phu Vinh Village

An Tho Village

Nam An K
(deserted)



Nam An K
(deserted)

Yen Lung Village

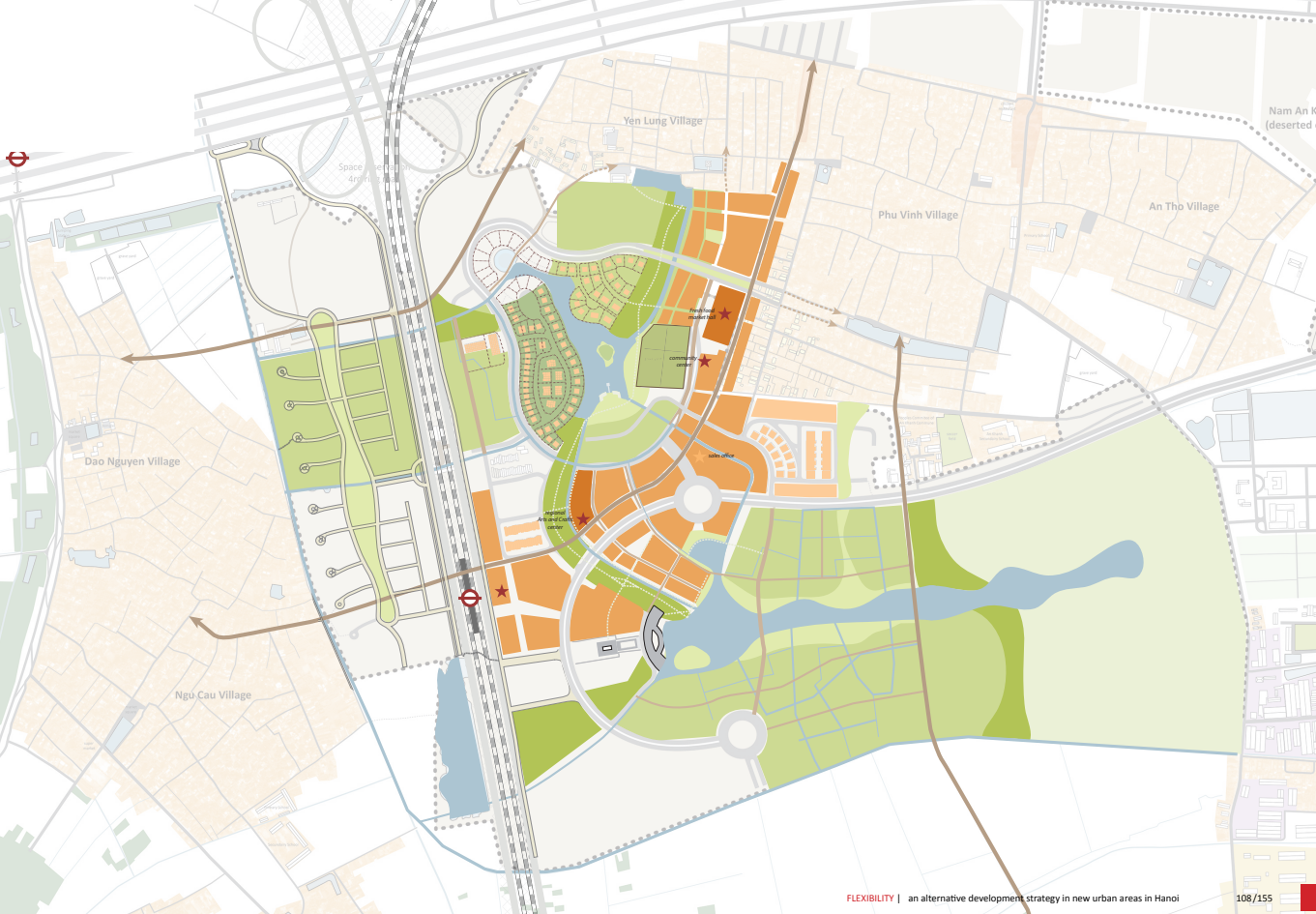
Phu Vinh Village

An Tho Village

Space reservation
4th ring road

Dao Nguyen Village

Ngõ Cau Village



Dao Nguyen Village

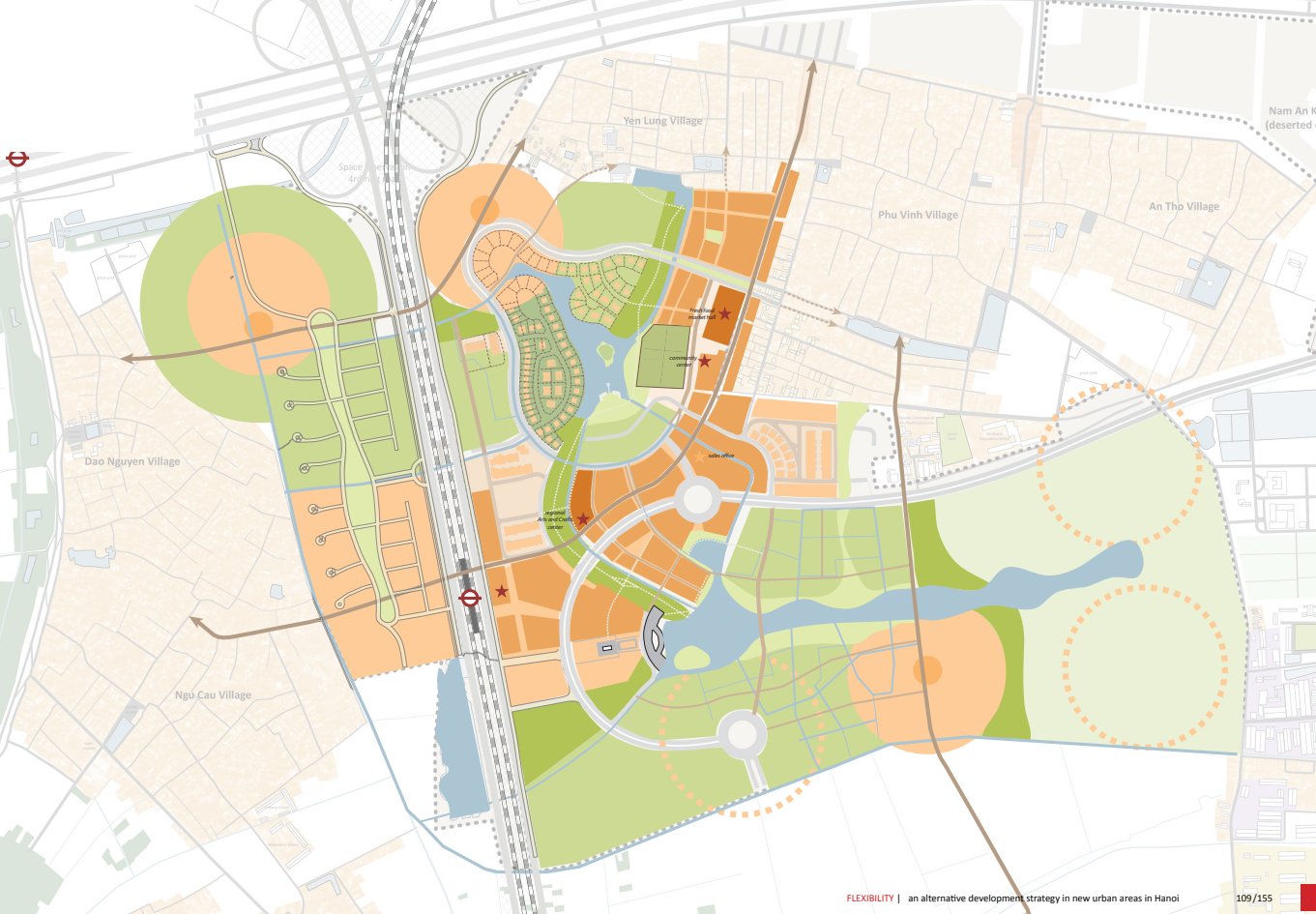
Ngũ Cầu Village

Yen Lung Village

Phu Vinh Village

An Tho Village

Nam An K (deserted)



3 neighborhoods, 3 flexibility approaches



Collectively owned and maintained garden of the home owners association

Long garden plots can later be filled in with modern shop-houses

Right behind the main roads space is reserved for developments by collectives of individuals and entrepreneurs

Collectives of individuals can build small apartment complexes around a collective garden

The market hall consists of the fresh food market, social housing and a roof garden

Small slow traffic streets give the identity of a village. People can park on their own plot or in the collective parking

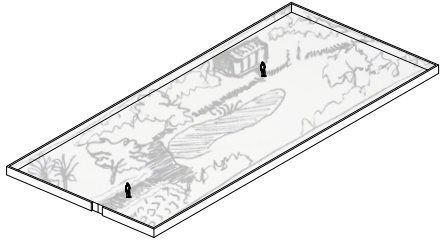
The cherry orchard is a tourist destination in spring and produces fresh food in summer

The old cemetery is incorporated in the re-development plan as a green space

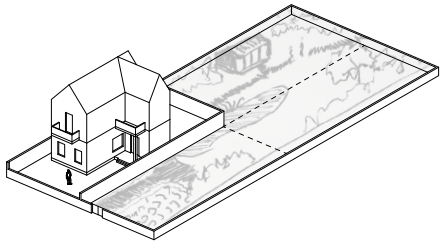
The village market characterises traditional houses and shops

Groups of small apartment building expensive and social housing in a row

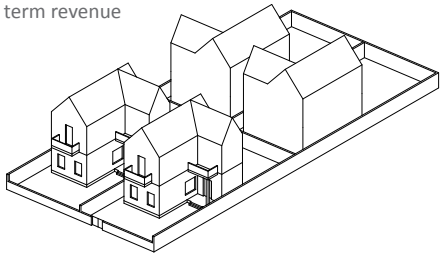
temporary solution vacancy



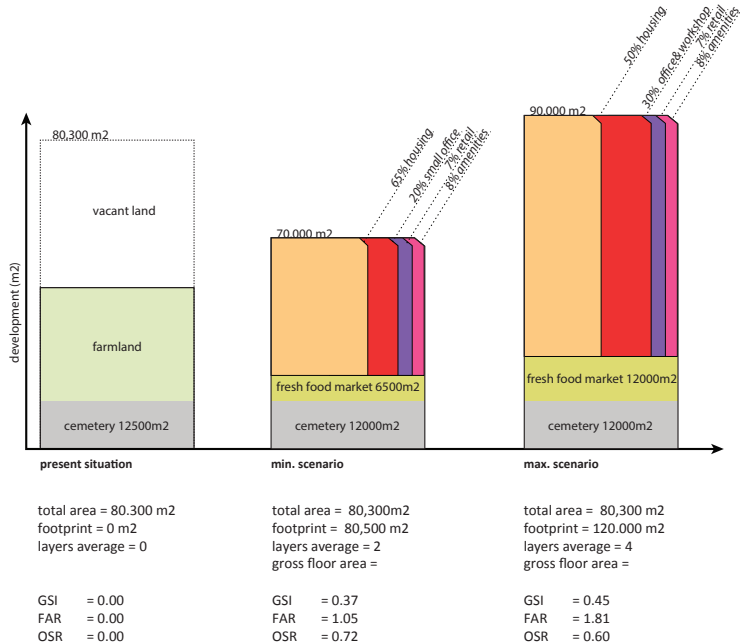
place making



long term revenue



PROGRAM scenarios



strong framework



flexible infill

zoning with typological diversity

Function	Zone		
	R1	R2	R3
Live			
hotel	-	●	+
single person unit	+	+	+
single family home	+	+	+
multi family home	-	●	+
work/live housing	●	+	+
apartment	-	●	+
multiplex	-	●	+
Work			
office (0-50m ²)	●	+	+
office (50-500m ²)	-	●	+
office (500m ² +)	-	●	+
workshop/garage (0-500m ²)	-	●	+
workshop/garage (500m ² +)	-	●	+
atelier	+	+	+
Buy			
retail shop	-	-	+
web shop	●	+	+
market	-	-	●
supermarket	-	●	+
cafe	●	●	+
restaurant	●	+	+
public transport terminal	-	●	+
shopping mall	-	-	-
Health care			
clinic	-	●	+
dentist	●	●	+
general practitioner	●	●	+
hospital	-	-	-
privat hospital	-	●	+
fitness	-	●	+
Culture			
communal house	-	●	●
theater	-	●	●
expositions	-	+	+
museum	-	●	●
religious building	●	●	●
Education			
kindergarten/daycare	-	+	-
primary school	●	●	●
secondary school	-	●	+
higher education	-	●	+
Industry			
small industrial/production	-	●	●
large industrial	-	-	-

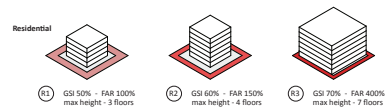
vision for identity

-  live work
-  work live
-  fresh food market

development limitations

-  max height at building line
-  max height building block
-  max. floor area ratio (FAR)
-  min.-max. number of plots
-  min. plot size
-  community assembly hall
-  collective development
-  max. number of floors

building mass limitations



flexibility within the zoning plan

Legend

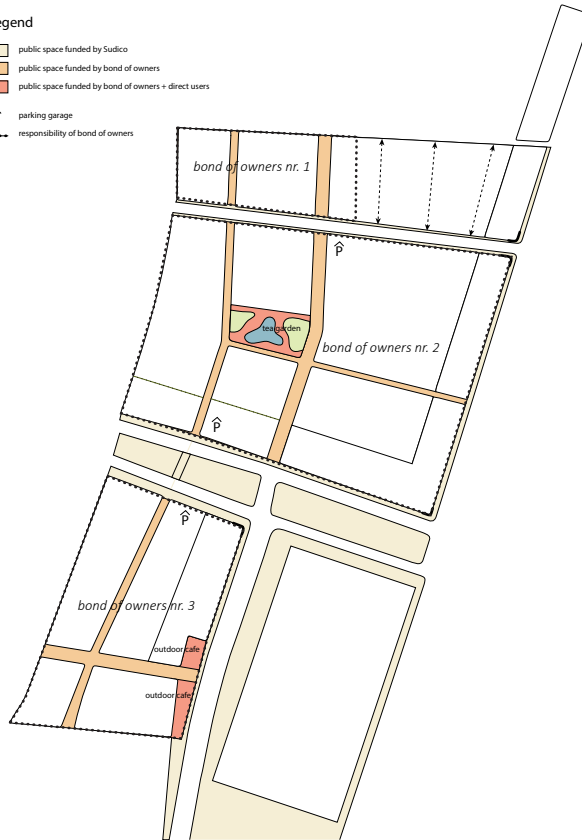
-  live work
-  work live
-  fresh food market
-  max height at building line
-  max height building block
-  max. floor area ratio (FAR)
-  min.-max. number of plots
-  min. plot size
-  community assembly hall
-  collective development
-  max. number of floors
- R2** zone
-  parking garage
-  demarcation of phasing



public space

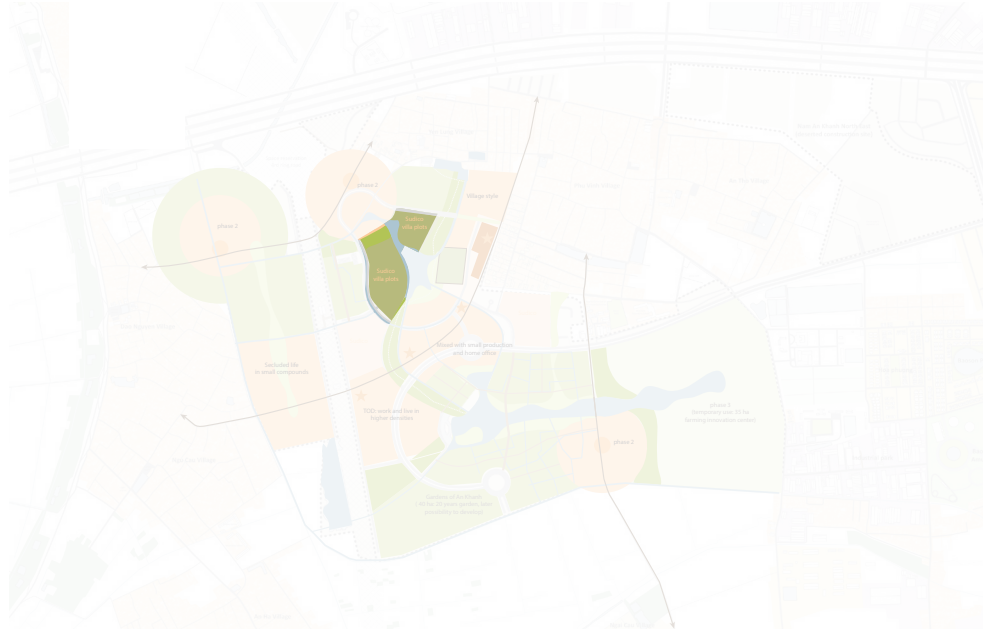
Legend

- public space funded by Sudico
- public space funded by bond of owners
- public space funded by bond of owners + direct users
- parking garage
- responsibility of bond of owners



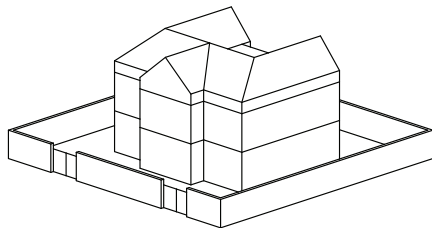


Flexibility on villa plots





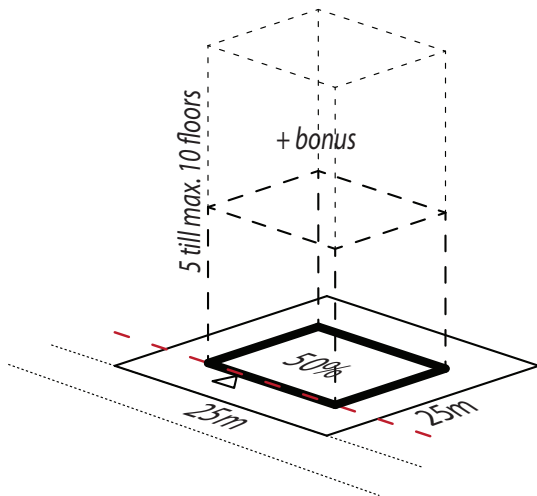


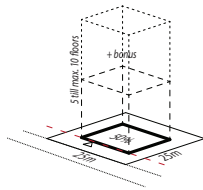


Reduction: a plot with an envelope and rules

Rules

construction area: 50% on the middle of the plot
building line: 6 meter from the street
max. number of floors: 5 (with bonus regulations max. 10)
orientation: front side to street

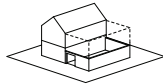




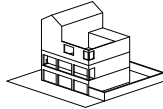
Reduction: a plot with an envelope and rules

Rules

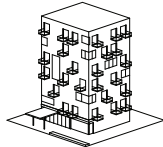
construction area: 50% on the middle of the plot
 building line: 6 meter from the street
 max. number of floors: 5 (with bonus regulations max. 10)
 orientation: front side to street



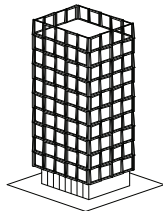
Variation 1: middle class house



Variation 2: hostel + single family home

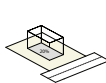


Variation 3: small condominium + amenities



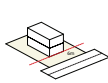
Variation 4: small office building + more than one company
 + cultural functions + roof top bar+ parking

Basics



openness

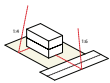
FAR derives from zoning law
ground floor ratio:
R1 = 20%
R2 = 30%
R3 = 70%



building line

The building line of villa plots neighborhood is set 6 meters* back from the street to anticipate parking and future extensions towards the street.

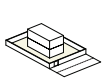
(*non-residential units with a public function can open this rule)



set backs

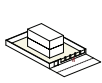
Diagonal control by setbacks are used to ensure enough day light and ventilation.

Relation to the street



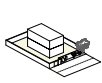
Basic walled plot

All detached residential buildings are surrounded by a brick or a stone wall. This rule does not apply for buildings with public functions.



view through wall

Openness of at least 40% of the wall through windows, fences or openings in brick work: = 3% FAR



greenery zone

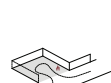
3 meter of greenery facing the street in front of the wall that can also contain public seating or water elements: = 3% FAR

Public space



public domain on plot

rule:
a = $(a + p \cdot N)$
a = % ground floor ratio
p = % of space given to public domain
b = % bonus space
= 70% covered space
= 100% open space
= 200% for outdoor cafes



public domain inside buildings

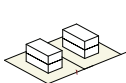
No ill style of valuing private space in the public domain.
rule:
a = $(a + p \cdot N)$
a = % ground floor ratio
p = % of private space as part of public domain
= 200% for outdoor cafes



roofs

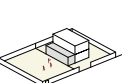
public roof / public top floor = 5% FAR
vegetation roof / roof garden = 5% FAR
roof terrace = 5% FAR

Plot size



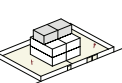
plot size

min. 75 m²
max. 2000 m²
> 2000 m² only for amenities and public buildings



garden plot + residential plot

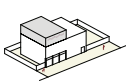
= 5% FAR
+ 30% GFA (ground floor area)
+ 5% FAR if garden is publicly accessible



collective development

2 plots = 10% FAR
3 plots = 15% FAR
4 plots = 20% FAR

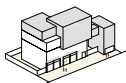
Desirable program



desirable program

rule:
a = $(a + d \cdot k)$

a = % standard FAR
d = % desirable program
k = % bonus
= 30% for home offices
= 20% for >20% work functions in residential buildings over 100m² GFA.
example: Building with FAR 1.8 is filled with 40% home office. The new (bonus) FAR will become:
 $1.8 (1.8 * 0.4 * 0.3) = 2$
= 20% FAR

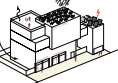


stimulate functional mix in residential areas on ground floors

rule:
a = $(a + k)$

a = % standard GFA
k = % floor space of 2nd non-residential function
b = % bonus
= 20% extra function
= 20% 2 extra functions
= 20% 3 extra functions
= 20% extra for public amenities
= 20% extra for cultural facilities
%G can never exceed 80%

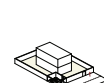
example: Residential plot with GFA 40 has apartments (50%), handicrafts, device and daycare. The new (bonus) GFA will become:
 $40 (40 * 0.4 * 0.2) = 4.3$
= 6% GFA



eco-friendly design

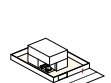
water retention and split sewage system = 5% FAR
white roof prevent urban heat island = 2% FAR
sustainable/recyclable materials = 2% FAR
passive ventilation only = 3% FAR
art expressions in the building = 3% FAR
energy saving design = 5% FAR

Parking



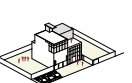
parking on the plot

possession of a car is only allowed when a parking place is dedicated on the plot or alternative parking is facilitated in the direct vicinity.



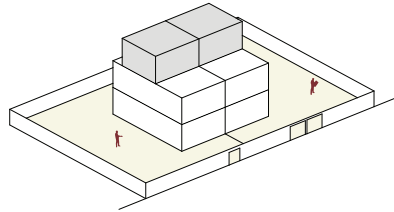
indoor parking

Parking inside the volume of the main building does count for 50% in the FAR calculation. Underground parking is favourable over groundfloor parking or multistorey parking garage and therefore underground parking will not count in the calculation of floor area in a building.



shops and amenities

In case of public functions parking places can be built perpendicular to the street.
= 5% FAR for public charger for electrical vehicles.



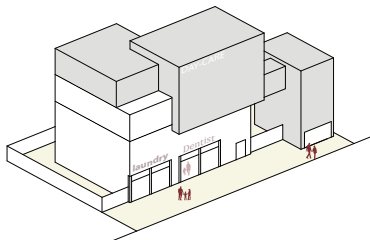
collective development

2 plots: + 10% FAR

3 plots: + 15% FAR

4 plots: + 20% FAR

*“reward desirable development in order
to foster sustainable and resilient design”*



stimulate functional mix in residential areas on ground floors

rule:

$$a + (a * s * b)$$

a = % standard GSI

s = % floor space of 2nd non-residential function

b = % bonus

= 10% 1 extra function

= 20% 2-3 extra functions

= 30% >4 extra functions

= +10% extra for public amenities

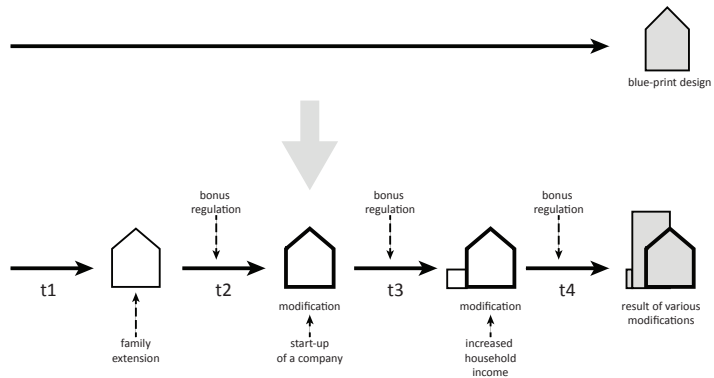
= +10% extra for cultural facilities

**GSI can never exceed 80%*

example: Residential plot with GSI 40 has apartments (60%), laundrette, dentist and daycare. The new (bonus) GSI will become:

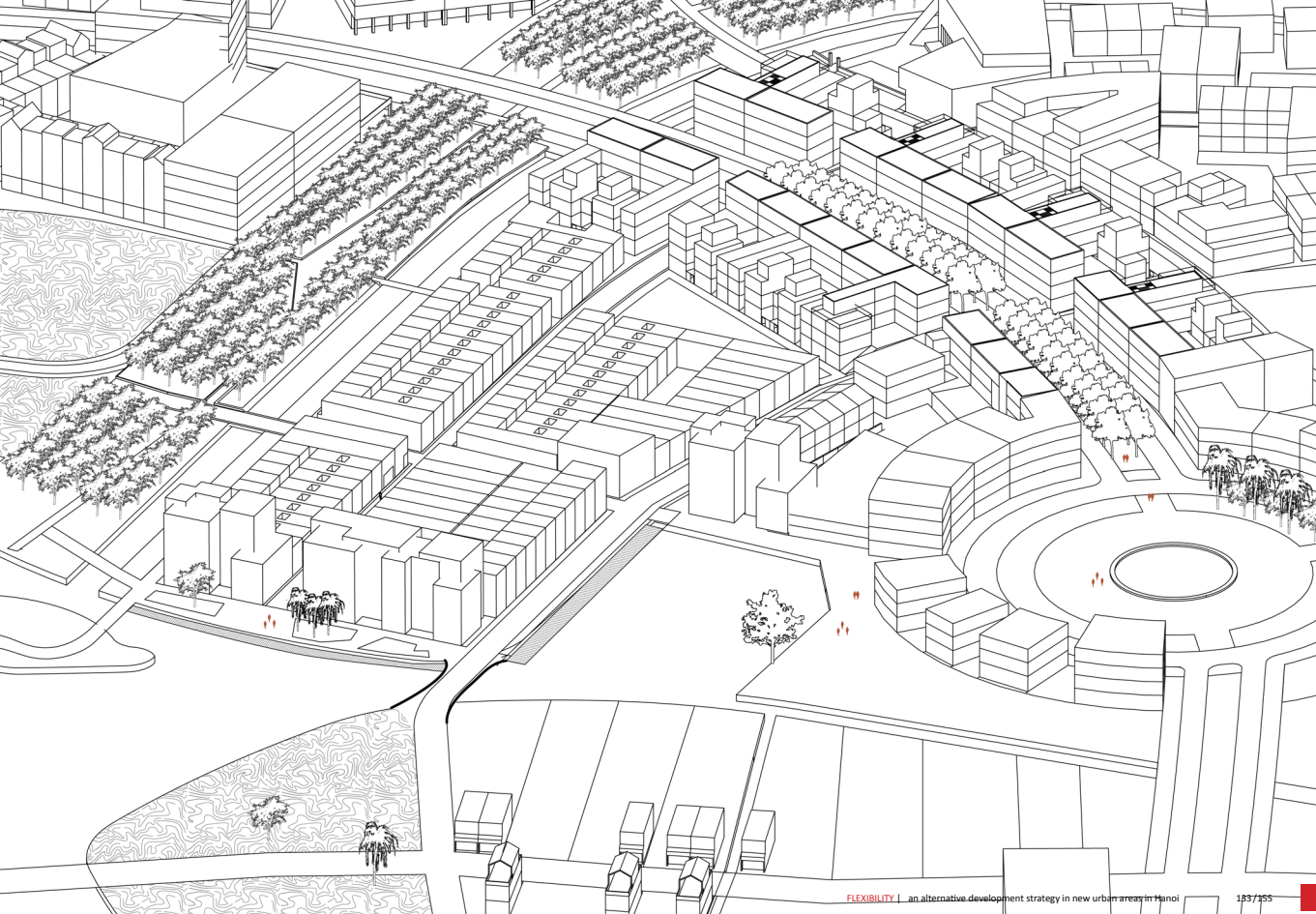
$$40 + (40 * 0.4 * 0.2) = 4.3$$

+ 8% GSI









diversity in the urban plan

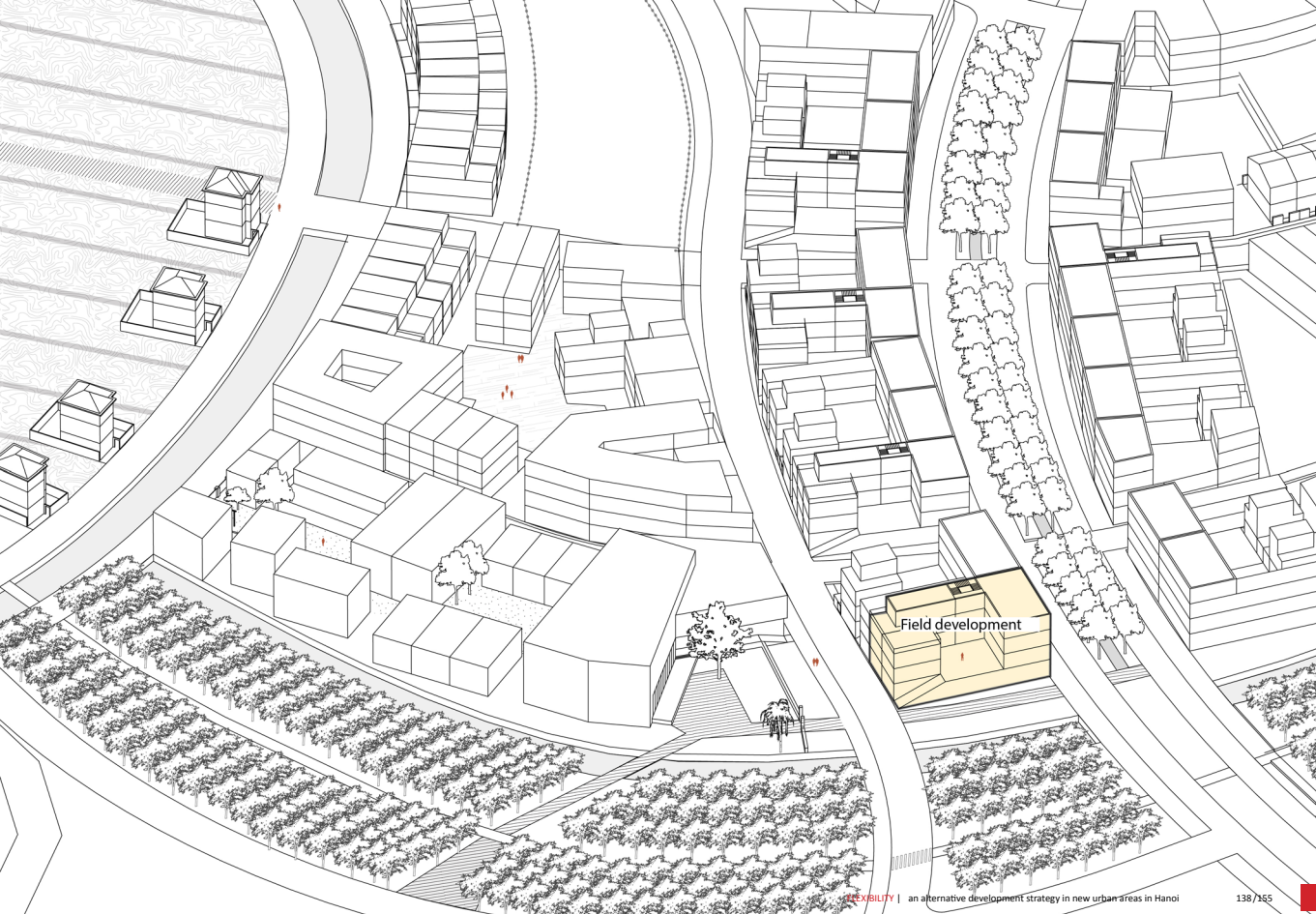




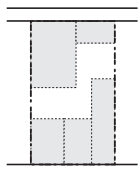




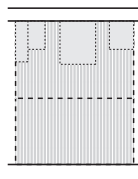
Architects



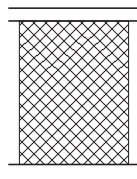
fields



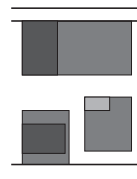
adjustable plot size

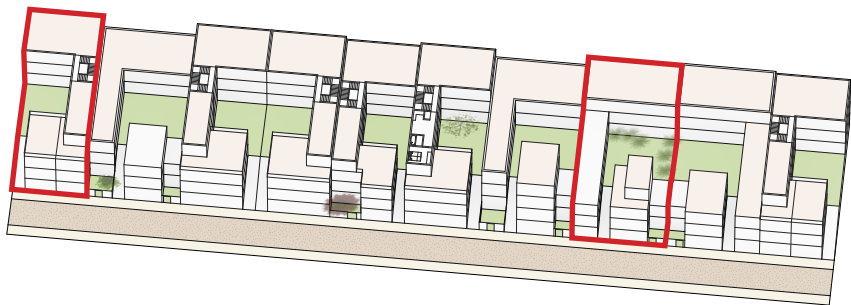


D.I.Y plots

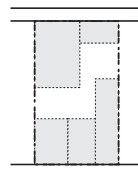


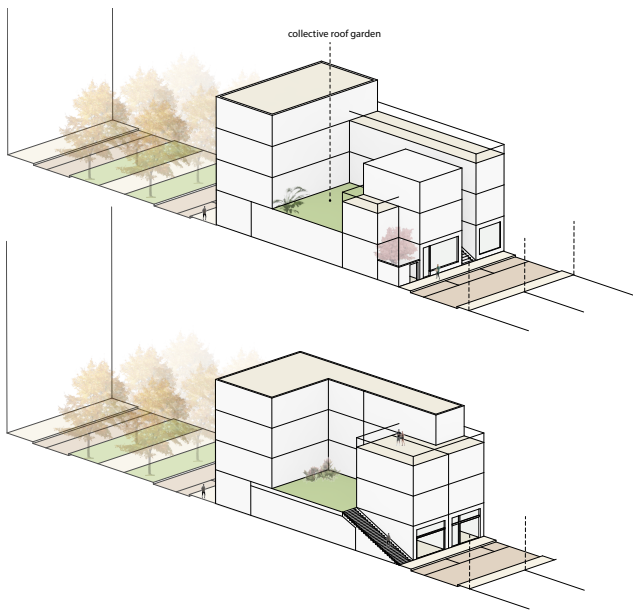
building envelope

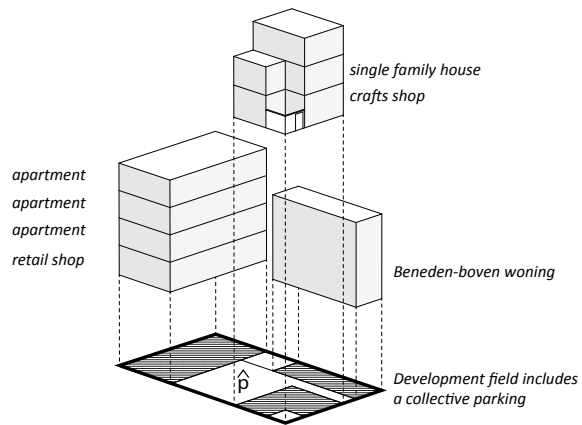
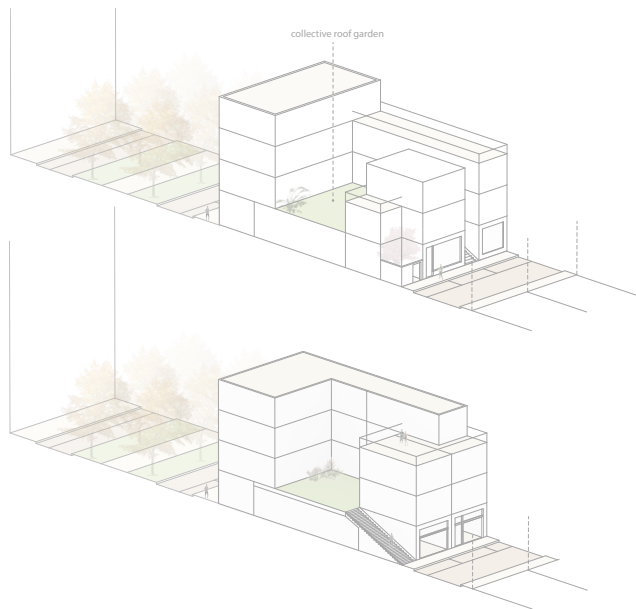




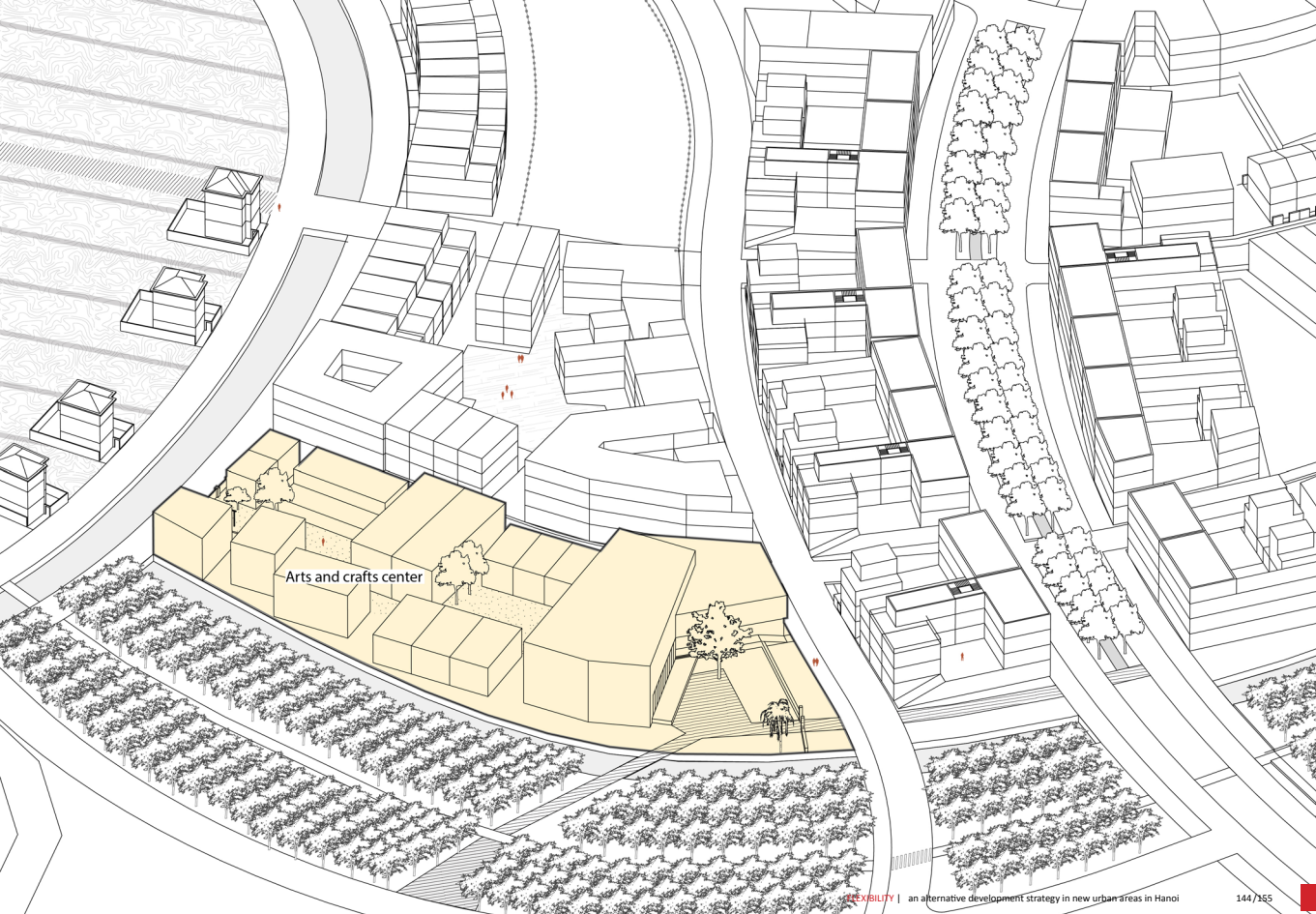
fields











Arts and crafts center



summary

1. A CLEAR FRAMEWORK, PHASED IN SMALL STEPS
2. FLEXIBLE INFILL OF BLOCKS
3. FUNCTIONAL FREEDOM IN ZONING
4. GRADUATED DENSITY, BUT COMPACT DESIGN
5. STIMULATE DIVERSITY: in architecture and typology
6. USE INCENTIVES IN EXTRA ZONING REGULATIONS
7. EMBRACE HISTORICAL AND LOCAL TYPOLOGIES
8. PREVENT LARGE GATED AREAS
9. MIX DEVELOPMENT TYPES WITHIN WARDS

conclusion:

*What is built now are ready made,
generic products, what is needed
is a process that guides urban
development.*

conclusion:

*New balance between the stakeholders
can help to ensure more resiliency,
in a step by step development that
makes use of concrete tools.*

conclusion:

Only an intergral aproach of the financial model, urban architectual model, stakeholder model and planning model, can solve the problems of the new urban areas.

conclusion:

*New type of (sub-)urban life style
for the higher middle class.*



recommendation:

Use a diversity of tools that can foster flexibility in planning and design since the tools need to be tested in the Asian context.

FLEXIBILITY

an alternative development strategy
in new urban areas in Hanoi.

The case of [Vietnam] [Hanoi] [Nam An Khanh]

P5 presentation - Wouter van Faassen
Luisa Calabrese, Qu Lei, Leo van den Burg



5km x 5km competition site



Splendoria

Nam An Khanh

Old Hanoi

Merchants quarter

French quarter

Dong Da District

5km