JaJakarta
An exploration of future Jakarta
P4 Presentation

Sander Bakker
Rik Lambers
Mark van den Ouden
Jonathan de Veen
pre-P4 data

Resume of research
Fascination

Urban growth

Cities will contain a majority of the world population, estimates are around 75%

Sources: www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/
Fascination
Friction of local and global

The tension between standardized urban models and existing fabrics has sparked a common interest within our group.
Why Jakarta?

City of Growth

The city grows rapidly, both in people as in built structure.
Why Jakarta?
City of Growth

The city grows rapidly, both in people as in built structure
Why Jakarta?
City of Growth

The city grows rapidly, both in people as in built structure.
Why Jakarta?
City of friction

The city largely consists (70%) of the so-called Kampung.
Why Jakarta?
City of friction

The city largely consists (70%) of the so-called Kampung.

New developments stand in contrast with these local urban villages.
Indonesia
Introducing Jakarta
Java, Indonesia
Introducing Jakarta
Jakarta Raya
Greater Jakarta Region / Jabodetabek

Bekasi
Depok
Tangerang Selatan
Tangerang
Bogor
DKI Jakarta

N
Jakarta Raya
A city of 13 rivers
Lack of central planning caused a huge infrastructural mess
Jakarta Raya
Its a city that needs some work
Jakarta: City of friction
Jakarta
Friction of local and global
Jakarta
Friction of local and global

Jakarta can be divided into two interconnected entities, the Kota and the Kampung.
Kota-Kampung
A way to understand the city
Definition

“Kota”

Line breaks: kota

MEANING

The formal city, the bigger scale.

Top Down

Urban management

Metropolitan / Global orientation

Large space

Coarse / Massive Grain

Private

All legal (certified)

Planned and regulated

Formal and controlled
Definition

“Kampung”

Line breaks: kam | pung

MEANING

The (urban) village, the small scale.

Bottom Up

Mutual self-help

Local orientation

Tiny space

Fine Grain

Public

Majority illegal (uncertified)

Informal & unprotected

Unplanned and unregulated
Housing
Kota
Qualities of top down
Structured
Efficient
Economical
Safe
Kampung
Qualities of bottom up
Collectivity
Diversity
Flexibility
Identity
Individuality
Jokowi: ‘...Jakarta adalah kota kampung desa besar.’
Jakarta has many problems to solve
Problems faced by the city as a whole
Five evident problems
Urgenties of the city

Floodings

Land subsidence

Pollution

Traffic gridlock

Privatized public space
Floodings

"Jakarta's poor are productive and integral members of the city's economy, and are also the most vulnerable to flood-related risks"

The world bank - Climate change, disaster risk and urban poor, 2012
"Jakarta will be 3 to 5 meter under sea level within 50 years following the current inclination trends."

World Bank, 2013
"Pollution is concentrated in cities, and vehicles are the main culprits, directly affecting the health of urban populations."

State of the World’s Cities 2006/7, UN Habitat
Traffic will increase by 10 percent next year, with an average speed in the capital expected to be between 8 and 10 kilometers per hour.

Indonesia Transportation Society Chairman Danang Parikesit, Jakarta
Privatized public space

A lack of public space  Densely populated  Secluded spaces

“The proliferation of private spaces for recreation has widened the socio-cultural gap between the new lifestyle of the upper-middle class.”

Jo Santoso, 2014
Conceiled problems

Urgenties of the city

Frozen Kampung

Polarization

Bureaucracy

Village mentality

Corruption
Problems faced by the kampungs
Kampung problems

Urgenties of the kampung

Safety

Land ownership

Water management
Safety

Restricted access  Fire hazard  Ignorance

Fire truck cannot reach Kampung while fire can quickly spread because of dense buildings with vulnerable materials.

Marco Kusumawijaya, RUJAK
Since land-ownership is a re-occurring issue we cannot easily change the situation.

Pak Yunaldi, official spatial planning office Jakarta
Water management

Floods
Open sewer
Lack of sanitation

Less than 3 percent of the entire city - homes, offices, malls - has a sewage connection.

Isabel Blackett, the World Bank
Jakarta risk map
Urgenties of the city

Legenda
- No risk area
- Very low risk area
- Low risk area
- Medium risk area
- Medium - high risk area
- High risk area
- Extremely high risk area
Jakarta's urban sprawl is increasing the complexity and the degree of these problems and is exactly the opposite of what the city needs to do.
Urban Sprawl
Jakarta Population growth

In approximately 50 years, Jakarta has Grown With 962%!

Sources 1. The world bank - Climate change, disaster risk and urban poor, 2012
% of total population in region

Outer Suburbs  Inner Suburbs  City center  Inner Suburbs  Outer Suburbs
From the suburbs to the city center where the jobs are.
LACK OF PEOPLE
Expensive to realise public facilities
The government is doing the complete opposite of what is needed and is avoiding the real problems.
Kampungs aren’t recognized as part of the city
Jabodetabek with the density of Los Angeles?

Javakarta?
Jakarta is not dense at all

Comparative average population densities in built-up areas in 14 South East Asian metropolitan areas
Drop of density!

Population-density

Density measured from CBD
Jakarta’s city center is depopulating and sprawl is increasing
Comparison
Population-density

Density measured from CBD
Comparing Cities

<table>
<thead>
<tr>
<th>Distance from CBD</th>
<th>Inner Suburbs</th>
<th>City Center</th>
<th>Outer Suburbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Jakarta is not dense at all

Floor area ratio

What about the average Floor area ratio?
The floor space index of Jakarta is **low**.
Jakarta
FAR 8.0

What if it had the spatial density of Singapore?
Jakarta

FAR 13.0

... or Shanghai?
Jakarta
FAR 15.0

... or Hong Kong?
Hypothesis
The first step in tackling the major issues of Jakarta is to stop the urban sprawl and to densify the city center.

Based on a 2009 World Bank report we believe densification to be an essential strategy for a sustainable growth of Jakarta. Many scholars indicate ‘Smart Growth’ policies to be a way to counter suburban sprawl. This would allow for more budget per km²; making public transportation affordable and flood prevention more effective, less commuters which would help to prevent the gridlock, the return of the middle class defreezing the kampung and it would mean introducing formality within the informal kampungs allowing to change the urban fabric and therefore giving the opportunity to create more public space and an effective sewage system.
Densification would...
Densification would...

...generate more budget per square meter
Densification would...

...generate more budget per square meter

...force a reconsideration of the urban fabric
Densification would...

...generate more budget per square meter

...force a reconsideration of the urban fabric

...allow a reconsideration of the kampung (a new KIP)
Densification would...

...generate more budget per square meter

...allow to make public transport feasible

...force a reconsideration of the urban fabric

...allow a reconsideration of the kampung (a new KIP)
Densification would...

...generate more budget per square meter

...force a reconsideration of the urban fabric

...allow a reconsideration of the kampung (a new KIP)

...allow to make public transport feasible

...allow to reconsider the riverbanks
Densification would...

...generate more budget per square meter
...allow to make public transport feasible
...force a reconsideration of the urban fabric
...allow to reconsider the riverbanks
...allow a reconsideration of the kampung (a new KIP)
...generate social- and economical benefits
JaJakarta

Mempertimbangkan hal tersebut, Pemerintah Provinsi DKI Jakarta memutuskan untuk langsung menyusun Raperda baru yang mengacu pada Undang-undang...
In 2030, Jakarta will have expended so much, and in this process overtaken many adjacent cities, that it will be called Jadodetabekasepususesuci. (Jakarta municipality, 2014) An unpronounceable name for a megacity that has become so addictive to growth that it will become uncontrollable. In general, the increasing amount of city will decrease the net capita per square km. The municipality will be incapable in effectively managing the dramatically enlarged city.

The only way to pursue the ambition of a world-class city is to address all problems simultaneously. (1) Since the real estate market stands in direct relation with the stock market (2) (Rolnik, 2013), the city has become addicted to urban growth. Therefore, a building stop would imply an economic stop. Urban sprawl is one of the main outcomes of the real estate investments. We believe stopping the urban sprawl (3) to be the first and most critical step in solving the city’s problems. The projected urban growth should take place within the centre of DKI Jakarta. Although official numbers forecast differently, we expect an even further decrease of the population in the city centre of DKI Jakarta due to the increase of the middle class. The middle-class, which will be doubled in 2020 (BCG, 2013), will either move to the suburbs or enlarge their spatial demand per capita within the city centre. To accommodate this spatial demand, the city will need to densify.
Penyusunan RTRW DKI Jakarta 2030 telah melalui proses yang panjang dan dengan melibatkan berbagai pihak demi mewujudkan dokumen perencanaan yang dapat memenuhi aspirasi warga dan mengantisipasi dinamika kota Jakarta saat ini dan sampai tahun 2030.

Manifesto for the kampung

As New York is often labeled the ‘Big Apple’, Jakarta is often called the ‘Big Durian’. The ‘durian’ fruit is infamous for being smelly outside, while the inside surpasses the flavor of many other fruits. When looking at Jakarta a similar analysis could be made, at first hand the city could be experienced negatively. The pollution, the slum-like area’s, the traffic jams all contribute to this experience. Knowing the city slightly better would provide an alternative opinion. The great ‘taste’ of the city could be found within the urban villages, the so-called Kampung. However, due to many different reasons this part of the city has become vulnerable.

For the greater part Jakarta is defined by the Kampung, one could therefore best describe it as a city of villages. Within the Kampungs many residents form strong communities. These ground-based villages provide jobs, services and housing for people from various levels of income. (Jellinek, 1991) However the Kampung are facing numerous serious problems. Ranging from very basic ones, such as poor infrastructures to a multitude of complex and interconnected city-wide problems.

As a first example, the Kampung have become prone to land speculation. Lot by lot, real estate agencies have bought strategic areas of the inner city. Eventually they are reassembled in bigger lots and sold to private developers. Driven by market demands, these developers introduce...
Manifesto for the kampung

As New York is often labeled the ‘Big Apple’, Jakarta is often called the ‘Big Durian’. The ‘durian’ fruit is infamous for being smelly outside, while the inside surpasses the flavor of many other fruits. When looking at Jakarta a similar analysis could be made, at first hand the city could be experienced negatively. The pollution, the slum-like, the traffic jams all contribute to this perception. Knowing the city only superficially provides an alternative opinion. The great ‘taste’ of the city could be found within the urban villages, the so-called Kampung. However, due to many different reasons this part of the city has become vulnerable.

For the greater part Jakarta is defined by the Kampung, one could therefore best describe it as a city of villages. Within the Kampungs many residents form strong communities. These ground-based villages provide jobs, services and housing for people from various levels of income. (Jellinek, 1991) However the Kampung are facing numerous serious problems. Ranging from very basic ones, such as poor infrastructures to a multitude of complex and interconnected city-wide problems.

As a first example, the Kampung have become prone to land speculation. Lot by lot, real estate agencies have bought strategic areas of the inner city. Eventually they are reassembled in bigger lots and sold to private developers. Driven by market demands, these developers introduce
Population
Million


JABOTABEK
38.828.972

DKI Jakarta
14.206.089
DKI Jakarta 2010
9,588,198 people
DKI Jakarta 2030 according to the masterplan
10,000,000 people

15,000 p/sq.km
a densified DKI Jakarta 2030
21,038,874 people
What are the implications of this increase in density for the city of Jakarta?
## Implications run through all scales

<table>
<thead>
<tr>
<th>Group</th>
<th>Scale</th>
<th>Scale</th>
<th>km</th>
<th>m</th>
<th>cm</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jabodetabek</td>
<td>XXL</td>
<td>1:1,000,000</td>
<td>10</td>
<td>10,000</td>
<td>100,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Jakarta</td>
<td>XL</td>
<td>1:250,000</td>
<td>2,5</td>
<td>2,500</td>
<td>25,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Kebon Kacang</td>
<td>L</td>
<td>1:10,000</td>
<td>0,1</td>
<td>10</td>
<td>1,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Indiv area</td>
<td>M</td>
<td>1:1,000</td>
<td>0,01</td>
<td>10</td>
<td>1,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Community</td>
<td>S</td>
<td>1:200</td>
<td>0,002</td>
<td>2</td>
<td>200</td>
<td>2,000</td>
</tr>
<tr>
<td>Unit</td>
<td>XS</td>
<td>1:50</td>
<td>0,0005</td>
<td>0,5</td>
<td>50</td>
<td>500</td>
</tr>
<tr>
<td>Detial</td>
<td>XXS</td>
<td>1:5</td>
<td>0,00005</td>
<td>0,05</td>
<td>5</td>
<td>50</td>
</tr>
</tbody>
</table>
### What is shown and designed on which scale?

<table>
<thead>
<tr>
<th>Scale</th>
<th>System</th>
<th>Infrastructure</th>
<th>Urgencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>Jakarta</td>
<td>- Urban fabric - density - FAR</td>
<td>- flooding - land subsidence - traffic gridlock - pollution - waste</td>
</tr>
<tr>
<td>L</td>
<td>Kebon Kacang</td>
<td>- Urban fabric - density - Po/km2 - FAR - open space - OSR - designation - function - demographics</td>
<td>- flooding - land subsidence - traffic gridlock - pollution - waste</td>
</tr>
<tr>
<td>S</td>
<td>Community</td>
<td>- Urban fabric - structure - constructability building site - open space - communal space - designation - function - demographics</td>
<td>- flooding - land subsidence - traffic gridlock - pollution - waste</td>
</tr>
<tr>
<td>XS</td>
<td>Housing unit</td>
<td>- Urban fabric - structure - constructability building method flexibility - light conditions - ventilation - function</td>
<td>- flooding - land subsidence - traffic gridlock - pollution - waste</td>
</tr>
</tbody>
</table>
What is shown and designed on which scale?

System
- Urban fabric
  - density
  - FAR
- open space
- OSR
- function
- demographics
- safety
- fire prevention
- dimensions

System
- Urban fabric
  - density
  - FAR
  - Po/km2
  - GSI
- open space
- communal space
- designation
- function
- safety
- fire prevention
- dimensions

System
- Urban fabric
  - structure
  - constructability
  - building method
  - flexibility
  - building site
- open space
- communal space
- designation
- function
- safety
- fire prevention
- dimensions

System
- Urban fabric
  - structure
  - constructability
  - building method
  - flexibility
  - building site
- open space
- communal space
- designation
- function
- safety
- fire prevention
- dimensions

System
- Urban fabric
  - structure
  - constructability
  - building method
  - flexibility
  - building site
- open space
- communal space
- designation
- function
- safety
- fire prevention
- dimensions

Jakarta Kebon Kacang Sites Community Housing unit Detail

Urgencies
- flooding
- land subsidence
- traffic gridlock
- pollution
- waste

Infrastructure
- Transportation
  - road capacity
  - main roads
  - secondary roads
  - public transport
  - rails network
  - main roads
  - main stations
- Water management
  - river/canal capacity
  - main rivers
  - water-net
  - storage
- Waste management
  - sewage capacity
  - main net

How can the densification strategy facilitate solving flooding?
What is shown and designed on which scale?

<table>
<thead>
<tr>
<th>System</th>
<th>Infrastructure</th>
<th>Urgencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Urban fabric</td>
<td>- Transportation</td>
<td>- flooding</td>
</tr>
<tr>
<td>- density</td>
<td>- road capacity</td>
<td>- land subsidence</td>
</tr>
<tr>
<td>- FAR</td>
<td>- main roads</td>
<td>- traffic gridlock</td>
</tr>
<tr>
<td></td>
<td>- public transport</td>
<td>- pollution</td>
</tr>
<tr>
<td></td>
<td>- rails network</td>
<td>- privatized space</td>
</tr>
<tr>
<td></td>
<td>- main roads</td>
<td>- formal rights</td>
</tr>
<tr>
<td></td>
<td>- main stations</td>
<td>- land ownership</td>
</tr>
<tr>
<td></td>
<td>- Water management</td>
<td>- waste</td>
</tr>
<tr>
<td></td>
<td>- river/canal capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main rivers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- water-net</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Waste management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sewage capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main net</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Water management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- river/canal capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sub rivers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- water-net</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sewage capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main net</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Water management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- river/canal capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sub-rivers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sewage capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Water management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sewage capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Water management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sewage capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Water management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- sewage capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- main system</td>
<td></td>
</tr>
</tbody>
</table>

How can the densification strategy facilitate solving flooding?
The implications, designs and programatic requirements work through all scales.
From XL to XXS > what needs to be done where and on what scale?
XL Jakarta
Visions

Road Upscaling
Widening rivers
Building a giant sea wall
New CBD nodes
Kampung to kampung connections
Greenspaces around river sides
XL Jakarta

Infrastructural (roads)

Tangerang

Bekasi

DKI Jakarta

N
L Kebon Kacang

Visions

- Increasing capacity of infrastructure
- Higher FAR next to infrastructure
- More economic activity next to infrastructure
- Higher density inwards - people/km² - from infrastructure
- Widening rivers
- Dredging rivers
- Introducing open space next to rivers
- Introducing public transport next to rivers
M till XXS scales > individual works