A Moveable Feast in Semarang

A Street-Vendor Inclusive Urban Landscape

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A Moveable Feast in Semarang
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motivation

Informalities lie in between the ambiguity of top-down planning and bottom-up initiatives. It often occurs at the cities that lack planning, and reflects human creative as a highly adaptive species.

With the upbringing of my cultural background, there is often tension between the top-down and bottom-up forces. With the increasingly high controlling governance, bottom-up forces become more repellent in reaction. These informalities are very valuable and fascinating as they genuinely reflect the needs of the general public, against the authoritative and capitalistic forces. I believe in the power of people; and as a landscape architect who stands with at professional stake, I am constantly conscious that good designs are for and with people, and mediate between the two forces.

The disparity between the Kota Lama renovation and the genuine lives of Semarang people has motivated my interest to research into the urban inequalities among these urban dwellers. The more than 60% informal economy is truly an intriguing figure and reflects the fact that majority of the citizens rely on their own way to make a living. With the setting, the thesis is an exploration of how landscape architectural design could be an empowerment to the local community.

content

Glossary

***Pedagang Kaki Lima* (PKL)**	[Bahasa] Literally translated as "trader of five feet", refers to street vendors for daily use
Informal Sector	Self-employment in small unregistered enterprises, usually not regulated or protected by the municipality
Alun-alun	Before 17th century: frontyard of palace; Nowadays: civil public open space, gathering space, event space
Pkan	[Javanese] Periodic market according to Javanese calendar
Pasar	Bazaar, or refer to markets
Warung	[Bahasa] Usually small casual family-owned shops, mostly are eateries and are informal
Jalan-jalan	Walking/ strolling around
Kampung	Local village, usually formed as a small community
Kampung Tematik	[Bahasa] Thematic village, Semarang municipality's initiative to improve kampung conditions organised by community themselves
Garbage Bank	Bank Sampah, a community-based initiative to collect and upcycle waste
Johar	Name of an important market in Semarang, derived from Johar tree
Kota Lama	Name of an important market in Semarang, derived from Johar tree
Kali Semarang	The river that runs through the city of Semarang
Mt. Ungaran	The inactive volcano to the south of Semarang
VOC	Vereenigde Oostindische Compagnie (Dutch East India Company)
Sultan	Refers to the king of an Islamic state
Keraton	The palace in the Islamic state where the king lives
TPS	[Bahasa] Tempat Pembuangan Sampah (waste collection point)
TPA	[Bahasa] Tempat Pembuangan Akhir, Landfill

A Moveable Feast in Semarang

A Street-Vendor Inclusive Urban Landscape

Designing an Urban Vending Network by Creating Conditions and Opportunities in Order to Facilitate and Manage Street Vending Activities

Introduction

Semarang is one of the biggest cities in Indonesia under the process of urbanisation, which threatens the underdeveloped capacity of the city. Street vendors booming is an evident phenomenon of urbanization, it is a new way of urban living to survive in the urban capitalist growth circumstances. Being the majority of the informal sector, street vendors are highly resilient but they also bring environmental impacts to the city and other urban dwellers. The thesis is a process of design by research, research by design to explore urban landscape intervention that facilitate and manage street vendors with an incentive building approach for an inclusive future development.

The first section will introduce the context of Semarang in terms of the political history, geology and built environment that formulate the existing environmental and social problems. The first Chapter explores the phenomenon of street vendors booming as one of the consequences of urbanisation, and brings up the subject of this thesis. The following Chapter introduces the research objectives, framework and the methodology that set the basis for the thesis. Further analysis and stories about the urban ecology of street vendors will be presented in Chapter 3 as a research toolbox for the later design stage, which will be featured in Chapter 4.

The thesis is under the Shared Heritage Lab which explores the shared history between The Netherlands and Indonesia in terms of cultural and architectural heritage. It is also a cross disciplinary research between heritage architecture, architectural engineering, landscape architecture and urbanism, collaborated with Institut Teknologi Bandung (ITB) and Rijksdienst voor het Cultureel Ergoed (RCE) of the Dutch municipality.

[Fig 0.1] the market with the Dutch colonial buildings as background

Preface
The City of Semarang

Indonesia and Semarang

[Fig 0.2] the map of Indonesia

The thesis is set in a Southeast Asia city Semarang, Indonesia. Indonesia is an archipelagic country with thousands of islands, formed by the active earth crust movements and volcanic eruptions. The Java Island is the most populous island in Indonesia as well as the world, accommodating half of the Indonesian population.

Indonesia was once the world's greatest exporter, and the fertile soil and rich production made it one of the Dutch colonies for plantation and trading. Hence, it is also a diverse and multicultural country with European and Chinese influence. It is only after the Second World War in 1945 that Indonesia was unified as the territory we see today, and declared for its independence.

Semarang is the fifth biggest city of Indonesia and is the capital of Central Java. It was developed into a trading port since the VOC's recognition of its strategic location for cash crop export during the colonial period in the 17th century. The city continues to expand under the phenomenon of urbanisation, and its population has reached approximately 1.8 million in 2019.

[Fig 0.3] the map regional Semarang

The Evolution Map of Semarang

Landscape is seen as a palimpsest which expresses evidence of layers of historical cultures, and all these layers have contributed to the shaping of the current landscape.

To understand the city of Semarang through history, several domains are analysed to present the evolution of Semarang, namely geology, politics and socio-economics, and infrastructure and built environment.

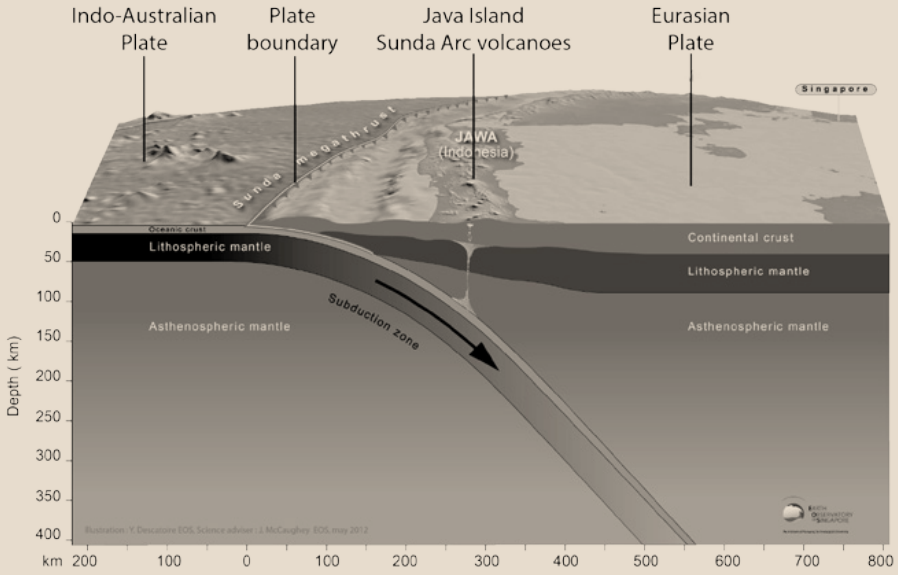
The Evolution Map is a collaborative work of the team of Shared Heritage Lab, which consists of 14 students over the tracks of Heritage Architecture, Architectural Engineering, Landscape Architecture and Urbanism. The goal of the mapping is to understand the context and the interrelation of the different domains prior to the field visit (see Chapter 2 p.056 for research methods). Some parts in the Evolution Map will be explained in the following session in this chapter as a context introduction of Semarang.

[Fig 0.4] the evolution map of Semarang collaborated by Shared Heritage Lab Batch 3

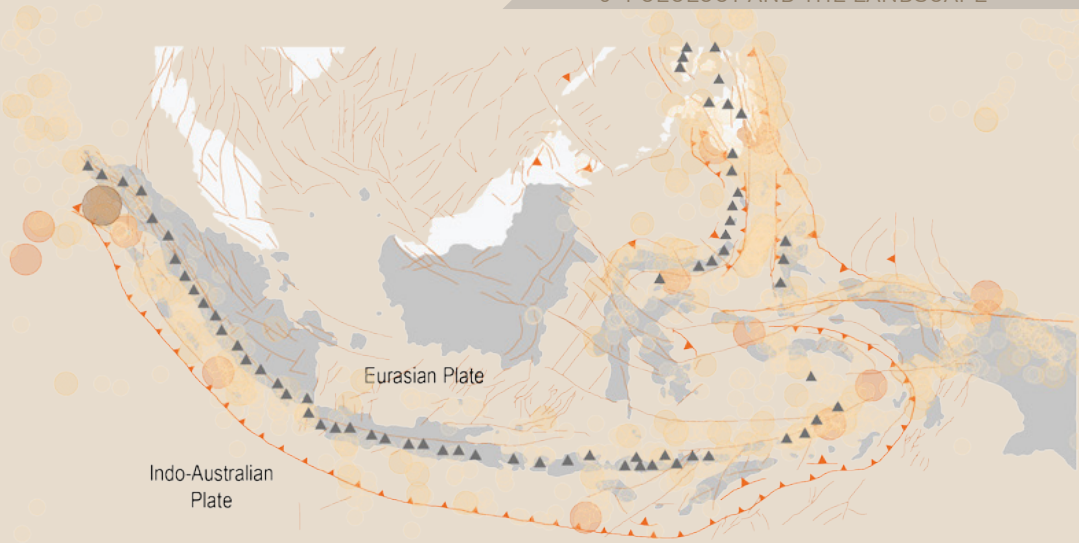
Geology and the Landscape

The geological condition of Indonesia is very much a consequence of tectonic plate movements. Java Island is located at the boundary of Eurasian Plate and Indo-Australian Plate, as well as the ring of fire. The subduction plate movement has been causing the active volcanic movement on the Sunda arc. Mount Ungaran is a dead volcano located at the back of Semarang, while further to the south there is Mount Merapi between Semarang and Jogjakarta, which is one of the most active volcanoes in Indonesia, with frequent eruptions recorded. There are constant earthquakes and volcanic eruptions on Java Island, affecting the topography and soil quality of the island.

[Fig 0.5] tectonic plates movements

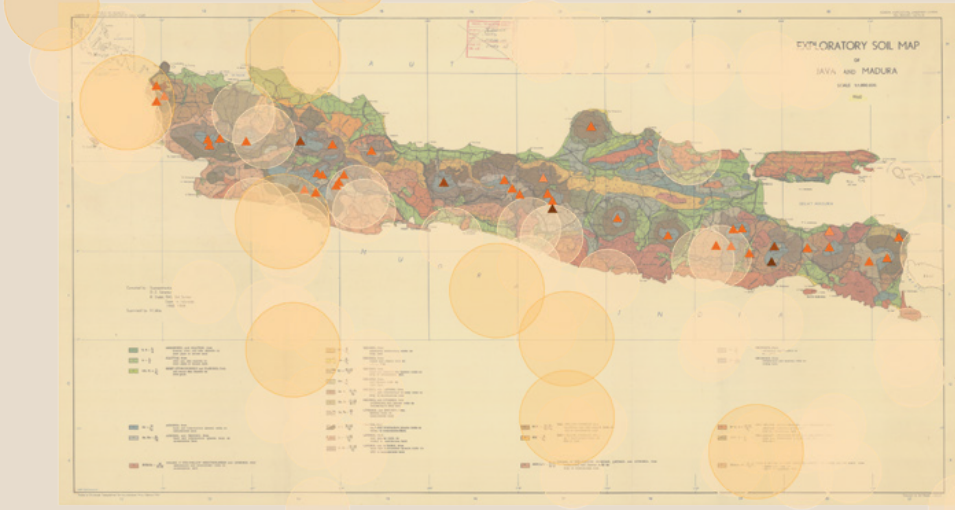


[Fig 0.6] tectonic plates of Java Island



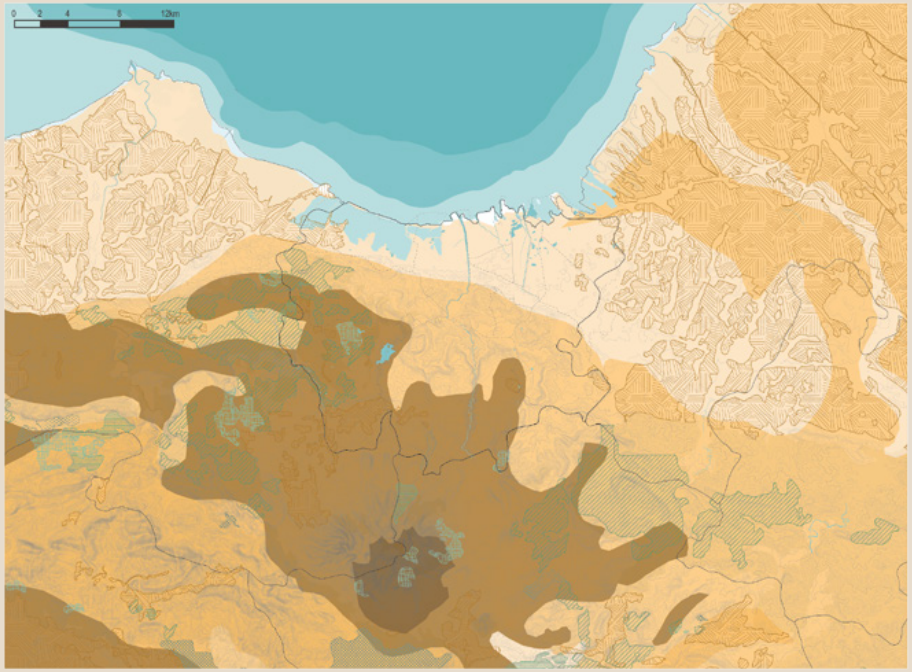
Geological condition of Indonesia

[Fig 0.7] volcano maps in Indonesia (USGS, 1997)

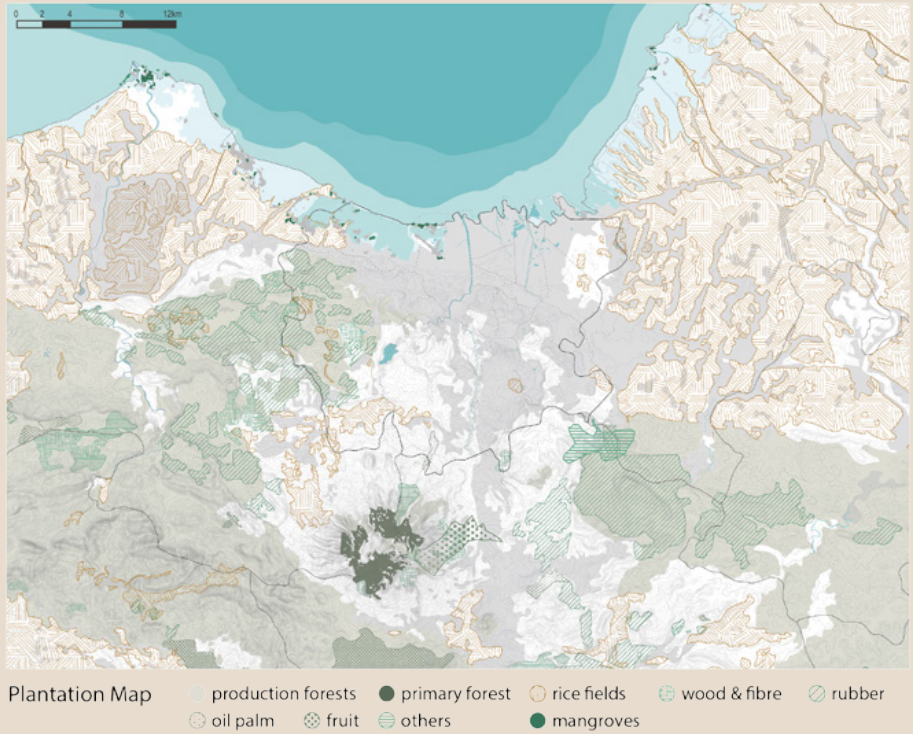


Map of earthquakes and volcanoes on Java Island

[Fig 0.8] Volcanoes and soil map 1960 of Java Island (EUDASM)



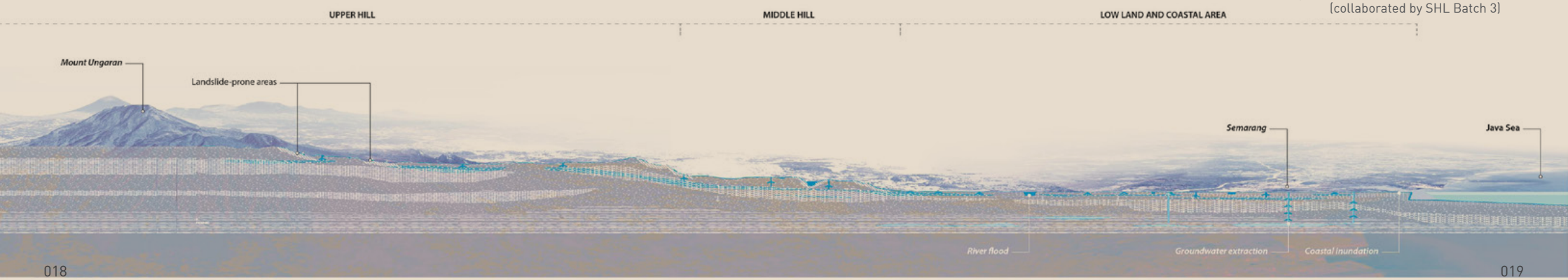
[Fig 0.9] soil map of Semarang



[Fig 0.10] plantation map of Semarang

Semarang is basically formed by a mountain, the hinterland and the coast. Thanks to the volcanic eruption, the soil on Java Island is very fertile for agriculture and plantation. The major soil type of Semarang is alluvial and fluvial clay around the coast and floodplains, Mediterranean soil in central Semarang, and volcanic rocks and tuffs towards the mountains. The geology condition has favoured the production of crops and argoindustry, including paddy rice and rubber.

[Fig 0.11] overall section of Semarang (collaborated by SHL Batch 3)

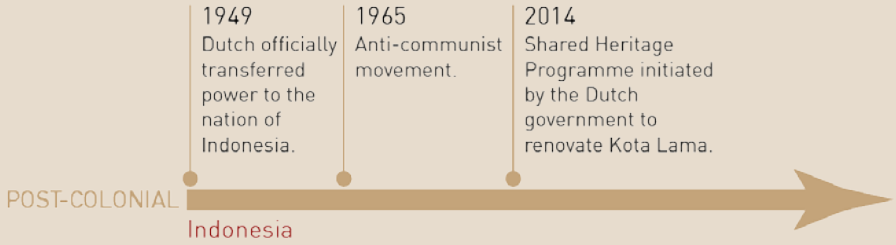


Politics and Socio-economics

Politics and socio-economics play a significant role in the development of Indonesia throughout history, from the pre-colonial period of Kutai Martadipura Kingdom to what Indonesia is at present day. European spice trade which eventually led to the colonisation of the now unified archipelago, still continues to bear traces in the nowadays landscapes and culture. These economic and cultural exchange significantly impacted the evolution of the built environment in Semarang.

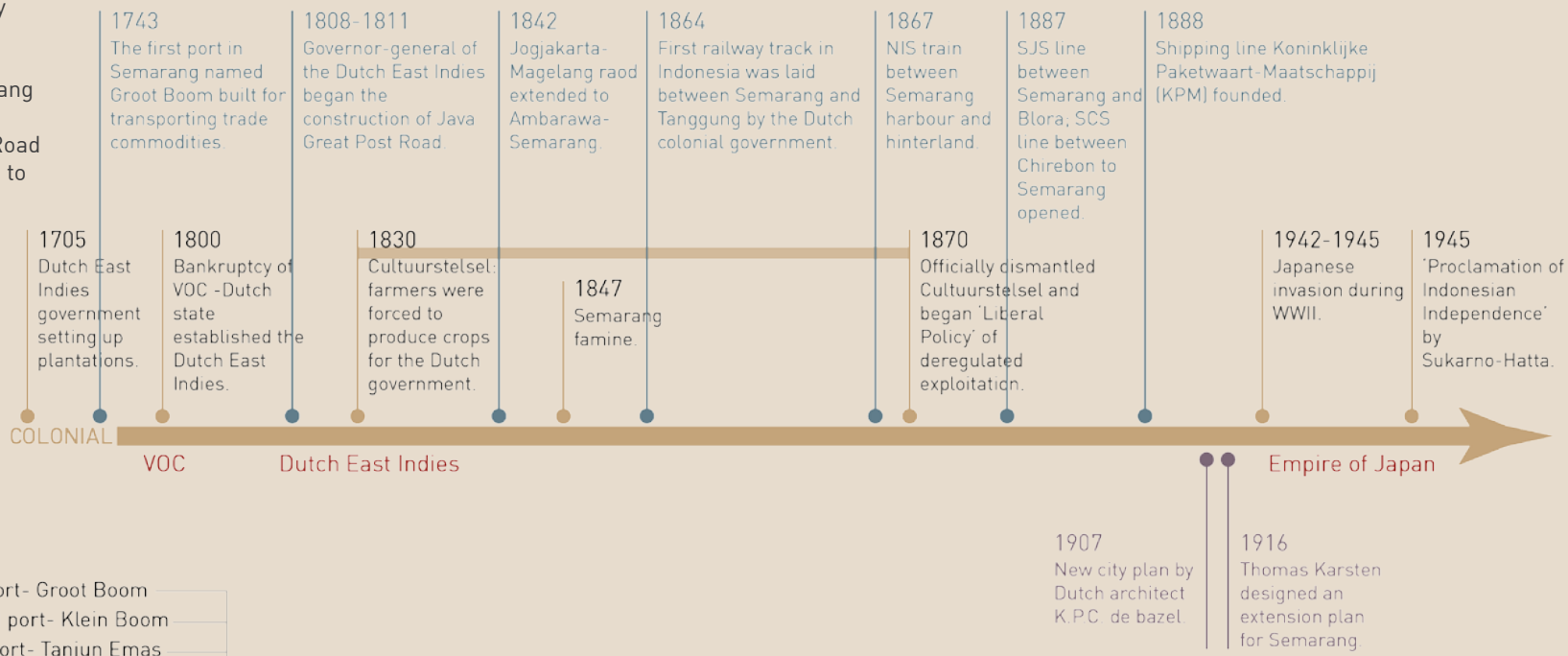
The history of Indonesia can be simplified as three phases: pre-colonial, colonial and post colonial. During the 17th century, VOC set sail to Indonesia for the spice-trade because of the abundance of spices on several of the islands, where Moluccas was significant. They set up trading ports in Java island to favour their trading businesses. The bankruptcy of the VOC led to the Dutch state taking over in the 1800s, which brought about legal colonisation of the archipelago. In 1830 the cultuurstelsel (cultivation system) was established which forced farmers to produce crops for the government in Batavia. Indonesia was once occupied by the Japanese army during WWII but regained independence after the Japanese surrendered.

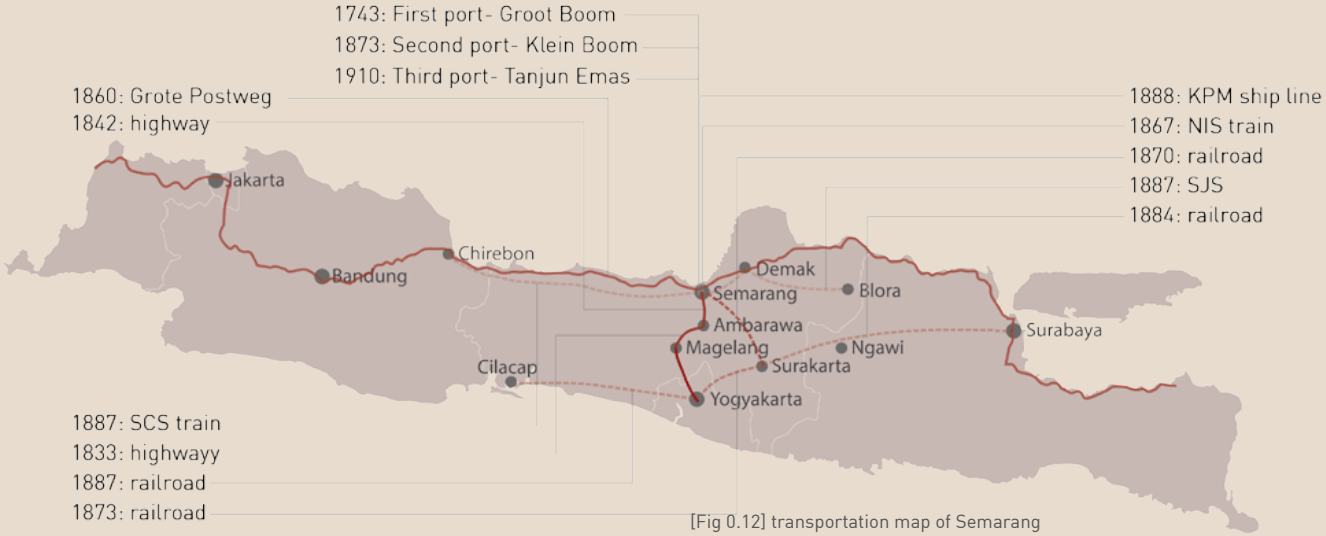
By understanding the history of politics and socio-economics in Indonesia from a global, national (Indonesia) and local (Semarang) perspective, the rationale behind the evolution of the built environment in Semarang could be understood in a better sense. This provides a strong base to design for present and future generations, as well as addressing the cultural values of the city.



Infrastructure Development

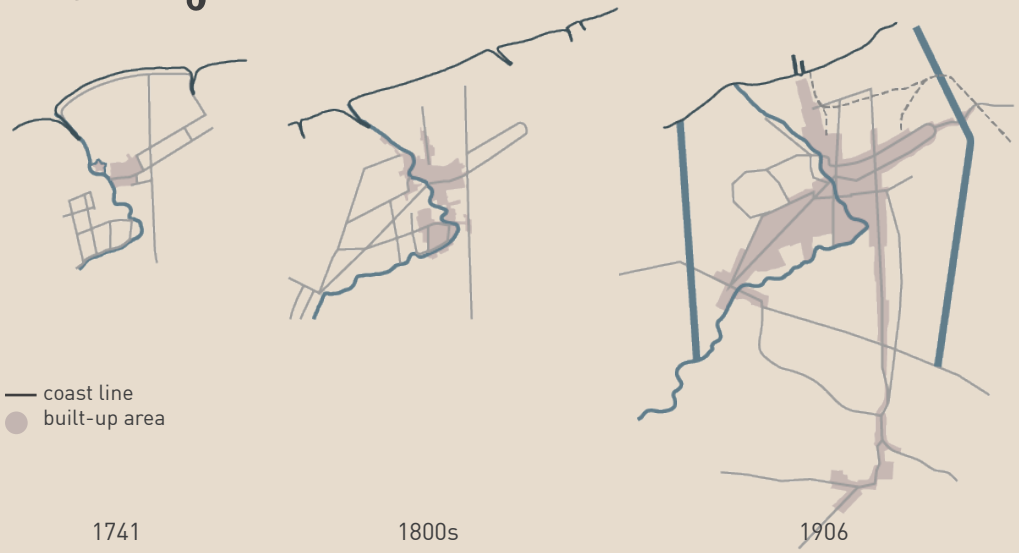
Argo-plantation has been an important industry for the development of Semarang. Many infrastructural development of the city has direct relation to argoindustry especially in the 18th to 19th century. Indonesia has once been the second largest exporter of sugar, and Semarang was the major port to export sugar products on the north coast of Java. Road and railway networks were developed to foster the connection to the port.

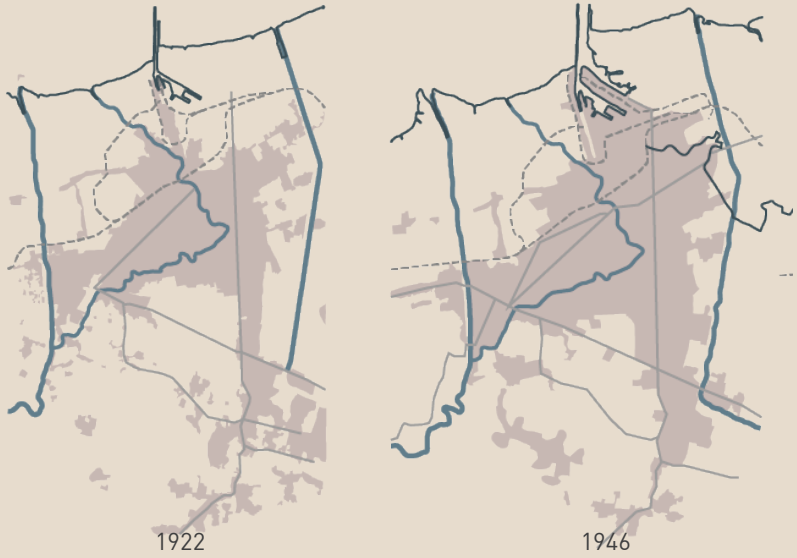




[Fig 0.12] transportation map of Semarang

Urbanisation





Semarang was the first city in Indonesia to have railway systems, and also is the home to the oldest railway station in Indonesia. From this, we can see that railways play a crucial role in the identity and character of Semarang. The vibrant harbour city Semarang couldn't have been able to flourish without the support of a strong structured railway.

The city developed rapidly especially during the Dutch colonial period. Thomas Karsten was the appointed Dutch architect to plan for Semarang's extension during the early 20th century, especially on a plan to accommodate the diverse ethnic groups living in Semarang. Since then, the city of Semarang expanded from the coast towards the hinterland, the perception of the city centre also shifted towards the inland.

The coastline of Semarang is also continually changing and being formalised as a port landscape. Some parts of the coast are also being flooded, constantly changing the form and position of the coastline. From the latest map of Semarang, most of the coastal area has been fully urbanised.

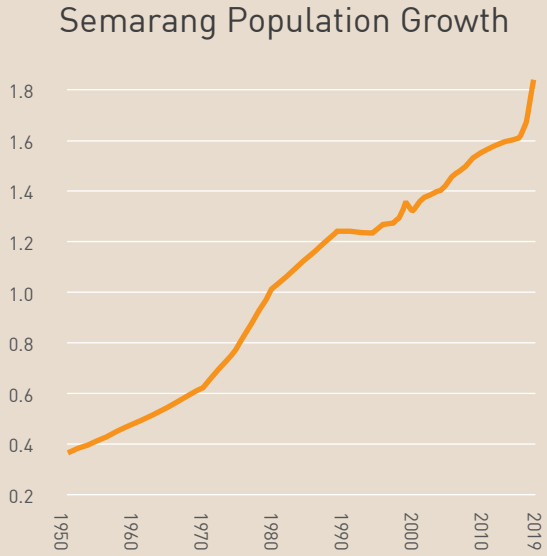
During the colonial period, the Dutch settled themselves in a Dutch quarter that is now called Kota Lama (The Old Town), and recognised by the locals as the historic centre of Semarang. Kota Lama is a major focus of the shared heritage scheme between The Netherlands and Indonesia as it has preserved an area of colonial architecture. However many of them were left abandoned or decayed, raising concerns from both countries. In the past decade, conservation and renovation projects are undergoing to save Kota Lama, believing that it is a valuable piece that witnesses the shared history. The government has invested money to revitalise Kota Lama into a tourist attraction that features the glimpse of colonial european style.

[Fig 0.13] changes of urban morphology in Semarang

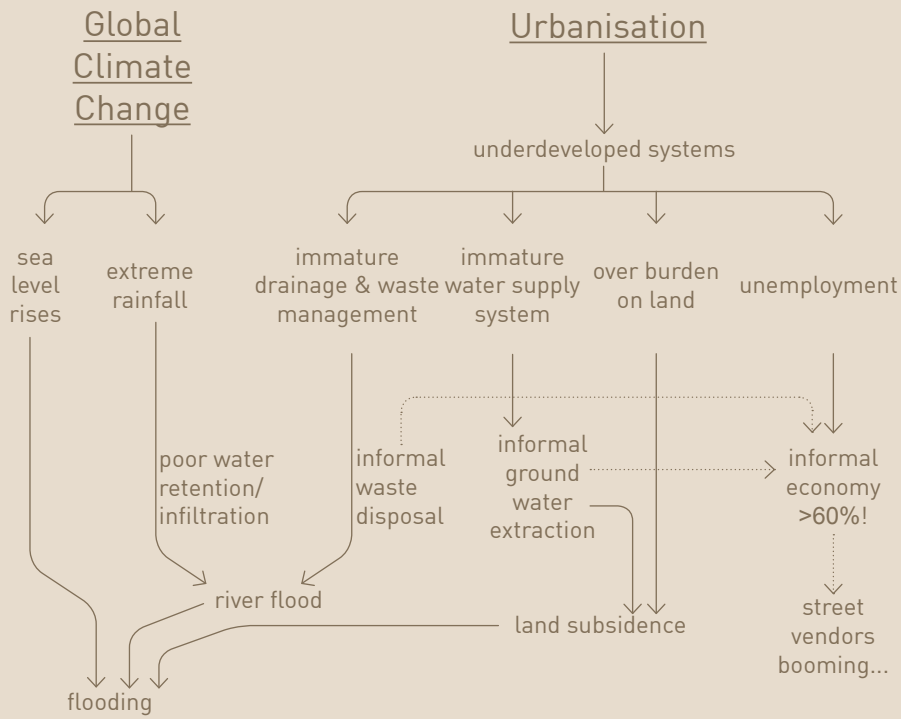
Urbanisation

Semarang is now the fifth biggest city of Indonesia and is the capital of Central Java. It was developed into a trading port since the VOC's recognition of its strategic location for cash crop export during the colonial period. The population of Semarang has been rising due to internal migration to cities, and urbanisation is posing pressure onto the city's capacity. The population is seeking for greater proximity, encounters and opportunities in the cities. While the city's capacity is underdeveloped, together with global climate change, Semarang is facing a few prominent environmental and social problems; for instance, land subsidence, coastal and river floods, high unemployment and informal activities.

[Fig 0.14] urbanisation mapping in Semarang



Conclusions: Potentials & Threats



Flooding and land subsidence are the most prominent environmental threats to Semarang, that involves complex and multiple causes. Global phenomenon like global warming and climate change is an inevitable factor; while in the local scale there is extreme rainfall and excessive surface runoff from mountains. Unregulated human activities like illegal dumping also contributes to river stagnant and flooding. On the other hand, the overloaded constructions and illegal water extraction are the major causes to land subsidence, that many buildings especially in the coastal area are sinking.

Urbanisation is also causing social problems like poverty, high unemployment, high density and overcrowdedness. These social problems are in fact interlinked with the environmental issues that they cannot be tackled individually. This thesis research will mainly focus on the informal economic activities under the consequence of urbanisation, which accounts for a majority of the city's employment.

[Fig 1.1] vendor stall on a sidewalk in Semarang

Chapter 1
The Street Vending Phenomenon

Semarang Informalities

1.1 Semarang Informalities

There are a few prominent environmental and social threats in Semarang due to urbanisation. In fact, the environmental problems are not only the consequence of climate change, but also related to the Semarang municipality's policies and infrastructure, as well as the informal human behaviour. For instance, limited clean water supply leads to illegal groundwater extraction, which contributes to the sinking of land. On the other hand, immature waste management policy leads to illegal waste disposal, which is a main source of water pollution and river flood. Informality booms while the formal, i.e. the government or the policy makers, can no longer accommodate the needs and demands of the growing population. Urbanisation has led to all these informalities, which are often hard to control, but diversify and provide opportunities in the city.

Urban informalities challenge the traditional urban design and planning scheme which is rather static with a series of standards and codes. Formal and informal is conservatively seen as dichotomy and the latter is considered as unregulated, uncontrolled and untidy (Lutzoni, 2016). However, the formalisation of the design and planning tradition often remains on abstract theories and could not respond to the genuine practice of everyday life. On the other hand, contemporary views recognise the values of urban informalities, defend them from being necessarily negative, and affirm the essentiality of the coexistence of formal and informal.

Weaver (1958) has proposed three stages of scientific thoughts to elaborate the disability of understanding the complexity of informality with a scientific manner as a scientist and mathematician himself. The first stage is simply labelling these unknown factors or informalities as chaos. This corresponds to how urban informalities were seen in the field of built environment before the 20th century (Jacob, 1961). The second stage of recognising the complexities in urban informalities arrived when there were more concerns on public space and street lives. However, the complexity was still seen as disorganised in this stage without enough sophisticated understanding of the interrelationships of these phenomena. It is only in the third stage, the informalities are regarded as organised complexity and embraced the fact that the heterogenous are interconnected. In this stage, the complex urban phenomena are compared to the ecosystem, which refers to the interaction between the living and non-living elements. The phrase urban ecology sees the people as the major actors in the ecosystem, who react and interact with the space in their built environment creating various possibilities.

[Fig 1.2] a section of Kali Semarang

An Urban Ecology

1.2 - Street Vending as an Urban Ecology

Ecology is universally defined as the relationship between the living organism and its physical environment. While comparing this concept to the urban setting, it is how people interact with their built environment. The third stage of scientific thoughts of complexity, while being put into the context of urban informalities, is to recognise the urban phenomena as urban ecology (Mehta, 2015). This is to accept that there are multiple interconnected systems within the vendors' systems, in which they form a coexistence. These systems might also interact and overlap, sometimes even conflicting, but also as a means to create new possibilities. Therefore, there are unlimited possibilities and opportunities within the urban ecology, framed by the space and the individual micro-powers by the actors, that is always open with flows of organisms (people), energy, and materials (Tjallingii, 1995). The street vending phenomena in Semarang has reflected the relationship of the urban dwellers' constant interaction with the environment to make a living and challenge the static physical space.

It is difficult to census on the population and location of the informal sector due to its unpredictable nature. The Central Java Central Bureau of Statistics (BPS) defined informal sector as people who "work with self-employment status, work with the help of temporary/unpaid workers and freelancers", which accounts for 60.01% of the Central Java's population from the report dated February 2018 (Badan Pusat Statistik, 2018). Researchers also further define informal workers as "small-scale, decentralized and flexible economic units" who are occupied in "non-standard or atypical jobs" (Chen, 2012). They are a feature in the capitalist economy, who are resilient to economic crisis and environmental circumstances. Under the urbanisation of Semarang, the booming of street vendors, who account for a big part of the informal sector, becomes an evident phenomenon. They found themsleves a niche in the capitalist development in the city, serving the daily lives of the local dwellers. In Bahasa language, street vendors are called *Pedagang Kaki Lima* (PKL), which is literally translated as traders with five-feet, an indication of the dimension of space they occupy for trading. Since it is a low-entry occupation that does not require high levels of skills, education, or start-up assets, many locals or migrants see street vending as an opportunity to make a living. When these actors simultaneously interact with the environment in multiple forms, they form a dynamic urban ecology. The following parts of this Chapter will discuss the cultural and historical values of street vending in Semarang, while further analysis on the street vending ecology will be explained in Chapter 3.

[Fig 1.3] a street market in Semarang

Cultural Values of Bazaar Activities

1.3 - The Cultural Values of Bazaar Activities

[Fig 1.4] the map of Bantam, around 17th century
(Rukayah & Bharoto, 2012)

To the local people in Semarang, street vendors are highly valued because of its usually guaranteed price-performance; it's part of the lives of the local Indonesian. Vending and trading activities also have a long history in Java, that evolved from the earliest record of the 10th century until now (Rykayah & Bharoto, 2012). *Pkan* (Javanese periodic market) was organised by villagers or part-time traders that would sell locally grown or collected household items. In the early second-millenium, it was also noted that a subgroup of small-scale traders were highly mobile, that includes the shoulder-pole carriers (apikul), who would also sell non-local goods like salt fish, cotton and dye (Christie, 1998). Bazaar, or Pasar in Bahasa language, is one of the four traditional elements that make up an Islamic state. These four elements are the *alun-alun* (a square), and around it a mosque, the *keraton* (palace), and a *pasar* (see p.036). The form and function of *alun-alun* has been constantly redefined, but during the Sultan era it was usually the private imperial front yard for the Sultans. In the 16th century reports of European sailors have recorded the scene of a lively bazaar that Willem Lodewyckz had encountered in Banten, the north coast of Java Island. During that era, bazaar were often located between the port and the *alun-alun*, and acted as a welcoming gateway but also a barrier to the *keraton* (Sultans' palace).

".....Bantam is a port in Java alongside a bazaar that operates all day long in different times and sells daily needs. It is located in the eastern side of Banten. The bazaar starts early in the morning until 09.00. This bazaar is filled with merchants from Asia. Close to the bazaar is a mosque where women buy spices from farmers, and when the bazaar finishes, it continues at the plaza where all kinds of needs can be bought. This bazaar ends at noon, but sometimes longer until afternoon. After mid- day, the third bazaar happens at the intersection of Chinatown, outside of the main city....."

Lodewyckz, 1598

(Rukayah & Bharoto, 2012)

[Fig. 1.5] Cropped from Plattegrond Semarang, kaart van de VOC, begin 1800.
Indopedia- De Indische (the legend "G" indicates the location of *pasar*)

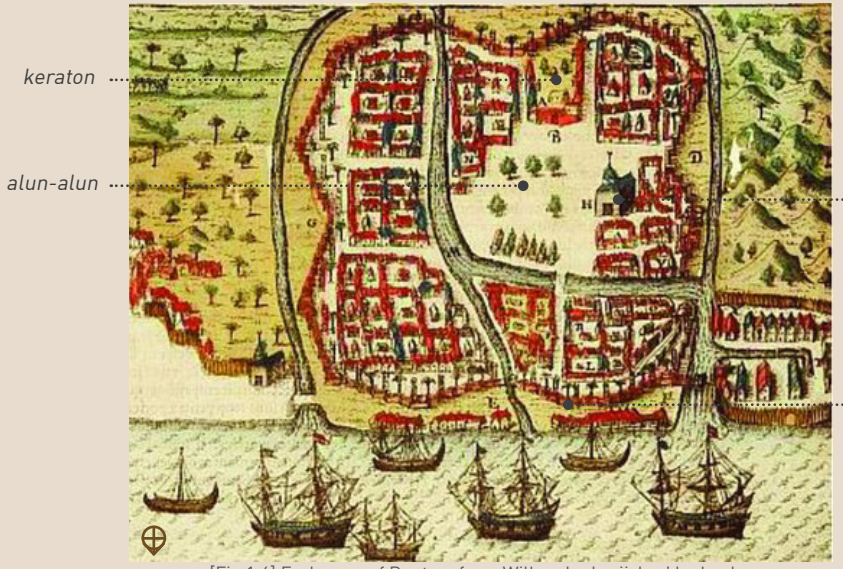
The 17th century began the colonial period under the Dutch East Indies, who also brought along the ideology of market square. The surrender of Sultan era had led to redefinition of *alun-alun* to become a civil public square in between government office buildings. In the map of Plan of Platte Ground van Semarang [Dutch] from 1800, bazaar ("Passaars of Markt Plaatsen") is indicated on the eastern side of *alun-alun*. The informal bazaar activities found under the Johar trees, which gives shades and comfort, became the embryo of the creation of a traditional market in 1860s and the Pasar Johar market building in 1930 on the *alun-alun*.

1.4 The Javanese City Components

The traditional morphology of old Javanese cities reflects the cosmological concept which aims at connecting the land to the universe. According to the morphological studies of Javanese cities, there are four main elements in the traditional urban space of the city - the mosque, *alun-alun*, *keraton* (palace) and *pasar* (Sunaryo et al., 2011). The composition of the four most comes in similar order, with *keraton* being the politically most important building with *alun-alun* as its front yard, while the mosque and the *pasar* are located at the west and north side of *alun-alun* respectively. The composition reflects the Javanese concept of cosmos which there should be a balance between macrocosm and microcosm.

The *keraton*, usually comes in a complex, is the residence of the king (Sultan) and the royal family. It is also the center of power and administration of the city, thus located at the highest hierarchical position in the traditional city. The layout of the *keraton* is usually symmetrical through the north-south axis, displaying a harmony and connection from the king to the universe (Widiyastuti, 2012).

The *alun-alun* is part of the *keraton* complex but is the only part of the palace that is publicly accessible. It is basically a large ground that acts as the front yard of the *keraton*, but sometimes a civil square for Sultanate military parade or religious ceremonies as an extension of the mosque. Hence, during the Sultan era, the *alun-alun* was a showcase of power which later redefined as public space or democratic square during the colonial period. In Javanese language *"alun"* means waves, and the open space covered by sand is like an ocean, displaying the cosmos relationship of mountain and sea (Widiyastuti, 2012). Some also suspect *"alun-alun"* comes from the verb *"alon-alon"* which means "walk slowly" due to an old Javanese custom when they walk towards the king. There are also always trees planted in the *alun-alun*. The *alun-alun* in Jogjarkata has been preserved with its traditional state and the pair of banyan trees placed in the centre corresponds to the idea of macrocosm and microcosm and the oceanic space (Widiyastuti, 2012). They are like a symbol of the mystical knowledge from god amidst the boundless ocean.



[Fig 1.6] Early map of Bantam from Willem Lodewijcksz' logbook, showing the composition of a Javanese city (Rukayah & Bharoto, 2012)

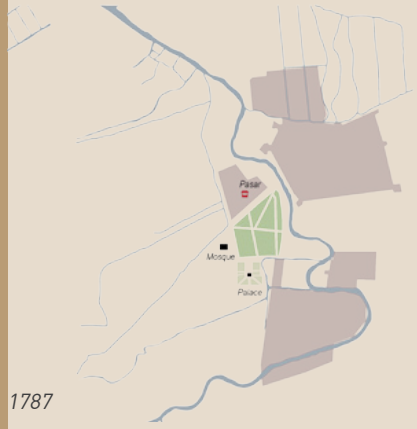
The mosque is always located on the west side of the *alun-alun*. Being an Islamic state, the place of worship not only affects the religious matter but basically the daily lifestyle of every citizen. It is usually also the biggest and most important Agung (grand) mosque with its central location right next to *keraton*. This grand mosque accommodates the formal afternoon prayer on every Friday, as well as other important religious and state ceremonies.

Last but not least, the *pasar*, as the embryo of the subject of the thesis, it is where trading activities take place. It is rather a separate component of the combo of the previous three elements. In contrast to the royal and religious elements, the *pasar* is considered as mundane activity. In many situations, the *pasar* locates at the north of *alun-alun*, between the harbour and the inner city, since it is a more strategic location for foreign traders and the position also acts as a barrier before entering the *keraton* complex (Rukayah & Bharoto, 2012). As the nature of *alun-alun* is becoming more socialised in the colonial period, informal *pasar* activities also tend to extend towards the public open space. In the following section, the transformation of Semarang's urban morphology is analysed based on these four elements of traditional Javanese city.

1741

- built-up area
- *alun-alun*
- *pasar*
- buildings

Historical maps of Semarang are being collected for the study of the morphological transformation of Semarang's city centre. From one of the earliest historical maps found, *pasar* is already indicated on the map of 1741, on the east side of the river. The fortification shows that Semarang was already being colonised.



1787

From the map of 1787, the four components of a Javanese city can already be seen clearly.

[Fig 1.7] a overview of Semarang

1800s

The map of 1800s clearly shows the large ground of the *alun-alun*, and more areas being urbanised along the river *Kali Semarang*.

[Fig 1.8] a overview of the *alun-alun*

1901

Semarang continued to be urbanised and a market building Pasar Johar was built on the east side of *alun-alun.*

[Fig 1.9] the old pasar Johar
(source: www.colonialarchitecture.eu)

1935

There were more offices and commercial buildings built around the *alun-alun*, the size of the *alun-alun* was also shrinking.

[Fig 1.10] the modernist pasar Johar
(source: www.colonialarchitecture.eu)

2019

Alun-alun is completely gone and replaced by commercial and governmental buildings. However due to a fire in 2015 the government is trying to rebuild the *alun-alun* again.

[Fig 1.11] the new *alun-alun* (2020)

[Fig 1.12] morphological change in Semarang from 1741 to 2000

The Folklore of Pasar Johar

[Fig 1.13] the folklore of Semarang

The folklore of Semarang, as recorded in *Cerita Rakyat Dari Semarang 2*, has described the evolution of Pasar Johar. There was a prison next to the *alun-alun* at that time, and many relatives would wait outside for the dear ones. Street vendors gathered at where the people were, set up tents and huts and sold daily necessities. The Prince was irritated as he thought the tents and huts were causing chaos to the *alun-alun*. However, the Prince did not expel the street vendors; instead he said,

"Baiklah kalau begitu. Akan kuberikan kepada kalian beberapa batang bibit pohon johar. Tanamlah bibit pohon itu di tempat kalian berjual beli. Dengan pertolongan Allah, kelak pohon-pohon itu akan hidup subur dan dapat menjadikan teduh tempat kalian berjual beli tersebut. Perlu kalian ketahui bahwa manfaat pohon-pohon itu akan dapat dirasakan pula oleh masyarakat sekitar."

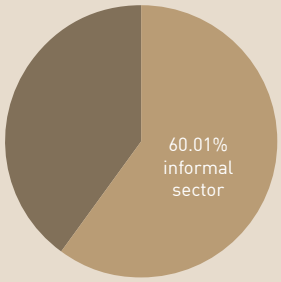
-Cerita Rakyat Dari Semarang 2 (1996)
S. Suharianto / Agus Nuryatin

(Translate: "Alright then. I'll give you some johar tree seedlings. Plant the tree seeds where you buy and sell. With God's help, the trees will flourish and can make the place where you buy and sell shady. You need to know that the benefits of the trees will also be felt by the surrounding community.")

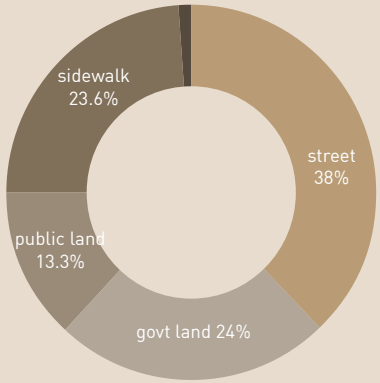
Since then, the *alun-alun* has become a very comfortable place, for vendors as well as other general public, under the Johar trees with cool air and shading, and later evolved into today's Pasar Johar. However these market buildings did not work optimally as vendors still find the street more strategic than the indoors, and a lot of them still flow and mingle around the street of Semarang. Nonetheless, the *alun-alun* in Semarang is almost gone and covered by new buildings, and the extremely high-densed footprint has left very few open space for public activities (see Chapter 3 p.094).

The Dilemmas

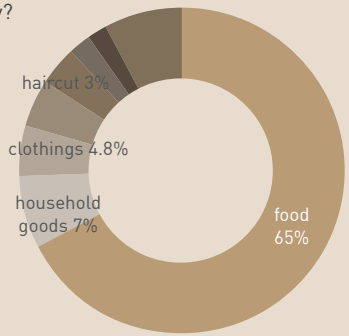
1.6 Conclusion: The Dilemma of Street Vending



HOW many?



WHERE do they vend?



WHAT do they sell?

According to a quantitative research published in 2017 on Semarang's street vendors hypergrowth (Sariffuddin et al., 2017), 65% of the surveyed vendors sell food, followed by others selling household goods and clothes, but also providing services like haircut and bicycle repair. Majority of them work on the street or sidewalk, and the rest occupy public or governmental land to sell. Some of them are mobile and follow a routine, but some depend on the same location daily. They tend to vend at strategic locations where there are crowds, which some are time-specific like schools and offices (see Chapter 3 p.102). Street vendors are a valuable self-organising ecology of the city which plug into the socio-economic and built environment system in Semarang.

Street vendors are highly resilient; they adapt to different environmental conditions and economical changes. They are like the tough units that withstand economic downturn and even during pandemic time, as they have capacity to change in a short period of time. They also give vibrance to the streetscape and the city as a dynamic urban ecology. They are the most creative and pioneering place-maker in the city. They also bear certain collective memories and cultural values since street vendors offer genuine local experience to living and taste, which are often cheap but not compromising their qualities. In this capitalist era, street vendors even provide choices over the chained and money-oriented businesses. However, there are always problems alongside with the booming of street vendors. Since street vendors occupy open spaces on roads and sidewalk, they are seen as the cause of traffic congestion. They are also part of the waste source, due to the mobile and light-load nature of street vendors, a lot of single-use containers and utensils are produced. Not to mention food waste as their major garbage output, which is also difficult to be collected and recycled since street vendors are mobile and hard to control. Therefore, some people and government see street vending activities as chaos, that very often these kinds of informal vending would be inevitably eradicated along with city development, as proven in many established capitalist first-world cities.

[Fig 1.14] street vendor illustration (by author)

[Fig 1.15] news about polce regulating street vendors in Semarang

Pros:

- Highly resilient and versatile
- Creative place-makers
- Mobile
- Offer variety of cheap and quality products
- Give vibrance to streetscape

Cons

- Cause of congestions
- Source of waste and pollution
- Unsightliness towards city's image
- Hygiene and public health risk

[Fig 1.16] street vendor illustration (by author)

The municipality of Semarang has been deploying de-incentive strategies to expel street vendors with the aid of the Civil Service Police Unit (Satpol PP). The police would fine or confiscate the properties of street vendors who violate regulations, some even being arrested. However from a recent news report, there were also vendors claiming that there are no clear indications of prohibition for selling (Jagaberita, 2019). The renovation of Kota Lama, the colonial Dutch quarter, has led to gentrification and restrictions to street vendors, because they are seen as image-damaging. Police have been executing force to remove these people; the space and opportunities of street vendors have been deprived and causing urban inequality to this grass-root group of citizens.

Street vending is a valued culture in Semarang, but also comes with certain social-environmental problems. However, instead of eradicating this group of city actors, the problems could be alleviated with better and more inclusive urban policies and designs. The folklore of Pasar Johar has showcased how the prince embraced the culture of street vending and smartly created conditions that favour both the vendors and his citizens. This attitude should be referenced in future planning for a more inclusive and diverse society.

[Fig 2.1] vendors with snacks right in front of a school

Chapter 2
Research Design

Theoretical Context

The Anthropological Approach to Research and Design with Urban Informalities

The informal activities of street vendors are a display of their genuine culture, experience and knowledge, which traditional urban and landscape design theories might not be able to grasp due the heterogeneous and complexity of such urban phenomena. Every vendor is a practice of micro-power that is decentralised (Lutzoni, 2016), not necessarily illegal, but full of innovation and versatility. It is thus difficult to generalise or categorise every urban situation and place-making technique employed by street vendors. Traditional exclusionary planning and policies are challenged to manage street vendors as they are designed without the intimate knowledge and experience street vendors possess. The exclusionary development at present in Semarang also poses urban inequalities to the vulnerable sector including the street vendors. Hence, the fundamental attitude of the thesis of research and design would be based on the anthropological approach, which is people-oriented, and in this case street-vendors-oriented.

Anthropology is the study of the origins, physical, cultural and social developments of humankinds (Cambridge Dictionary, n.d.), with an objective and open-minded attitude to study over a particular group of people. Urban anthropology is a rather modern terminology of describing the employment of conventional anthropological methodology into the research and design of the urban phenomena in the discipline of sociology and also later in architecture. There is especially attention towards urbanization, urban space, poverty and social relations under the topic of urban anthropology, and particularly in the context of developing countries.

In the context of street vendors, it is recognised that they are the actors of specialising their cultures (Low, 2014). Their pattern of movements and behaviour are the embodiment of their cultures, preferences and intentions, and through the practice of street-vending they are also creating space. Therefore, it is essential to "learn" from the behaviour and preference of street vendors, in order to generate a people-oriented research design proposal to facilitate and manage them.

Research Objectives

It is always a dilemma to what extent street vending activities are controlled. Due to their adaptive nature, street vendors are somehow uncontrollable, just like water that flows everywhere. However, they also tend to stay at certain strategic or attractive locations, just like water accumulating at the lake. In the modern city plan by Thomas Karsteen designed in the 1930s, street vendors were regarded as disorganised complexity that the municipality tried to confine them indoors by building market buildings. These markets could accommodate a certain group of vendors, but many still flow on the street as street vendors do not see market buildings as strategic vending spots.

Capitalist development has prioritised profit more than its citizen's well being. While the city is taking away the space and opportunities for street vending, they flow informally everywhere in the city, at the sidewalks, in empty lots, abandoned buildings, basically everywhere possible. They become the source of congestion as well as uncontrollable waste disposal. Street vendors are highly treasured because of their spontaneity and informality, but there should be a certain management in order to maintain a proper share of space among other stakeholders. Instead of authoritatively restricting vending activities, this paper is going to research the incentive building approach of creating conditions in order to formulate and facilitate the street vendors by urban landscape interventions. It aims at alleviating some city problems but at the same time an empowerment to this much valued activity.

Research and Design Objective:

To design an Urban Vending Network by Creating Conditions and Opportunities in Order to Facilitate and Manage Street Vending Activities

Research Questions

How to facilitate and manage street vending activities in Semarang by urban landscape design?

To answer the research question of "how to facilitate and manage street vending activities in Semarang by urban landscape design", there are four main sub-questions elaborated to be answered, with the support from theoretical foundations and research approaches. The above table has summarised the methodology and elaborations will be discussed as follows.

The street vendors, and their vending activities, as the core subject of this thesis, has to be defined and explained with their historical and cultural values, significance, nature and behaviour. Analysis by desktop research on literature and field study are necessary in order to explore the street vendors from multiple timeframes and scales. The heritage approach to cultural valuation and anthropological approach during field study will be explained in p.056 and p.059 of this chapter respectively. Mapping is a method of interpretation and representation of the analysis process, and the action of mapping is in fact already an exploration for design research, which will be further explained in p.060. The result of the analysis and mappings will be presented in the next chapter.

The second sub-question, how to facilitate street vendors, is a query to the needs and challenges the street vendors are facing at the moment. Their space is always contested between the political power, the capitalist power and the people, while every urban dweller has legitimate right to public space (Lim & Padawangi, 2008). This sub-question has to be viewed together with the next sub-question, that street vending activities have to be facilitated and managed at the same time, as there are other stakeholders involved in the setting. It is also important to critically learn from the existing cases of space creation for street vending that especially take place in Semarang, and evaluate from these pioneer examples. These case studies will be included in the analysis in Chapter 3 (p.084).

Prior to managing street vending activities, it is necessary to first identify the problems related to them and the corresponding locations of these problems. Observation and mapping would be useful tools to record such behaviours. In order to understand and manage such movements and behaviours, it is important to understand them through their space preference: where are their preferred locations for vending? By understanding their space preference it would be helpful for the later stage of design for creating conditions to contain and manage street vending activities.

Sub-Question	Methods	Hypothesis/ Design Principles
What are the street vending activities in Semarang about? • What are they and how do they function? • What are their historical cultural values and significance? • What are the different typologies?	• Analysis by literature review (history, development, statistics etc.) • Layers mapping • Analysis by field study (observation, documentation)	
How to facilitate street vendors? • What are their needs? • What are their current challenges?	• Desktop research • Analysis by field study (interviews, pioneering examples)	• Provide more space and opportunities (urban design is about creating conditions) (see Chapter 4 p.122)
How to manage street vendors? • What and where are the problems related to street vending?	• Space preference theory • Mapping of the street vendors • Analysis by field study (observation, documentation)	• Manage with motivational/ incentive-building approach (based on their space preference) (see Chapter 4 p.123)
How to design the urban landscape interventions? • What are the different scales of interventions? • What are the time frame for the interventions? • What is the spatial quality to be designed?	• Design by research, research by design	

Research Framework

Preface

Semarang (Context)

Problem Statement (Phenomenon)

Chapter 1

Theoretical Context

Chapter 2

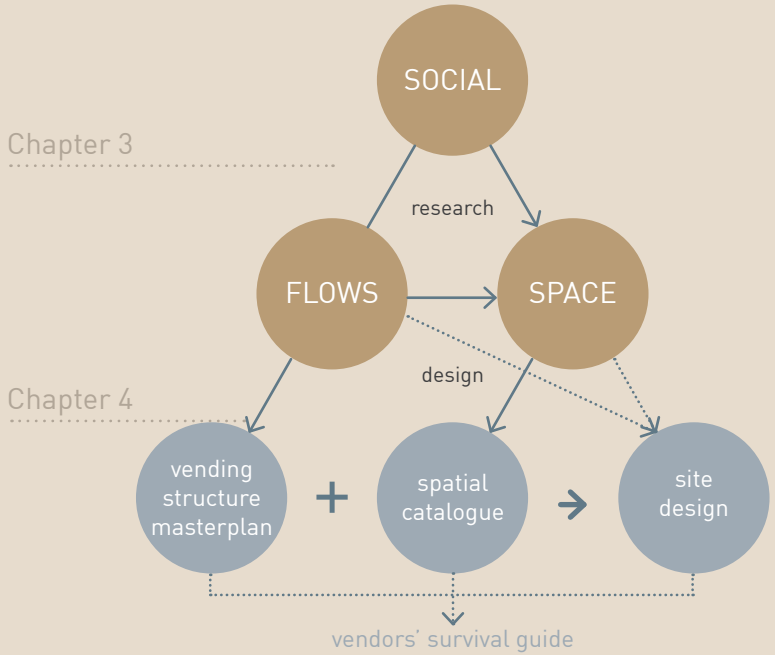
Design Objective

To design an Urban Vending Network by Creating Conditions and Opportunities in Order to Facilitate and Manage Street Vending Activities

Design Question

How to facilitate and manage street vending activities in Semarang by urban landscape design?

Sub-questions



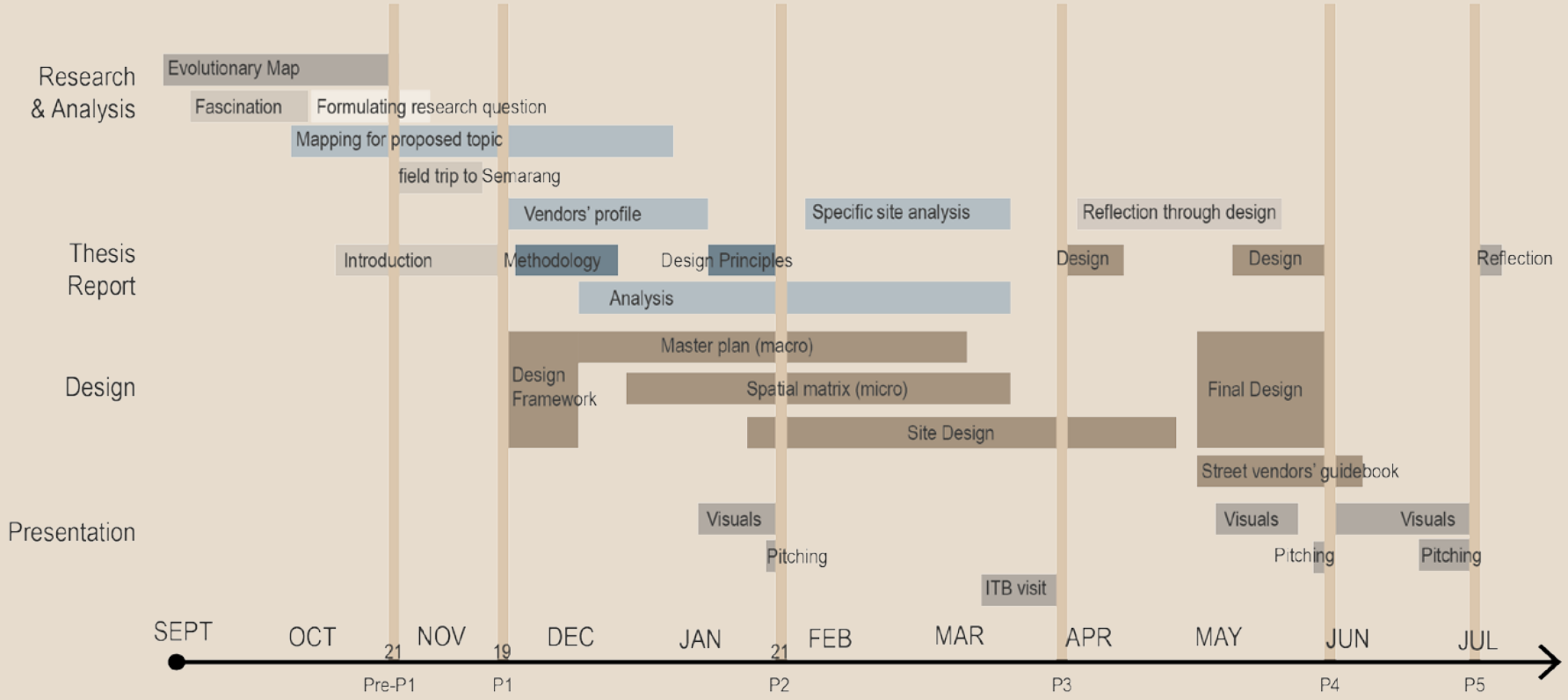
Chapter 3

Chapter 4

Chapter 5 Conclusion and Reflection

Last but not least, the design of the urban landscape interventions is a process of design by research, research by design. Hence, the hypothesis and results of the previous sub-questions will act as a foundation for the continual research process for the design assignment proposed in the fourth sub-question. Hence, it is to put the above three questions into integration and synthesis for new creation, as well as for further research. The four pillars of landscape architecture: landscape as palimpsest, landscape as scale continuum, landscape as ecological, social, economical process, and landscape as spatial visual perception are the main deliberation of the assignment.

Research Time Planning



Methodology

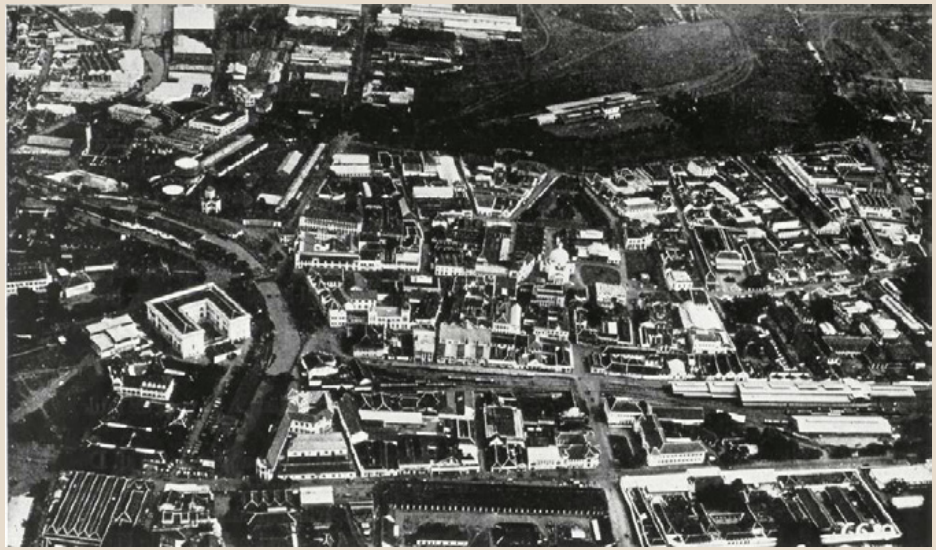
2.6.1 Cultural Valuation through Historical Research

The initial phase of the analysis is based on a historical approach to understand and interpret the context of Semarang. The current landscape and built environment is a result of the changes of multiple layers of the city, constantly shaped by historical events of these different layers, including the natural geography, climate, socio-economic, infrastructure, etc. The method of layer analysis also aligns with one of the pillars of landscape architecture that landscape is seen as a palimpsest, a surface that is continually written by layers of history.

To understand the city and the interrelationships between these layers, an evolutionary map collaborated by students from different fields within the Architecture and Built Environment is created. An evolutionary map is a description of the transformation here in this case is about the city of Semarang. The process involves desktop research and collection of information of different scales on one specific track, for instance the study of geology of Semarang from the macro scale of earth crust tectonic movement to the micro scale of soil type in the region. The process also involves condensation and subtraction of the information found, by evaluating which are more impactful to the city's development or more fascinating from the author's point of view. This step is essential since it is impossible to map every stage and transformation. The evolution map of Semarang is mapped out chronologically in multiple layers. These information are then represented through historical photographs and stories, maps, sections and diagrams and arranged according to time. Through representation and discussion connections are identified and linked between the layers so as to understand the interrelationship between historical evolution and the present landscape. The process of evolution mapping gives an initial impression to the city of Semarang, as well as allows exploration of the important values in the context of Semarang and Indonesia.

To analyse the phenomenon of street vendors booming, history plays an important role. There are interlocking relationships between the volcanoes (see Chapter 0 p.016), the fertile landscape (p.018), colonialism (p.020), infrastructure development (p.022), urbanisation (p.024) and the present urban behaviours.

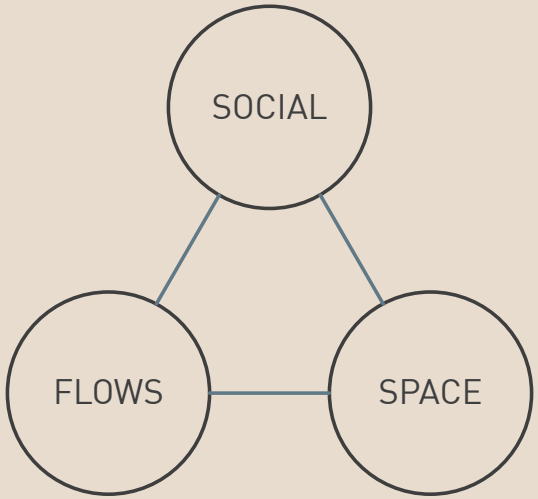
From the heritage point of view, street vending is in fact a living heritage that evolves along the landscape and socio-political transformation. In order to understand the cultural values of street vending, it is important to see from the lens of history and analyse this behaviour of different time periods. For instance, how street vending organically emerged in the colonial era when foreign trades



[Fig 2.2] birdeye view over Kota Lama in 1920s (source: Tropenmuseum)

surmount, to the present days facing urbanisation filled with migrant workers. The nature, mobility, materials and technology have evolved as well and these analyses of the past would also hint how it will continue to evolve in the future.
The historical approach also includes a lot of literature reading, especially about the local Indonesian concepts. Due to its unique religious and political culture, the concept of city planning, public space and lifestyles are very site specific in the context. The basic composition of Islamic city state is unique with cosmology concepts, and the local perception of public space is very different from the west or traditional academic studies. In order to understand these local concepts, like the concept of *alun-alun*, and pkan or *pasar* (bazaar), it is important to study literature of relevant information. Historical photographs also offer a channel to understand how the vending activities carried out in different eras of history.

2.6.2 The Ecopolis Framework



In the first chapter, street vendors are introduced as part of the informal sector of that city. The urban informalities are complex self-evolving systems of heterogeneity and possibilities. Tjallingii (1995) suggested a threefold strategy to study urban ecosystems, that focus on participants, flows and area. Participants are the stakeholders that possess the power and responsibility within the context. In the situation of the thesis, the street vendors are the central actors of the story. The behaviour and space preference is concerned here, further to the social dynamics within themselves as well as with the context. The anthropological approach conducted by field observations and documentation will be a crucial strategy to study the participants. Flows is the transmission of energy within a network. These flows are not necessarily physical and noticeable, but are usually shaped by the physical environment. An urban ecology is formed by a lot of overlapping and interacting flows to create all kinds of dynamics. Although not always physical, mapping is a tool to study how different flows operate in a city. Last but not least, space is the dimension where the participants and the flows come across. The space is often possessed with layers of information across scales, from the geological compositions to the physical built environment.

Field Observation, Interviews and Documentation

A dominant research strategy during the field trip to Semarang is the anthropological approach to observe street vendors behaviour. The anthropological approach is an objective and qualitative observation and record of human behaviour, in this case with a target group: the street vendors. The goal of the approach is to build up a profile for street vendors ecology, which could be interpreted as a toolbox for later design. During the field study, observations are made on the movement, routing, location, dimensions, materials of the street vendors, and documented by photographs, sketches and drawings. Since the design goal is an urban landscape intervention, attention is especially paid to the relationship between this group of users and the spatial environment. However, observations are often not objective, since personal assumptions and feelings would affect the perception of a same scene and the choice of documentation (Zeisel, 1984). Yet this intuitive is still valuable to generate motivations and initial insights towards the issue. Interview is also a supplement on top of observations in order to understand the issue from the perspective of locals and street vendors, especially the behaviour and mindset that could not be observed. For example, the home of the vendor, the timespan and frequency, as well as their inexpressible needs are valuable to be learnt via interviews.

Another part of the field study is to observe and analyse the opportunities and challenges of street vending activities in Semarang. The opportunities include markets (sometimes thematic), occasional festivals, temporary car-free roads, etc. organised by the local municipality to accommodate street vendors. On the other hand, there are a lot of challenges faced by the street vendors. For instance, the insufficient amount and quality of public space, inaccessibility of these spaces, prohibition of vending activities. The design goal has to make use of these opportunities and counter propose these challenges.

The profile of street vendors is set up over a wide spectrum of characteristics. A categorisation checkbox is formulated to identify the vendors from formal to informal, indoor or outdoor, stationary or mobile, occasional or everyday, and selling goods or providing services. These categories act as a summary and overview over the spectrum of vendors encountered during anthropological research. A few of these vendors from each category are picked and analysed into details by dissecting their routing, occupancy of space in terms of location, scale and materials, in order to not only provide a broad study but also in-depth analysis of vendors. This set of spatial-behavioural analysis is an essential toolbox for the understanding of Semarang's street vendors ecology and applicable for later spatial design of vending spaces.

2.6.3 Design by Research, Research by Design

Mapping as Design Thinking

Another research method is by mapping in order to analyse and generate new design proposals. Mapping is a tool to present and highlight a certain layer of the place for the purpose of understanding and analysis, a tool to visually stimulate and synthesize in order to invent and design, as well as a tool to present and communicate design ideas (Nijhuis, 2019). Firstly, to use mapping for analysis, inventory maps of different layers are created. Different from the historical approach, the mapping here is more specific to the current situation and to the theme of the project. For example, maps relating to existing markets, public space, waste flow, street hierarchy, etc. are invented for later stage of synthesis. Secondly, through overlaying and visual thinking, mapping is a process of derivation of knowledge and set as a basis for creating new inventions. This is done by overlaying the maps invented in step-one and learn from the common grounds in between these layers. The goal of this process is to explore a new original proposal that is specific to the context. Last but not least, mapping is to present the result of step-two, in a form of master plan drawing in this case, in order to communicate the new design concepts to audience.

[Fig 2.3] illustrations of mapping of Semarang (by author)

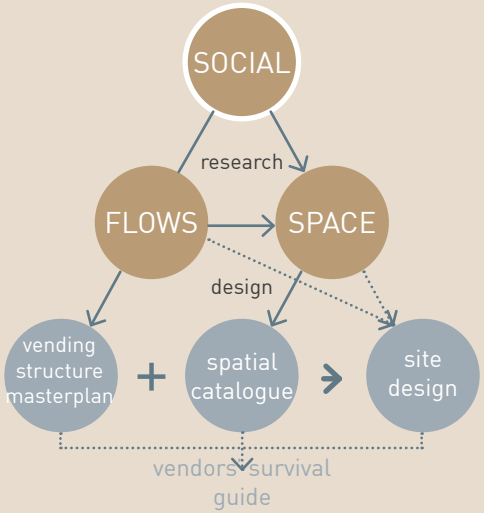
The work of this thesis is a process of design by research, research by design. There can be a wide spectrum of research methods, whether quantitative or qualitative. In science disciplines, research is often aided by the continued testing of laboratory experiments; and while in architecture, the action of design is our tool to experiment. It requires development and actions with documentations and reflections (Frayling, 1994) in order to generate new knowledge. Thus, a conscious and systematic search process is required, hence research objectives, framework and schedule are planned and set and a report or diary is kept for record. The method is more a kind of inquiry while design is only a substantial part of the process (Hauberg, 2011). Meanwhile, design is neither a conclusion nor solution but a process of knowledge discovery and invention (Seggern and Werner, 2015).

Unlike the conventional studio design projects, which begin with a definite phase of research and followed by the work of design, the master thesis is a back and forth process of research and design. During the design process, often more questions are raised thus there are more to be inquired. It is also a process of improvement and validation of the ideal outcome.

[Fig 3.1] street vendors sitting on the ground at the sidewalk

Chapter 3
The Street Vending Ecology

3.1 The Social Livelihood of Street Vendors



[Fig 3.2] a vendor on bike

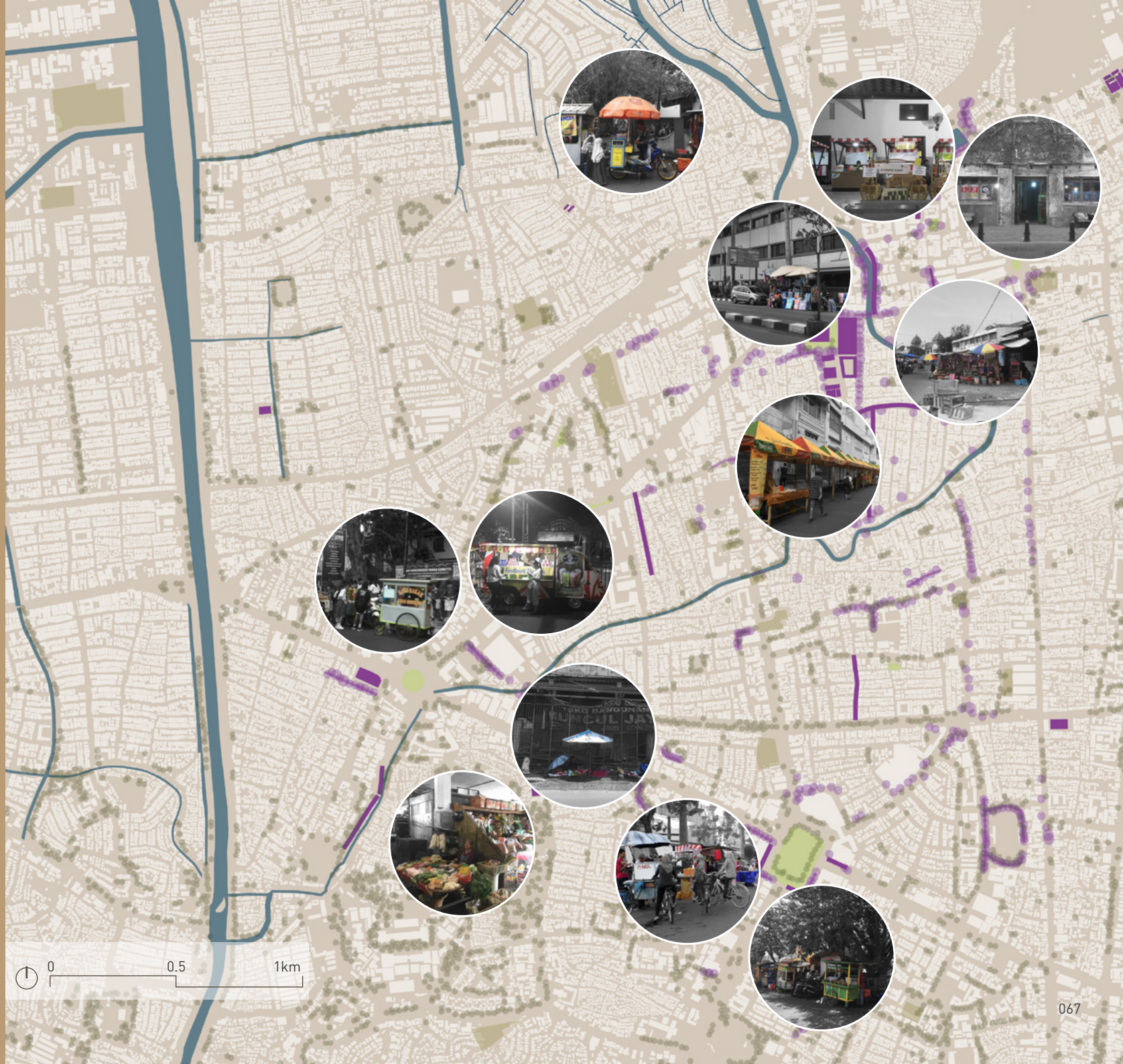
The research and design of street vendors is a societal-oriented topic that surronds the subject of people. Hence, referring to my research and design framework, the analysis of the social qualities is essential to begin with. Three levels of the social qualities are investigated, ranging from the most intimate and personal behaviour or space preferences, further to the social dynamics among the vendors community forming an ecology themselves, and further to the relationship with the environment and other stakeholders in the city.

Understanding the social phenomena is an important step to create a human-based design. A lot of observations are made during the visit to Semarang especially to the space preference of street vendors. Since the built environment is not developed in favour of street-vending, the vendors' individualistic place-making are often innovative and fascinating. These observations will be documented and analysed in the following chapter.

Street Vendors' Profile

During my visit to Semarang I have encountered a number of street vendors all over the city. The following is a documentation of a few examples of them, looking into their behaviour, materials, time-span, and space occupancy, etc. They are basically everywhere all over the city, some are mobile and some stationary; some sell goods and some provide services; some are occasional and some are there everyday; some are indoor and some outdoor.

The following session will further dissect these street vendor samples into details according to their spatial occupancy and flexibility.



[Fig 3.3] street vendors mapping in Semarang

Categorisation

Categorsation is often a simplification and generalisation that some unique elements are inevitably eliminated. Especially when analysing urban informalities, categories are difficult to depict the genuine characters of these spontaneous and creative activities.

However, it is still valuable in the sense of giving a overview to the street vendors. During my visit in Semarang, I have encountered a lot of street vendors, some of them are documented as below. A set of categories are then developed to describe these vendors.

FORMAL

STATIONARY

SELL GOODS

BUILDING

EVERYDAY











INFORMAL

MOBILE

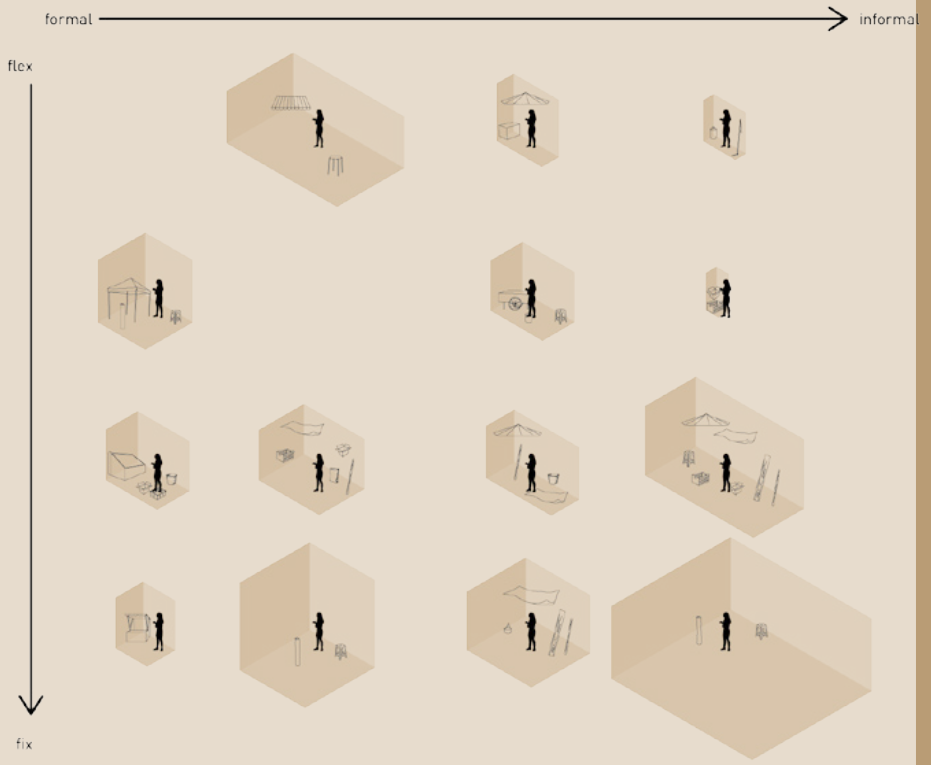
PROVIDE SERVICES

STREET

OCCASIONAL

Street Vendors Spectrum Study

[Fig 3.4] street vendors matrix, based on they formality and mobility



[Fig 3.5] street vendors matrix, showing the materials and space occupance

Since it is difficult to code the location and form of the informal sector and the street vendors, a matrix is used to document their behaviour in terms of how fixed and how flexible they are. The "formal" here represents the street vendors who are arranged and regulated to a specific space by the authority, or under an approved event. It should be noted that the examples chosen only represent a part of the wide spectrum of the micro-powers of street vendors. The vendors only limit to those I have encountered during my stay in Semarang and there shall always be a richer sample. The study is useful for a simplified view over the typologies of street vendors. It is also noted that there are less examples of flexible but formal street vendors.

The spectrum is also translated into simple graphics showing the dimension of the space occupancy. The materials used to withstand the space encroachment are highlighted in the diagrams.

Street Vendors Space Occupancy

//formal//

Further to the spatial spectrum, some examples of the vendors are being analysed into details on the space they are occupying. The scale and materials are documented into diagrams and sections to show their immediate surroundings.

[Fig 3.6] analysis on the relationship of built environment and street vendors

//informal//

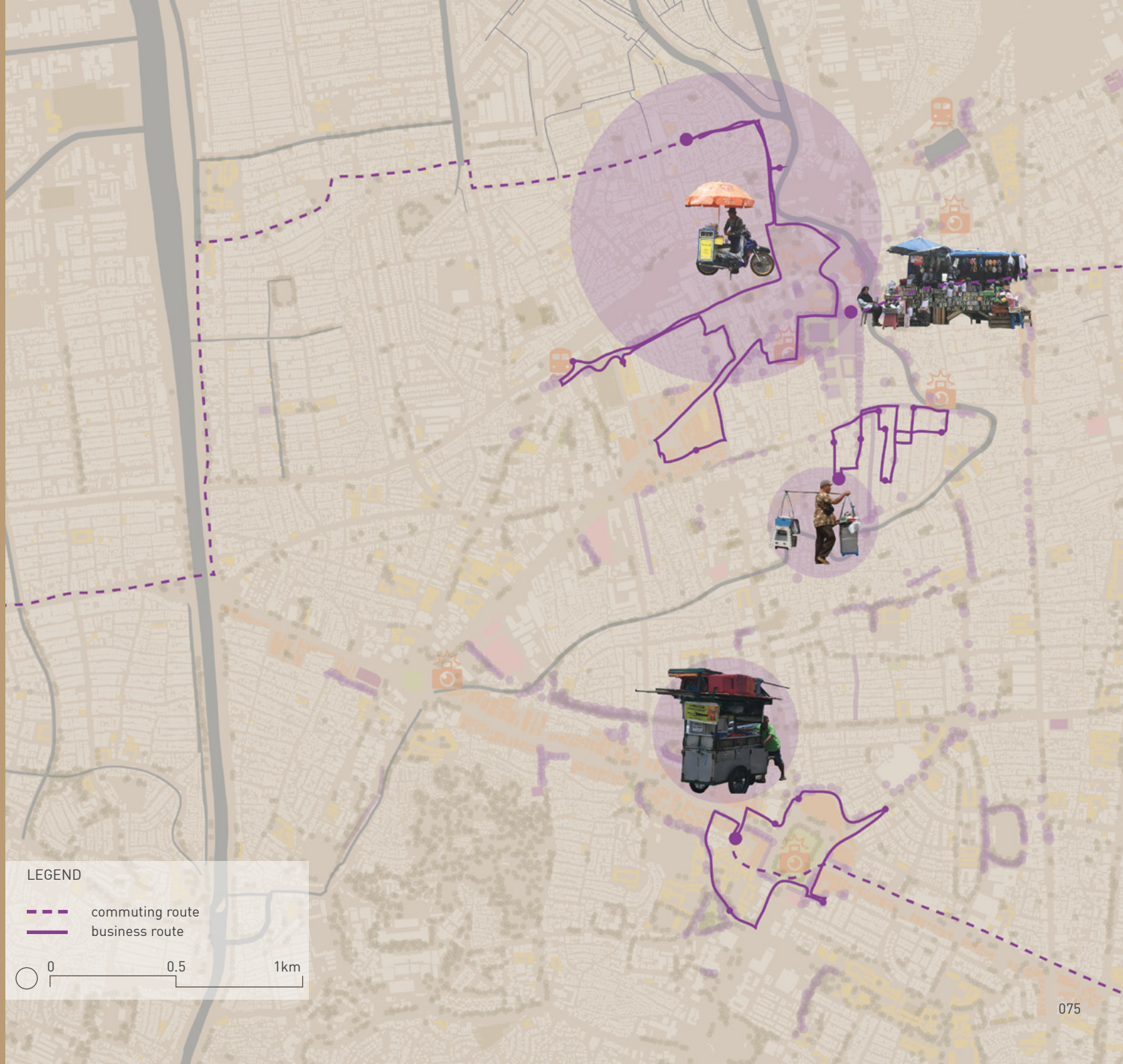
"Formal" and "informal" vendors and their respective space occupancy are depicted and compared here. Although there is no clear and strict definition to separate the two form of vending activities, it would be interesting to note how is space occupied differently in the two situations. For instance, it is noticeable that informal street vendors tend to stay close to a fixed object like trees and buildings.

The Flow of Vendors

A lot of street vendors are in fact come from the outskirt of Semarang, and travel back and forth everyday to work on the street in the city centre. Hence, some of them rely on vendors' agencies or associations to provide them with the facilities and products for sale.

Many of the street vendors are highly mobile and flow around the city. Vendors that come with carrying poles, trolleys, motorcyles, foodtrucks travel around the city according to time and strategic locations.

However, many of them tend to stick to a similar route everyday due to familarity. Their travelling extent also varies depending on the vehicle they use. The routings of some of the vendors are mapped to compare the extent and pattern they commute daily.

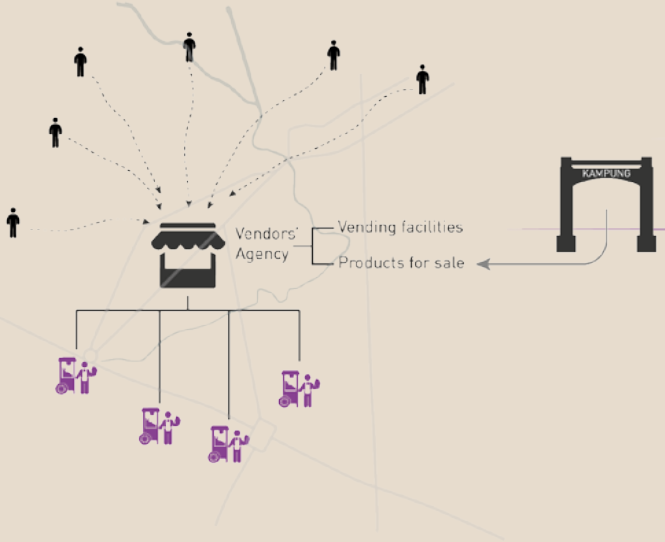


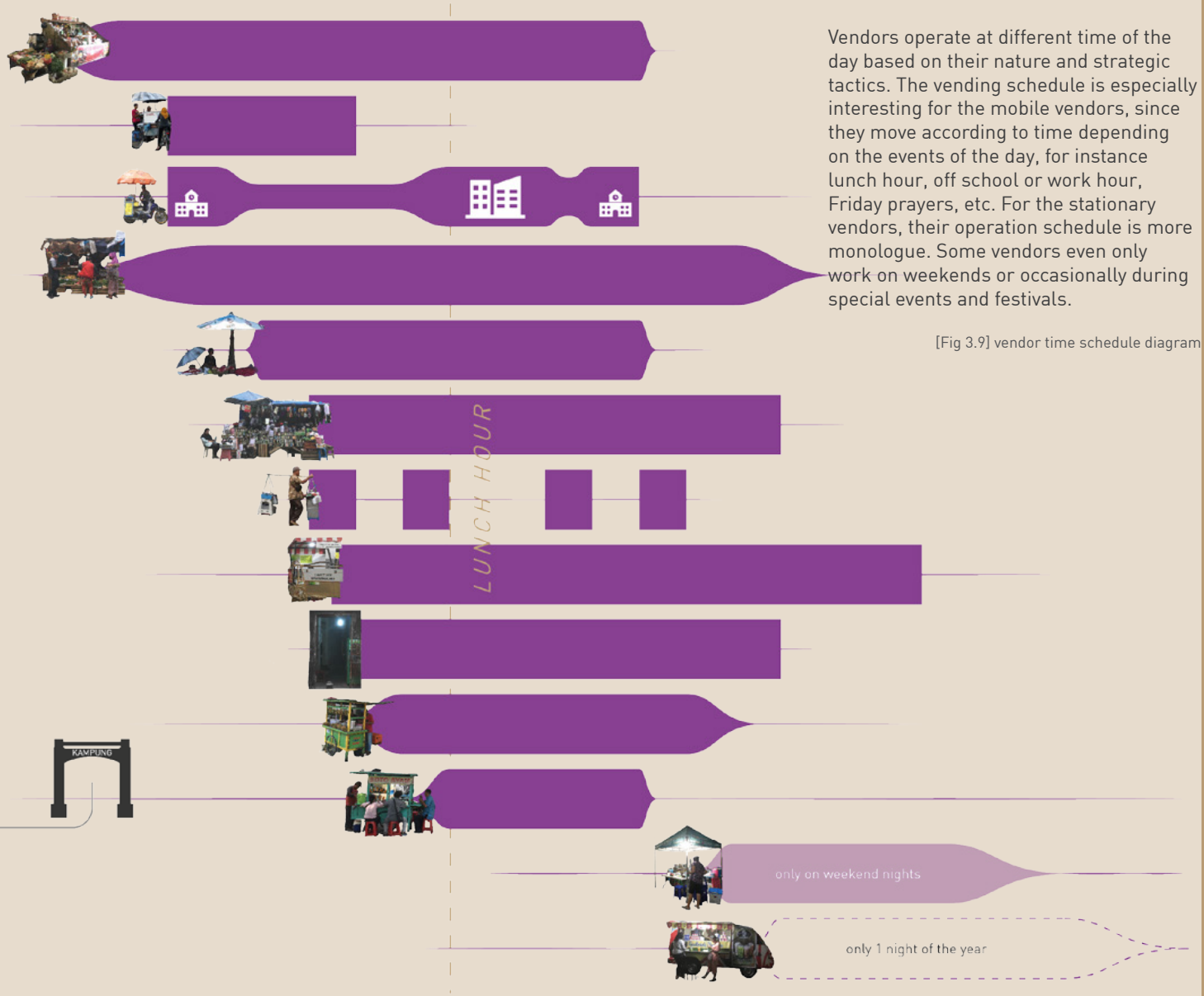
[Fig 3.7] street vendors routing map

The Time Schedule of Street Vendors

The diagram below shows a simplified vendors' agency that operates in Semarang. The agency employs vendors especially from migrants, providing them with the neccessities for vending, incluing the cart, utensils, umbrella, etc. and also the products for sale. The agency also acts as a manager to distribute the vendors to different parts of the city, to make sure there is no duplication and competition at the same vending spot. The vendors under the agency have to pay a portion of their profit back the the agency.

[Fig 3.8] vendor association diagram

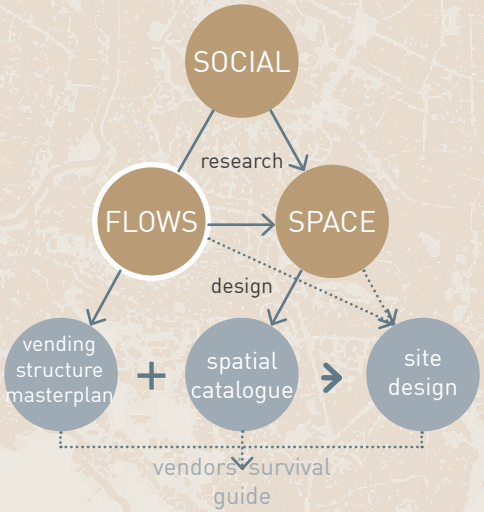




Vendors operate at different time of the day based on their nature and strategic tactics. The vending schedule is especially interesting for the mobile vendors, since they move according to time depending on the events of the day, for instance lunch hour, off school or work hour, Friday prayers, etc. For the stationary vendors, their operation schedule is more monologue. Some vendors even only work on weekends or occasionally during special events and festivals.

[Fig 3.9] vendor time schedule diagram

3.2 Urban Metabolic Flows in Semarang



[Fig 3.10] Kali Semarng and Kota Lama at the background

In this highly densed and populated city, it operates with a lot of dynamic metabolic flows. The flows are shaped by the land, the processes, and the space of the city. In the following, the metabolic flows of market, green and blue flows, mobility flows, and material flows are studied with the aid of mapping. These flows work in different scales in the city. The analysis is also supported with supplementary researches from the context of Semarang.

The context of the mapping will be focused onto the core urban centre of Semarang, where these flows are most complex and interwoven.

[Fig 3.11] key map

Existing *Pasar* (Market) System

There are several markets (here referring to market buildings) located in the city centre of Semarang, with Pasar Johar as the oldest, biggest and most centralised one. There are also other forms of markets, like street market, flea market, etc. Some of them are also characterised for a specific type of products, like fish, flower, culinary, or antique, etc.

Outside of these markets which are kind of formalised, there are also informal markets or vending spots for informal street vendors. Some also lie between formal and informal, that they are not necessarily legal but they have built permanent structure for themselves. However many of these markets are not officially recognised thus are only mapped based on observations during the field visit.

[Fig 3.12] exiting markets and vending spots

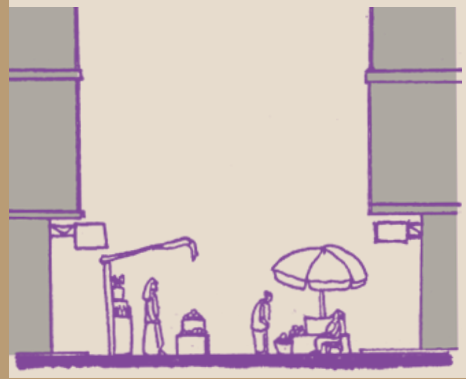
Market Typologies

The different typologies of markets in the context of Semarang are summarised accordingly. In fact, these typologies also reflect a process of formalisation of bazaar activities into a more standardised form. In the past people vend informally at strategic locations, and gradually transformed into a recognised market. Buildings and structures appear in the later stage to provide indoor vending spaces to these vendors, leading to the later emergence of shapping malls.

1.Informal Market

[Fig 3.13] photo and section of an informal market
[Fig 3.14] photo and section of a street market
[Fig 3.15] photo and section of a bazaar market
[Fig 3.16] photo and section of an canopy market
[Fig 3.17] photo and section of an building market

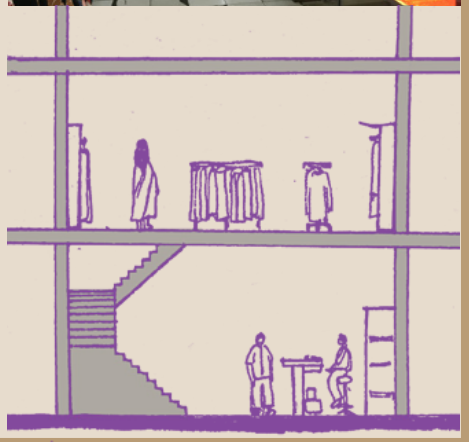
2. Street Market



3. Bazaar Market (in/outdoor)

4. Canopy Market

5. Building Market



Vending Opportunities

During my visit to Semarang I have also encountered a number of occasions or events that accommodate street vendors. Some are quite successful while some do not seem very popular. These examples are mapped on the previous page and see how space and opportunities are created for street vendors in the city of Semarang.

a/ Pasar Klitkan (Kota Lama)
Although there have been eradication of street vendors in Kota Lama, this renovated heritage warehouse is turned into a venue for antique market and cultural vendors, to promote the heritage and cultural identity of Semarang. However there are not a lot of people at my time of visit.

b/ Semawis (Pecinan)
Semawis was developed from the Chinese New Year market to a weekly night market that happens on every weekend. It has been promoted as one of the tourists' favourite culinary spot for something that is really local. The market is always very populated. The traffic stops at 6pm and vendors start building up tents for their stores. There is also a centralised supply for plastic stools and garbage bins to keep a pleasant environment.

c/ Bodjong Festival (Jl. Pemuda)
It is a one-day festival takes place on one of the busiest streets of Semarang city centre. A lane of the road is blocked from traffic and turned into a night market with trucks. The private ground outside of the city council is also opened to the public for the festival. The event is organised by the local government to promote tourism for Semarang.

d/ Car Free Day (Simpang Lima)
Simpang Lima has become the new commercial and shopping centre of Semarang. On Sunday morning the usually busy lanes around the "new" *alun-alun* are blocked for pedestrian use. A lot of activities happen on the street, e.g. cycling, dancing, roller blading and of course vending as well. However the car free scheme only last for 3 hours in the morning from 6-9am, which is really short for public activities.

a [Fig 3.18] pasar Klitkan in Kota Lama

b [Fig 3.19] Semawis market in Pecinan

c [Fig 3.20] Bodjong Festival in front of city hall

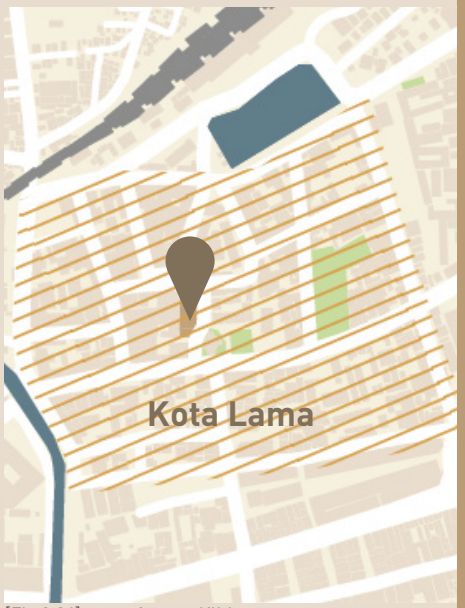
d [Fig 3.21] car free day at Simpang Lima (source: https://dotsemarang.blogspot.com/)

a

Galeri Industri Kreatif Semarang
Pasar Klitkan, Kota Lama

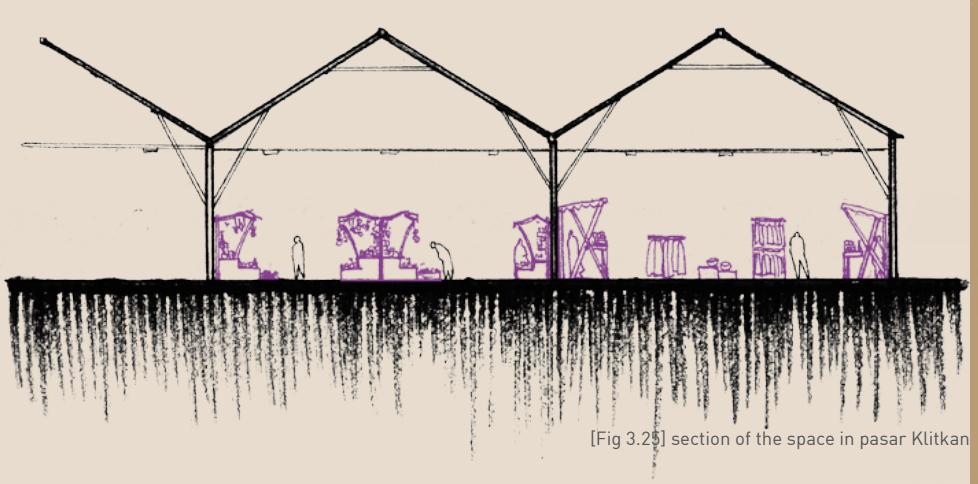
[Fig 3.22] interior of pasar Klitkan with antique stalls

[Fig 3.23] exterior of pasar Klitkan



[Fig 3.24] map of pasar Klitkan

Background:	A former PT Indonesian Trading Company (PPI) building renovated for a flea market with antiques, traditional culinary and creative industry.
Organiser:	Provincial government and Ministry of Industry
Goal:	Promote the growth of creative industry
Character of vendors:	Formal/ fixed/ creative industry/ Small-Medium Enterprises
Type of products:	Antiques/ fashion/ crafts/ furniture/ snacks



[Fig 3.25] section of the space in pasar Klitkan

b Waroeng Semawis
Gang Warung, Pecinan

[Fig 3.26] Food stalls at Semawis market

[Fig 3.27] Semawis market and the Chinatown gate

[Fig 3.28] map of Semawis market

Background:	A weekend night market transformed from the traditional Chinese New Year market. The market transforms one of the street in Chinatown which is usually busy with traffic and business.
Organiser:	Semarang Chinatown Community for Tourism (Kopi Semarang)
Goal:	Promote tourism, Chinese and culinary culture Engage the Chinatown and regional community
Character of vendors:	Formal/ semi-fixed/ temporary tents/ dismentable/ central-organised
Type of products:	Local and Chinese culinary/ toys/ entertainment (karaoke and Chinese opera)

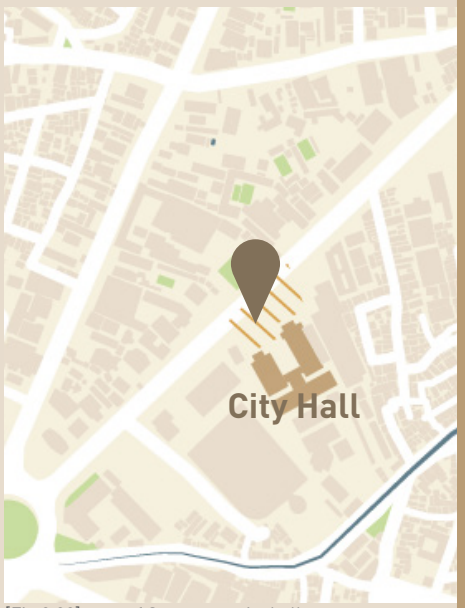
[Fig 3.29] section of the space at Semawis market

C

Bodjong Festival
Jalan Pemuda

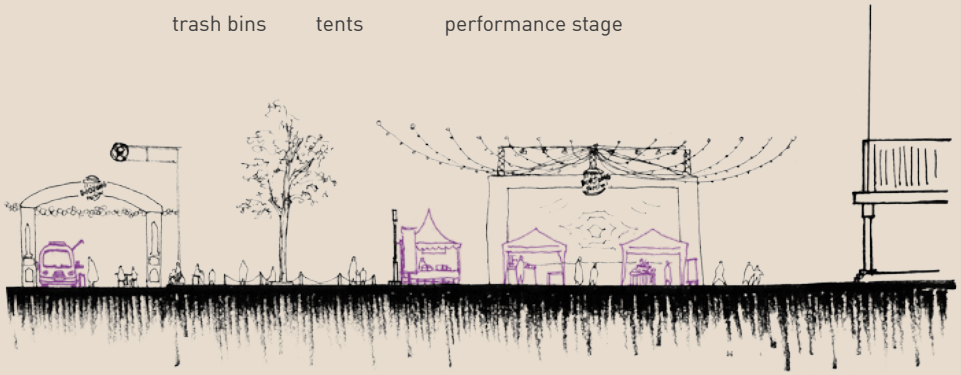
[Fig 3.30] Food trucks at the side of Jalan Pemuda

[Fig 3.31] The city hall where Bodjong Festival was held



[Fig 3.32] map of Semarang city hall

Background:	A festival organised by the municipal government to promote tourism. It usually take place outside the city hall and using part of the busy road. There are also concerts, parades and contests during the festival.
Organiser:	ALSTE Management Committee
Goal:	Promote tourism and educate about the history of Semarang/ fundraise
Character of vendors:	Formal/ non-fixed/ mobile/ food trucks/ temporary tents
Type of products:	International culinary/ toys/ game booth



[Fig 3.33] section of Bodjong Festival across the city hall and the car road

d Car Free Day- Simpang Lima

[Fig 3.34] people enjoying the car free road with various activities (source: www.jatenglive.com)

[Fig 3.35] the road junction at other time

[Fig 3.36] map of the car free roads around Simpang Lima

Background:	Sections of roads are closed from motor vehicles on Sunday morning from 6am to 9am around Simpang Lima for pedestrian use. The roads become a public space that welcome anykind of activities, and opened for events application if feasible.
Organiser:	Semarang City Environment Agency
Goal:	Preserve the environment in the city, provide a fresh Sunday morning to improve wellbeing
Character of vendors:	Informal/ non-fixed/ mobile/ food carts/ hawkers
Type of products:	Snacks/ drinks/ toys/ anything

pedestrianised road

freedom of place-making

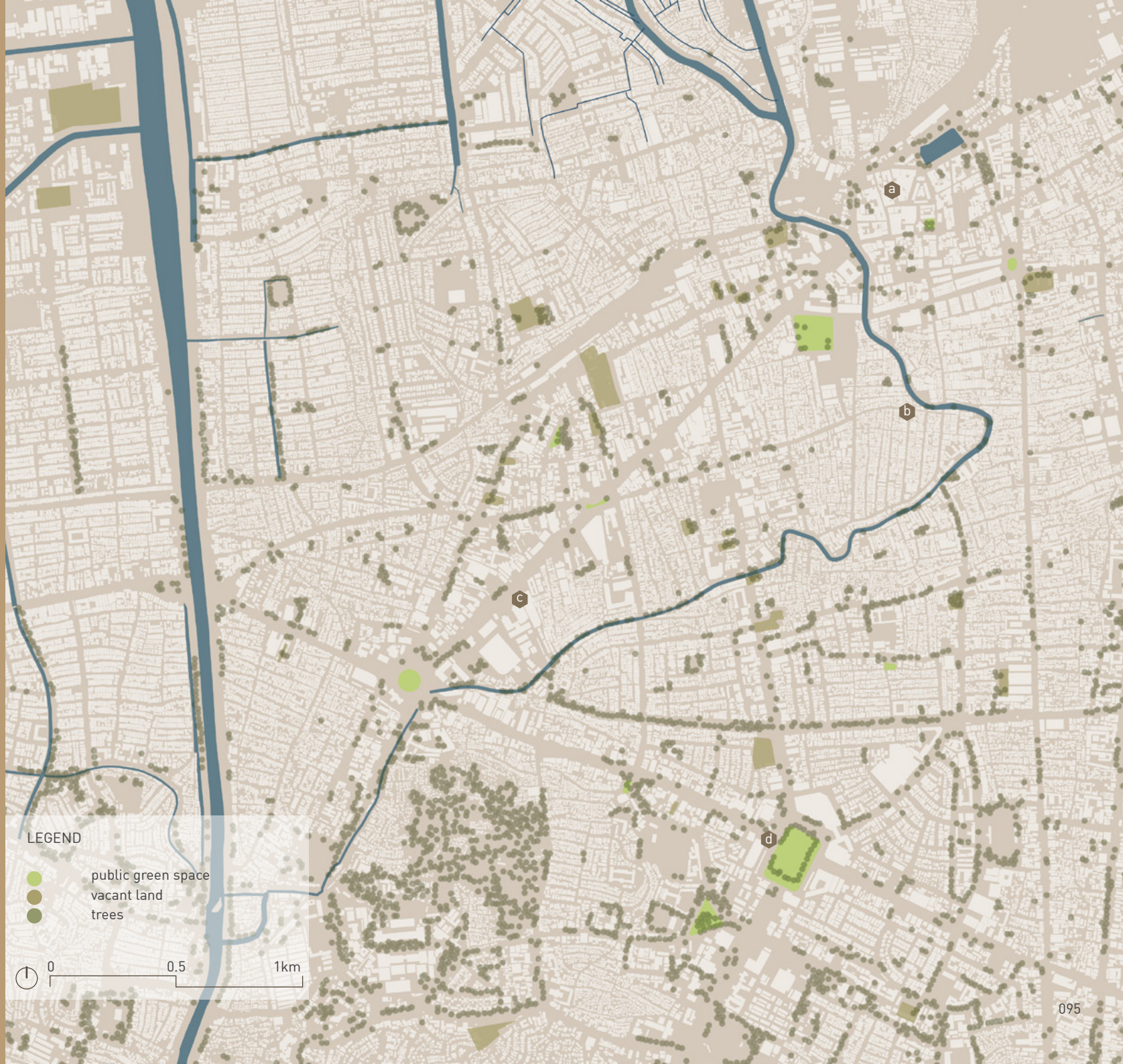
[Fig 3.37] section of the car free road and the Simpang Lima *alun-alun*

Public Open Space in Semarang

From the morphological transformation of Semarang shown in p.038, it is noticeable that the traditional *alun-alun* has gone. It is only after the fire in 2015 that has burnt down a large part of Pasar Johar, the *alun-alun* is reborn under the renovation plan. The new plan is executed very recently and reopened to the public on the last day of 2019, with a large open grasscrete ground on top of an indoor space for vendors and *gojek* (motorbike) parking.

Zooming out to the urban area of Semarang, there are actually not a lot of public grounds like squares and parks. The high density and informal settlement has left no space to its citizens and the street vendors. It is remarkable that the roundabouts are the few spots that are recognised as "parks", but in fact not with high attachment values due to its poor spatial quality and accessibility.

However, one must recognise that the concept of public space here differs from the western ideas of squares, gardens and parks. The "lived space" is different from the "representations of space". As Jan Gehl published his book on *Life Between Buildings*, everywhere unbuilt could be the public space. The Indonesian, especially the street vendors, are in fact excellent place-makers that see and use the full potential of the street for socio-economic functions.

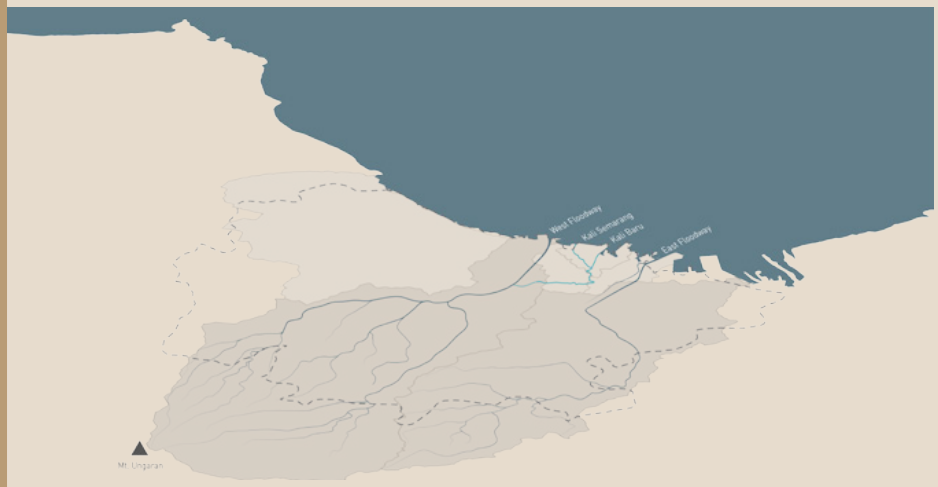


[Fig 3.38] mapping of the open space in Semarang city

The Green & Blue Systems

To understand the green and blue network of the city of Semarang, a wider context should be examined. As mentioned in Chapter 0, Semarang is a coastal city under rapid urbanisation. The expansion of the core city centre has left scarce greenery and open space within the urban area. While the outskirt of Semarang is surrounded by secondary forest, woodland and farmland, there is hardly any green patches in the city. The city is thus often heated up especially in its tropical climate. To improve the living quality of the city, there has to be more urban greening to provide resting places and shades to all the urban dwellers.

As for the water (blue) network, Semarang is composed of several watersheds, mainly coming from the volcano Mt. Ungaran. However, since there were serious flooding issues in the city caused by mountain runoff and tides, two floodways were built in xxxx and xxxx in order to discharge excessive water quickly towards the sea. These two floodways locate on the east and west side of central Semarang, where Kali Semarang (Semarang River) still runs through. As the only natural river in Semarang, the meandering shape of the river could still be seen among the urban fabric. However, it is disconnected to the watersheds coming from Mt. Ungaran, meaning that the river water in Kali Semarang are not mountain water but only surface runoff from the surroundings. The water system in the inner city will be further explained in the next page.



[Fig 3.41] the main waterbody and watershed in Semarang

[Fig 3.39] a regional green mapping of Semarang

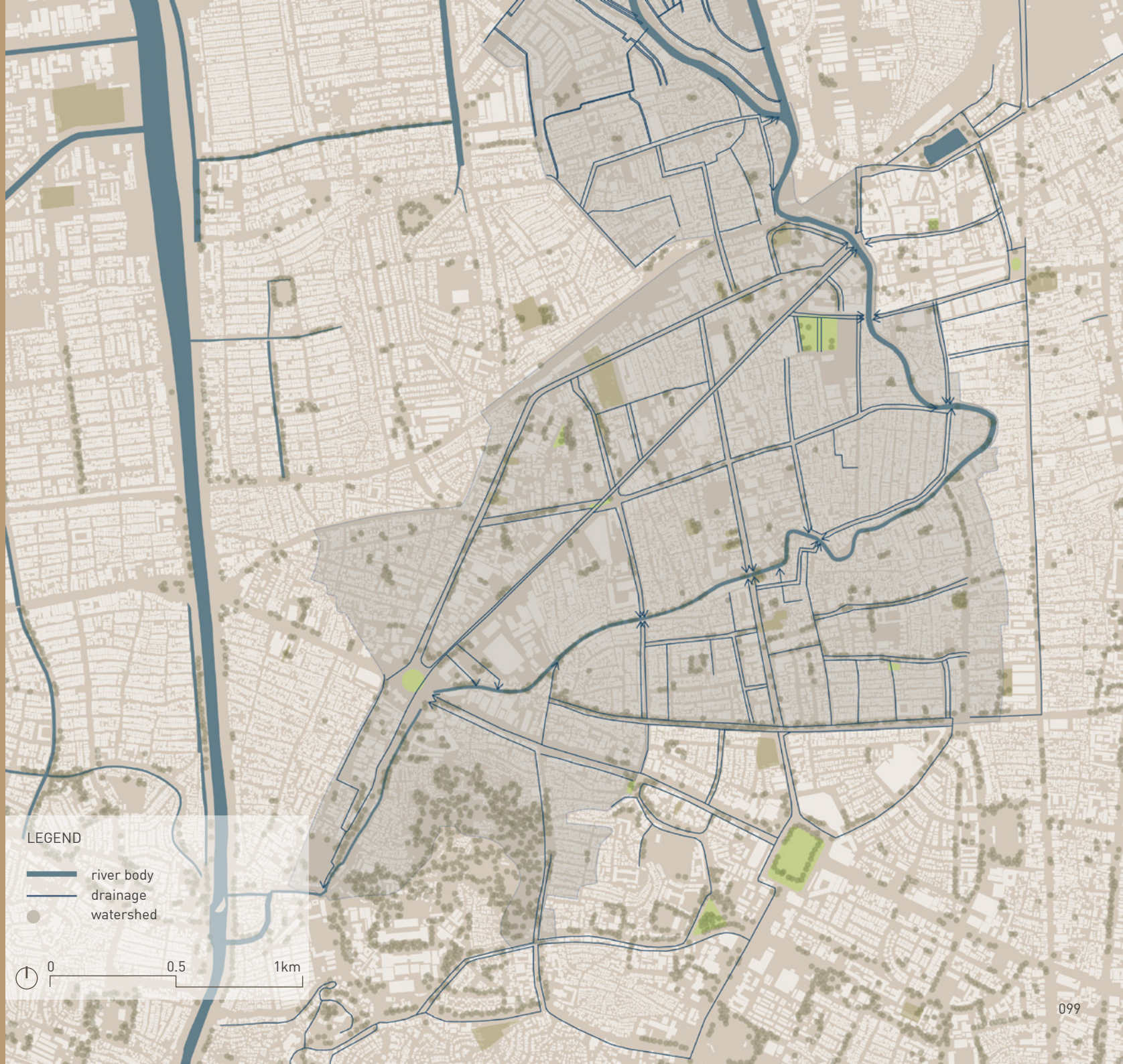
[Fig 3.40] the regional water system of Semarang

Water System

The river Kali Semarang runs through the city centre of Semarang. From the historical development of the heritage analysis on p.038, Semarang was developed along this river. Thus it possesses a certain cultural heritage values that should be treasured.

However, the river is now on its own watershed independent from uphill runoff. This has lead to problems like low water velocity and sedimentation, which has contributed to river floods in the past. Hence, there is constant dredging of sediments and normalisation of the river to ensure regular flow.

Another very prominent problem is the lack of wastewater treatment in the city. There is no separation between clean and wastewater drainage, meaning that wastewater will end up drained to the river as well. Hence, the river is deteriorating due to all these solid and liquid waste pollutions. It becomes stinky spaces where people and vendors would avoid to stay long.



[Fig 3.42] mapping of water system in Semarang

Mobility Flows

Before designing a new street vendors network, it is important to figure out the existing road network and their hierarchy. For some under-utilized streets or roads, they might be useful to be rejuvenated as part of the vending network.

The different hierarchy of roads are shown in the map. It is assumed that the more important the road is, they are wider with higher capacity and more strategic, but also more traffict. On the other hand for the tertiary roads, they are usually narrower but less busy as well. Hence, these road strips have higher potential to be redesigned for vending spaces.

tertiary road

secondary road

primary road

[Fig 3.43] the road hierarchy network in Semarang

Strategic Vending Locations

"Where there are people, there are street vendors." This is the most important philosophy of street vending, as their revenue is fully based on the amount of customers.

It is difficult to locate every street vending spaces, since many of the vendors are mobile and do not station at the same location everyday. Therefore, in order to understand the place preference of street vendors, it is important to analyse from the perspective of consumers. Strategic vending locations are highlighted where there are assumed to be more populous. These strategic locations include retail and commercial area, offices area, tourist spots, as well as schools and religious institutes. However some of these strategic locations are time-specific, for instance schools, offices and religious institutes are only populous during specific time.

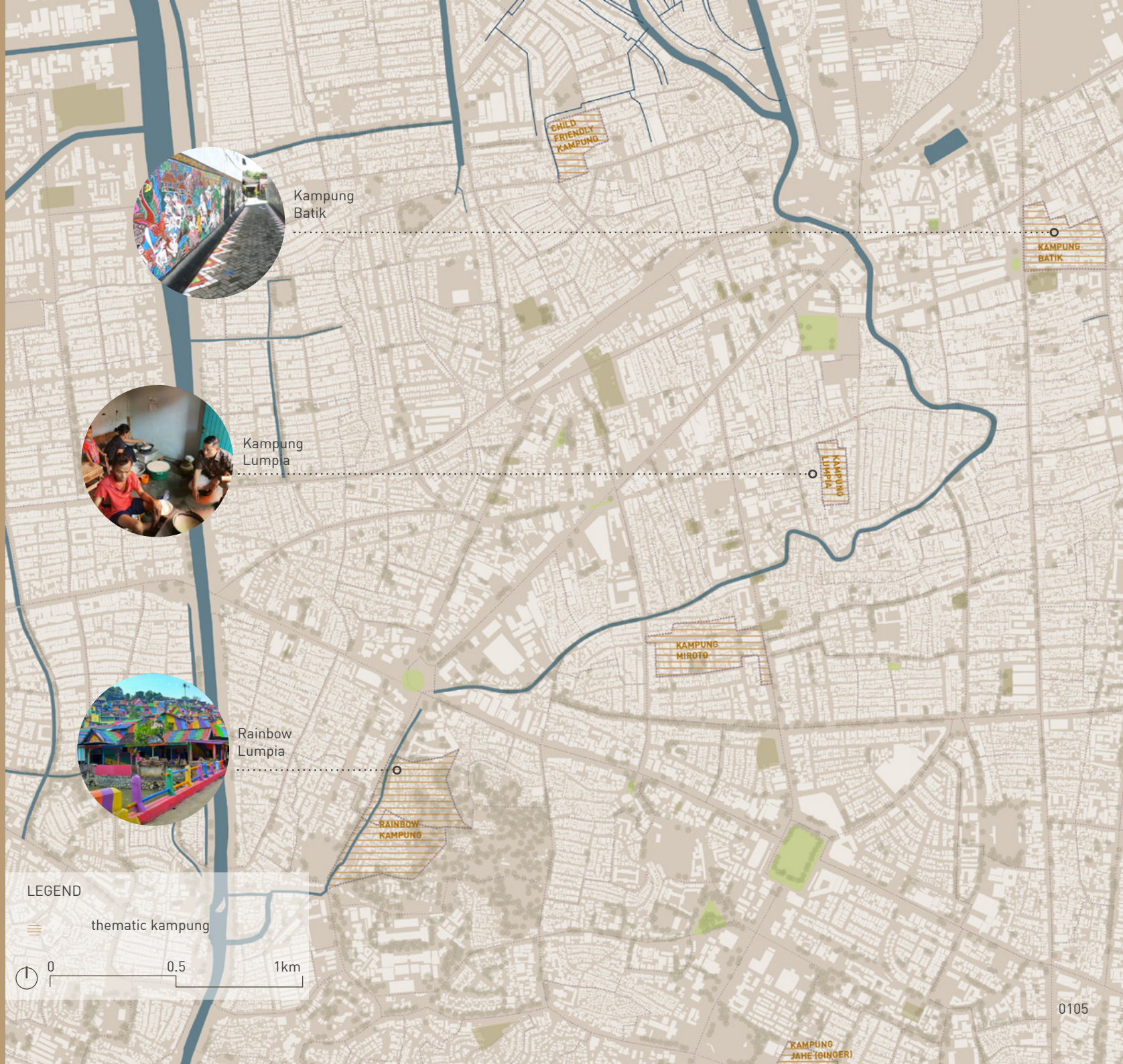
[Fig 3.44] strategic vending locations of Semarang

INPUT

Kampung is one of a very local feature of the Indonesian culture, which can be simply understood as "village". However *kampungs* also convey a strong sense of community or "togetherness" with strong a bonding among the villages who share the same living environment.

Kampung Tematik, or Thematic Village, is one of Semarang government's innovations to make use of the community power of kampungs to improve the environmental quality within the village. It is also a respect and celebration of the tradition, culture and wisdom of the *kampung* to be thematised. On one hand providing incentives for villagers to improve their living environment, on the other hand the scheme also provides job opportunities and profits.

There are a few of these thematic *kampungs* within the centre of Semarang and they are mapped accordingly. Many of them also provide products for the mobile street vendors and they form as a small economic cycle. Hence, the *kampungs* could be a productive actor within the street vending system, that might not only produce but even engage in collection and recycling processes together with the street vendors. It will be mutually beneficial to both stakeholders with such contextualised approach of street vending.



[Fig 3.45] map of thematic kampungs in Semarang

Kampung Tematik (Thematic Village)

Goals:
- Improve the environmental conditions of the kampungs
- Promote active community participation
- Raise social and economic potential of community

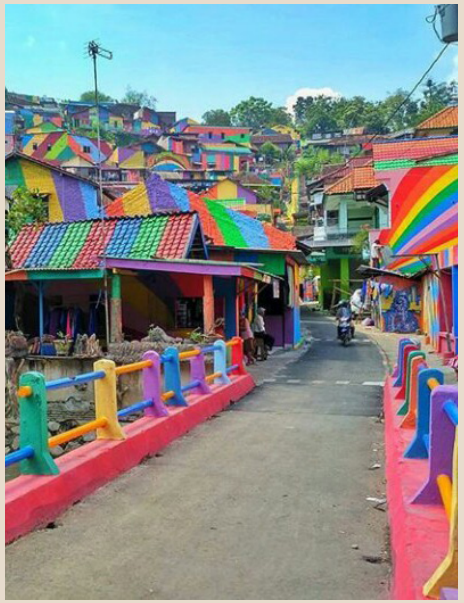
Criteria for themes:
- Dominant community businesses or local characteristics
- Community tradition, culture or local wisdom
- Environmental-friendly home industry

Thematic Village is one of the innovations of Semarang's municipal government. It aims at motivating a local initiative to improve their living environment with a funding from the government. Participating villages will be developed based on an unique theme of their own, that mostly derived from the local traditions, dominant businesses, or any other strong village character.

Community participation is very important in the scheme of Thematic Village, since it is afterall a local-driven improvement project. The concept makes use of the *Gotong-royong* spirit of the Indonesian village, meaning their very strong community bonding. Generally speaking, Indonesians have a strong sense of belonging to their villages, thus a community or a village can be very powerful and productive. There are kampungs focusing on an industry or production of a handicraft, just like traditional snacks, hydroponics, or *batik*. Hence, the scheme not only improve the living environment and social bonding, but also increase the economic potential of these villages.

Due to the success of the pioneering thematic villages, the municipal government wants to invest into more of these kampungs. A few of these kampungs are studied as follows to analysis how the system and flows work within the village. These thematised and productive kampungs represent a large part of the local economy, and would be ideal that it can be supplementary to the vending structure in the city in terms of their input and output. Further design studies will be explained in Chapter 4 p.136.

Kampung Pelangi



[Fig 3.46] the entrance of Kampung Pelangi (source: archdaily)

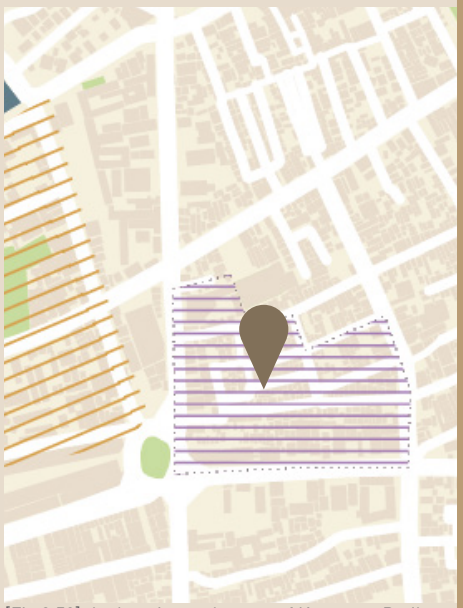
[Fig 3.47] the location and extent of Kampung Pelangi

Location:	Randusari, East Semarang
History:	The village was a slum area built illegally on a burial ground. The municipal government invested money to make over the degraded slum by painting the houses with colorful paints. The village now becomes an Instagrammable attraction.
Feature:	Village with colorful houses.
Function:	Slums-improvement and raise the social and economical potential of the village

Kampung Batik

[Fig 3.48] one of the batik shops in Kampung Batik


[Fig 3.49] shops selling traditional batik costumes

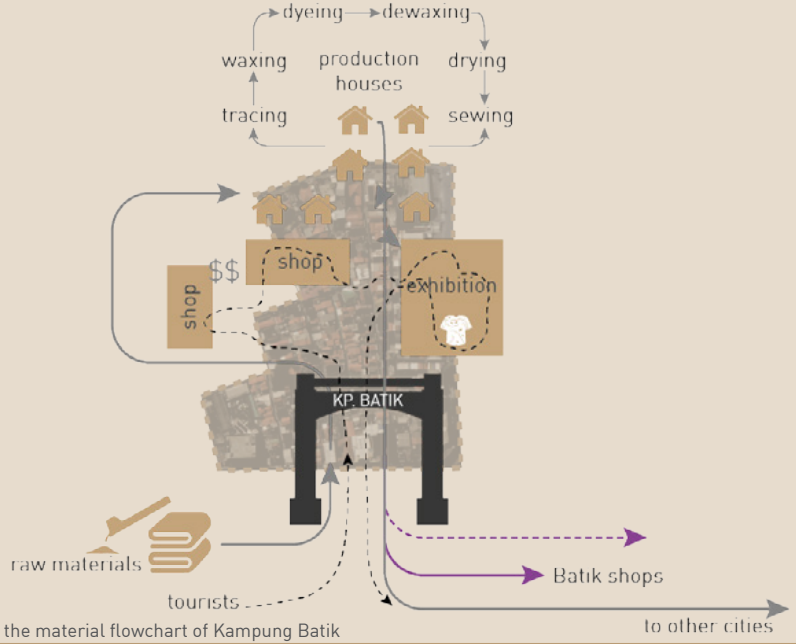

[Fig 3.50] the location and extent of Kampung Batik

Location: Kelurahan Rejomulyo, East Semarang

History: One of the centers of batik production in Central Java, but was burnt during Japanese occupation. The batik activities resumed slightly in the 1980s and in 2006 with full support from the municipal government providing trainings and workshops on batik.

Feature: Batik is a traditional Indonesian cloth featuring their unique technique of dyeing. A popular tourist attraction, featuring batik artisans and shop businesses

Function: Production houses, crafts centre for coloring and , retail and Batik shops, and learning arena for batik culture, feature mural walls that tell the story of batik fabrication

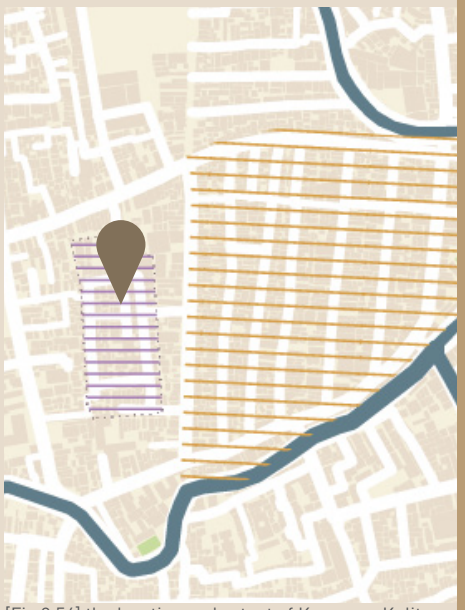


[Fig 3.51] the material flowchart of Kampung Batik

Kampung Kulit Lumpia

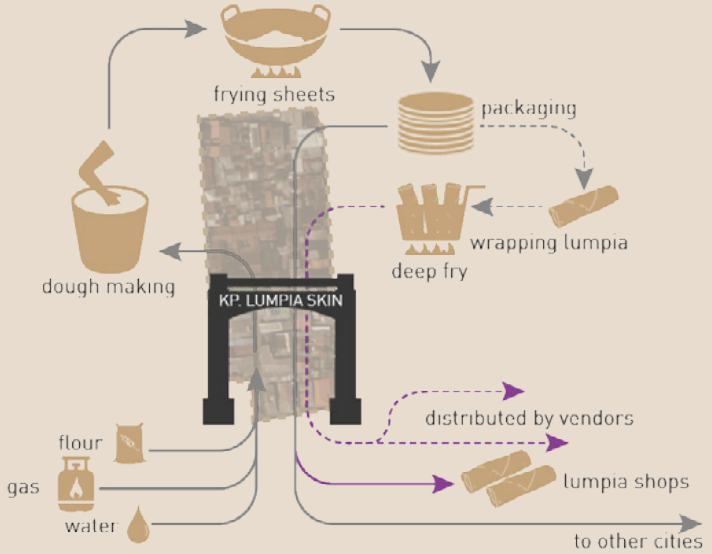
[Fig 3.52] frying of lumpia skin in the kampung (source: Jateng Today)

[Fig 3.53] the lumpia skin ready for sale (source: www.sahabatdapur.com)



[Fig 3.54] the location and extent of Kampung Kulit Lumpia

Location:	Kelurahan Rejomulyo, East Semarang
History:	The oldest lumpia skin making village in Semarang. The industry and technique have been carried down throughout generations.
Feature:	Lumpia is one of the culinary specialties of Semarang. The kampung is the oldest spring roll production in Semarang, which is also a popular tourist destination.
Function:	More than 45 production houses for making spring roll skin. Visitors can also watch the process of spring roll making. The kampung also supplies lumpia skin for other major cities in Indonesia.



[Fig 3.55] the material flowchart of Kampung Kulit Lumpia

OUTPUT

The existing waste management system in Semarang is very primitive. Basically it works linearly as
source →collection point →landfill.

There are garbage bins in households, kampungs and markets for collection. In some cases there are also small recycle bins for plastic, paper and cans. These garbage will be collected to the TPS (temporary collection point) spread through the neighbourhood, and mapped accordingly. The garbage will then be collected by refuse collection and sent to the only landfill. The regional waste system will be shown in the next page.

From the locations of the TPS as mapped, a lot of them locate right next to the river. This proves that the river Kali Semarang is treated as if the back alley of the city, and almost like a sewage. Hence, while designing the new vendors network, the waste management system should also be re-considered to maintain a quality environment.

[Fig 3.56] mapping of the existing waste management flows of Semarang

Waste Metabolic Flow in Semarang

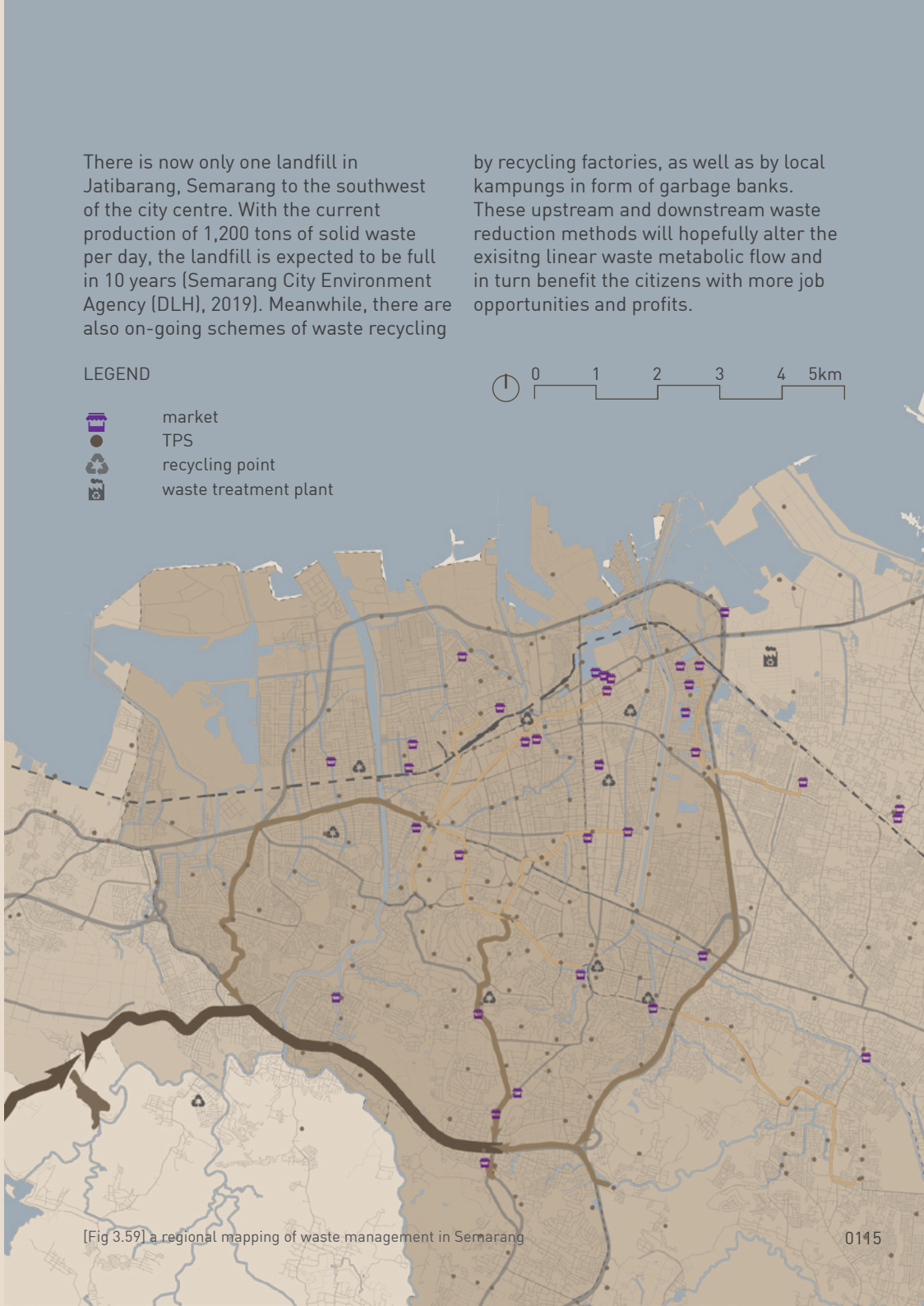
Below are the quantitative and schematic map of the waste metabolic flow in Semarang, and the system is mapped on the regional map on the right. The main composition of garbage from the markets and vendors are plastics (utensils and containers) and food waste.

Hence, to incorporate the waste management system into the vending network, waste reduction at upstream and waste sorting and recycling at downstream should be considered.

[Fig 3.57] the quatitative waste flow in Semarang

[Fig 3.58] a spatial digram of waste flows in Semarang

There is now only one landfill in Jatibarang, Semarang to the southwest of the city centre. With the current production of 1,200 tons of solid waste per day, the landfill is expected to be full in 10 years (Semarang City Environment Agency (DLH), 2019). Meanwhile, there are also on-going schemes of waste recycling by recycling factories, as well as by local kampungs in form of garbage banks. These upstream and downstream waste reduction methods will hopefully alter the exisitng linear waste metabolic flow and in turn benefit the citizens with more job opportunities and profits.



[Fig 3.59] a regional mapping of waste management in Semarang

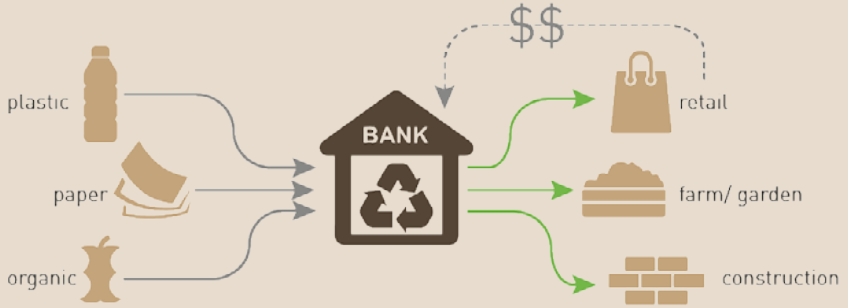
Garbage Bank (Bank Sampah)

Garbage bank is a community-based initiative proposed by the Environmental ministry to promote solid waste upcycling. It is evolved from the informal waste collection and sorting and now become an important part of the local waste management. Inorganic waste like plastic will be are being collected to the banks and transformed into useable and profitable products. These products include handbags, planting pots, ecobricks, etc. which are ready to be sold. Hence, the scheme not only ensures environmental sustainability, but also increases the social and economic potential of the community.

There are several garbage banks in the outskirt of Semarang, but none in the city centre, and there is none in the North Semarang sub-district, where trash-selling business is quite mature and more profitable than garbage banks (Hadiwidodo, Samadikun & Arinasandi, 2019). Unlike the traditional trash-selling, garbage bank is a less money-oriented initiative that use trash as currency, redefining trash as valuable objects. This also make the public rethink the waste producing practice to live a more environmental-friendly lifestyle.

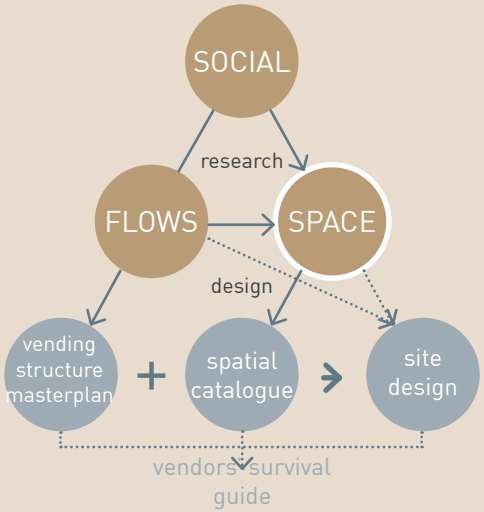
A garbage bank needs a building for waste collection. Other necessary facilities depends on the target products by upcycling. For instance, production houses and villagers as workers are needed by handicrafts are made from the garbage; a burning groud is needed to produce compost from organic waste. The bonding and manpower from the community is essential, in return for a community business improving the environmental quality.

[Fig 3.60] waste-selling centre near Kota Lama
[Fig 3.61] recyclable collection at a garbage bank (source: www.harnasnews.com



[Fig 3.62] the material flowchart of garbage banks

3.3 The City and the Spatial Dimension



[Fig 3.63] the riverbank of Semarang

The “space” is the dimension where the people and the metabolic flows come across. The space of this thesis refers to the landscape or site where interventions take place, which can vary in different scales. The site can be Semarang in the broader sense, but can also be each individual design area. The site possesses layers of information, the layered evolution map in Chapter 0 sets a fundamental analysis of the space in Semarang. The geological and climatic conditions, infrastructure and built environment give shape to the physical space in Semarang.

On the other hand, the cultural history is another layer of the space. In Chapter 1, the cultural and traditional values of Semarang is explored through the theme of urban informality and street vending. The morphological change of Semarang has shown how urbanisation and capitalist development interfere with the space of the city.

The spatial dimension on eye-level is the most important scale for landscape architects. Hence, the spatial conditions of the physical built environment of human scale should be considered for every good design. A few interventions will be analysed in the later stage when the test sites are chosen for the strategic planning, and is included in Chapter 4 p.xx “Integration as Site Design”.

[Fig 4.1] vendors setting up their stalls

Chapter 4
Design- A Street Vendor Inclusive Urban Landscape

Design Principles

A Street-Vendor Inclusive Urban Landscape

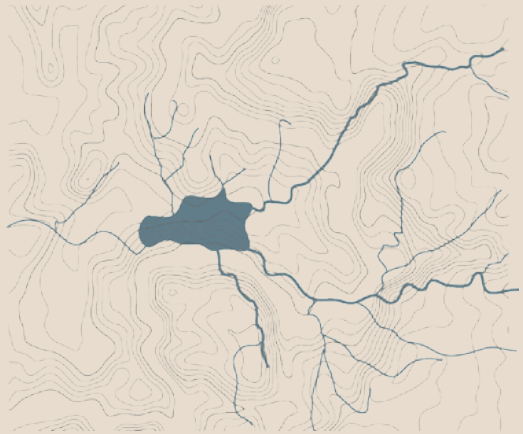
Street vendors are considered to be a vulnerable group in the city of Semarang, while it is identified that their vending activities also convey valuable traditions and cultures. Hence, the primary goal of the design is to empower street vendors with an inclusive planning, to soften the boundary between the formal and informal sector. The two main actions, facilitate and manage, is on one hand providing more space and opportunities for street vendors, and on the other hand mitigating the traditional perception of street vendors as creating nuisances.

Urban Design is to Create Conditions for Freedom

In contrast to the de-incentive approach adopted by Semarang's municipal government, this thesis explores an incentive building approach to manage street vendors in a more humanistic way so as to maintain social equality. A de-incentive approach is to control and manipulate human behaviour by intimidating them with authoritative power, such as confiscation of property or fining for their misbehaviour. On the other hand, an incentive building approach is to encourage and increase street vendors' motivation to properly treat the environment. The Prince as quoted in Semarang's folklore has demonstrated such incentive building approach to manage street vendors. He provided the Johar seeds and indirectly created a favourable environment to contain street vendors at a certain zone. As a landscape architect, the urban landscape and metabolic flows are the tools to build up incentives in order to alter human behaviour.

The analogy of water and lake mentioned previously sets the basic design principle of the thesis. In a watershed, water flows naturally downhill perpendicular to the contour lines and concentrates as a river or creek at the valleys. Water also accumulates at low topography, or the basin as lakes. By shaping the topography of the landscape, water flows differently, and ideally according to the landscape architect's intervention. Comparing the street vendors to water in the context of Semarang, similarly designers can modify and interfere the urban landscape to direct the flow of street vendors. The topography in this case, will be the ideal locations for street vending activities, which includes the spatial conditions as formulated by the street vendors profile, as well as the provision of utilities as a network of systems.

Hence, the thesis is found by the hypothesis that by creating certain conditions in the city, street vending activities could be facilitated but also controlled. Urban design is about creating



[Fig 4.2] water-lake analogy diagram

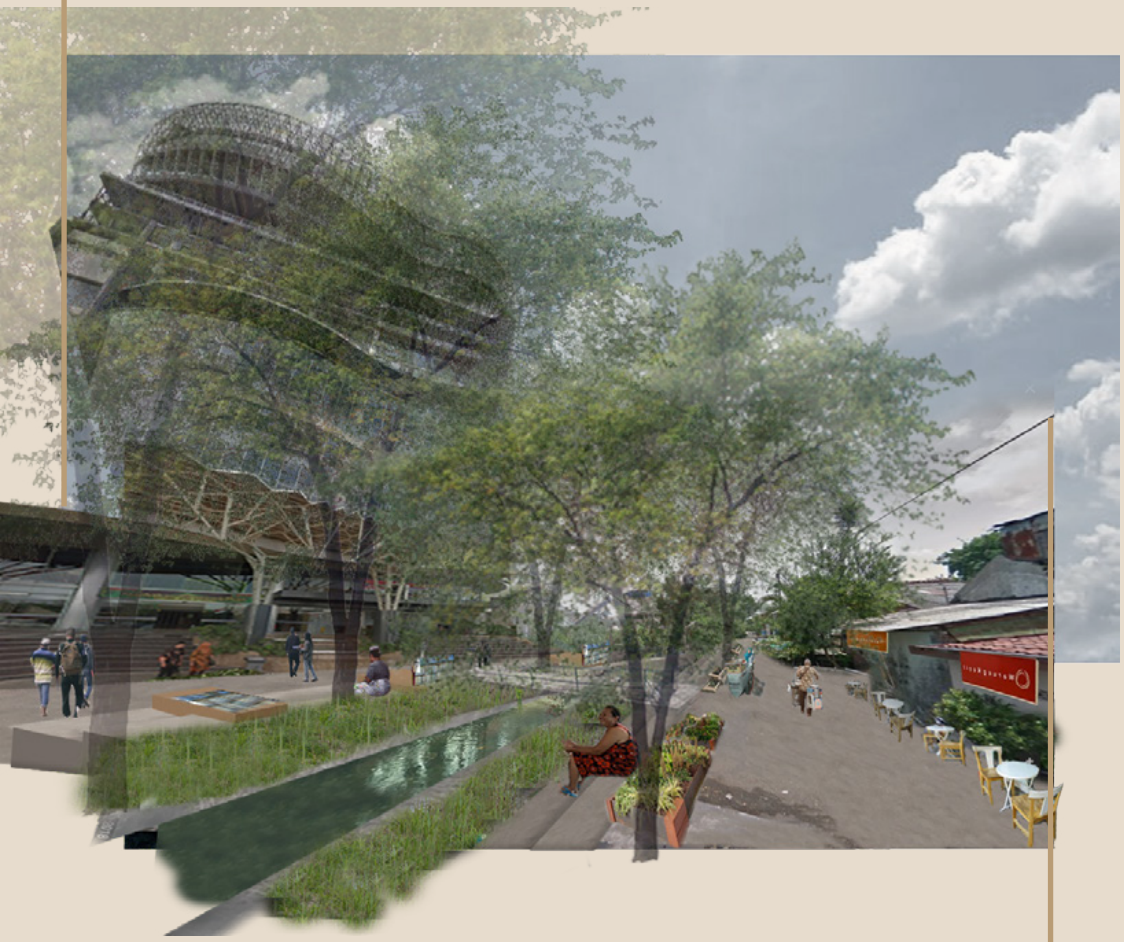
conditions for future development, and allowing freedom and flexibility within these conditions (Christiaanse, 1990). Since the resilient and versatile motions of people are highly valued, instead of manipulation over these behaviours, the design provides a condition for street vendors to thrive.

To design the urban landscape for facilitating and managing street vendors with an incentive building approach, the design has to be specific to the context and people oriented. A few research and design strategies are applied and explained as follows. Street vending is seen as an important cultural value of Semarang, through the research into the city's history and evolution. Meanwhile the anthropological study of the street vendor group is also very crucial to understand their preferences and behaviour.

Environmental Psychology: Public Space Preference and Place Attachment

To manage street vending activities involves a specific type of actor and their corresponding behaviour. The concept of environmental psychology is needed in order to investigate the relationship between street vendors and their environment, as well as explaining their space preference with the support from the results of field observation. These behavioural studies support the hypothesis that a certain spatial condition would be more attractive to street vendors, thus they are more likely to be contained within these conditions.

To design the urban landscape for facilitating and managing street vendors with an incentive building approach, the design has to be specific to the context and people oriented. Street vending is seen as an important cultural values of Semarang, through the research into the city's history and evolution. Meanwhile the anthropological study of the street vendor group is also very crucial to understand their preferences and behaviour.



Masterplan Design

Macro: A New Vending Structure Masterplan

Therefore, to create conditions for street vendors, the design should be viewed at two scales: the macro and the micro. The macro scale focuses on the city level how the system services related to street vending work as a network; while the micro scale looks into a more eye-level perspective of the space and activities of street vendors.

From the macro scale, the street vendors are seen as part of the urban ecology. This urban self-evolving system is shaped by the environment that includes the road network, vending or market network, urban waste flow as well as production network. To shape a new urban landscape condition for the vendors' structure, the existing maps of these systems are overlapped and readjusted to facilitate the flow of vendors.

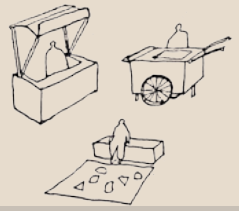
The main design objective is to formulate the flow of street vendors without too much authoritative restrictions. Hence, in order to interfere with human behaviour for sustaining the living quality, the proposed design is to raise the incentives of street vendors to protect their environment, from the perspective of spatial policies and infrastructure provision. Instead of imposing laws and penalties, the new system of public space, urban trees, production and waste management will be fit into the vending structure. The motivational approach would facilitate the valued vending activity in Semarang.

The strategies of designing a new vending structure masterplan is summarised in the table below and elaborated as follows. The structure is composed of lines and nodes that connect the existing market and bazaar activities, that also indicate the area where vending conditions should be improved in favour of vending activities. However, the mode of vending varies at different parts of the structure, depending on the context and time. For instance, the vending modes at riverside would differ from the modes at an empty lot. The intensity also varies depending on how strategic the location is. Hence there are different typologies of spatial interventions summarised in a form of matrix catalog that will be further explained in the next session.

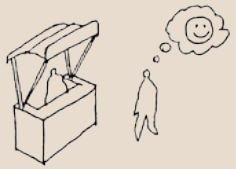
Master Plan: The Vending Structure-Design Strategies

THEME: a vendors-inclusive planning

OBJECTIVE
(What we need)



1. More vending opportunities

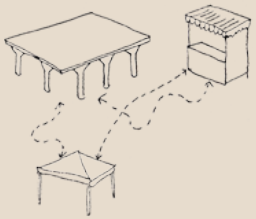


2. Reduced perceived nuisance

3. Create circular vending structure

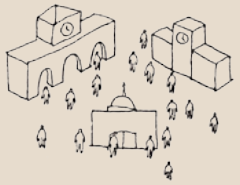
4. Improve environmental quality and walkability

STRATEGIES
(What we do)

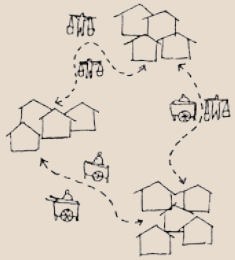


1. Connecting existing markets and vending spots

2. Provide immediate utility services



3. Prioritise strategic locations



4. Connect to local villages

5. Rejuvenate under-utilised space and streets

[Fig 4.3] masterplan strategies illustrations

This new vending structure will be developed based on the existing context and *pasar* activities happening at the moment. The locations of these activities are mapped in the previous chapter (p.080) for the analysis of their different nature of vending or themes, that would be ideally joint as an connecting structure in the proposed scheme. The new structural masterplan would put strategic vending locations as a priority, as it is only where people accumulate would the vendors go. The strategic vending location in Semarang includes the tourist spots, retail and commercial areas, schools and offices, which most of them are time-related. The structure would also consider the current road network as in its intensity and hierarchy, so as to identify possible locations for additional vending spaces.

Meanwhile, to reduce the perceived nuisance of street vendors to other stakeholders of the city, the position of street vendors should be reconsidered. To make all these factors more integral, the street vendors' ecology should fit into the local economy, becoming an crucial stakeholder of the social and economic development of the city. As the scheme thematic kampungs has been implemented in Semarang and there have been more local kampung productions, the street vendors can become a flowing actor in the city to distribute these products.

As production of waste is a key problem related to street vendors that contributes to the intolerance of this informal activity, an improved waste management network would be implemented in the macro scale. The existing waste management plan in Semarang is immature and not extensive enough to cope with the intensity of urbanization, and the linear garbage treatment process is a prominent threat to the capacity of the only Jatibarang landfill in Semarang. One of the goals of the vending masterplan is to create a circular material flow within the city, meaning the input and output of materials should be recycled as much as possible. The proposal here suggests to expand the initiative of the garbage bank into the thematic kampung scheme, where waste materials can be collected and upcycled into products for sale again.

With the analysis of the distribution of market waste, the network for provision and collection of reusable tools, food waste recycling, etc. would be implemented as a plug-in to the new vending network. The waste network should have a high coverage in the city, in order to maintain the incentive of mobile vendors to dispose and recycle waste in a proper manner. The waste collection, treatment and recycling network would also be based on the kampung functions, which also integrate the vending activity to the local economy instead of a separate entity.

Master Plan:
A New Vending network

The map shows a new vending network designed based on the existing qualities and market system. The design process involves overlay mapping of the different layers analysed.

The new network comprises of lines and nodes, different typologies of vending activities, ranging from temporary (mobile) to permanent (fixed), and with different intensities. The lines represent a linear form of vending locations that could be along a street or the river, while the node is a more centralised vending location like a market, that can also accommodate utility services like waste collection and processing station.

[Fig 4.4] the masterplan structure for street vendors-inclusive development

Flows Speculation

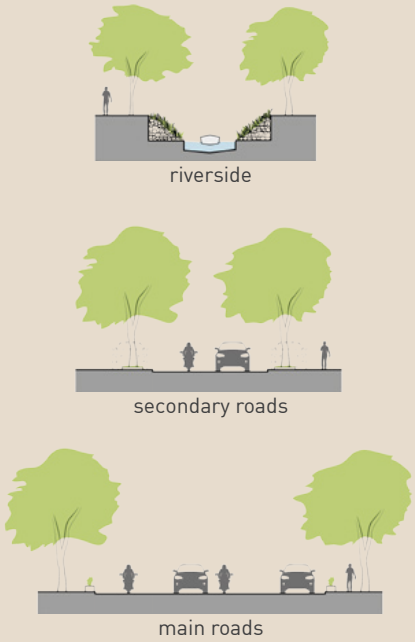
In addition, the new structure masterplan not only benefits the street vendors, but is also acting as a catalyst to improve the sustainable development of Semarang. For instance, the improved flows of the green and blue structure, mobility and materials are speculated and explained with a few strategies.

[Fig 4.5] the speculative green flow diagram

The Green and Blue Flows

As mentioned in the flow analysis in Chapter 3 (p.094), there are certain problems relating to the green network and water system in the city. The highly dense development has left the urban centre of Semarang with scarce greening and open space, depriving the environmental quality for urban dwellers. Also, the Kali Semarang watershed is separated from uphill runoff due to the construction of two floodways, leaving the problem of low velocity and sedimentation. The lack of a wastewater management system also pollutes Kali Semarang, which is not treated as sewage.

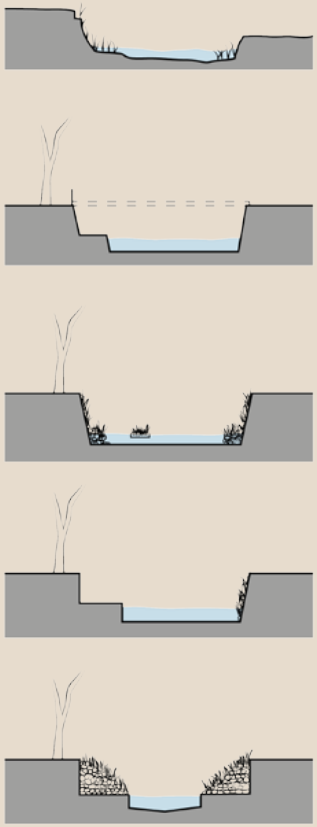
According to the space preference analysis done on p.072, vendors tend to stay under tree shades for a more comfortable environment under the tropical climate for themselves as well as their potential customers. Therefore, it is a good opportunity to greenify along the vending structure, for instance at river sides and the vacant lots. These urban green patches can also benefit the walkability of the city, and also on the ecological quality since the woodland and farmland in the hinterland area is connected to the coast again.



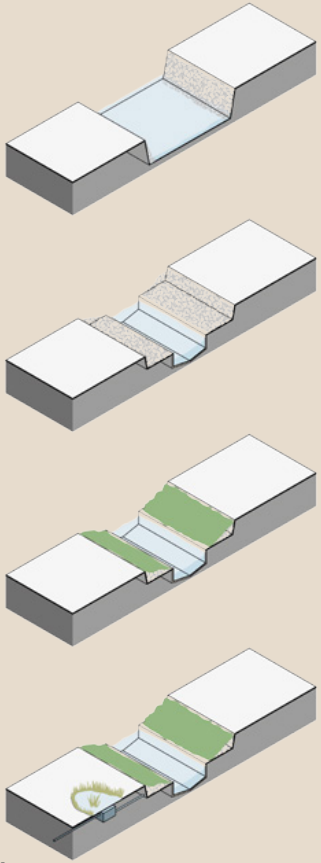
[Fig 4.6] Greenification Strategies

[Fig 4.7] normalisation of Kali Semarang
(source: PPID Kota Semarang)

[Fig 4.8] a segment of Kali Semarang
(source: SmartCity Kota Semarang)



[Fig 4.9] diagrams of Kali Semarang normalisation



[Fig 4.10] diagrams of reforming the river profile for Kali Semarang

On the other hand, a few strategies are applied to improve the river quality of Kali Semarang. Since it is difficult to install an intensive wastewater drainage system, decentralised filtration is a more feasible solution to purify river water. These filtration points will be located at the important nodes where most drainage is discharged to the river. For a minimal intervention, the reed bed filter is proposed at these filtration nodes, which will be further explained in the next page.

As Kali Semarang had been normalised due to previous river flooding, the river bank is now impermeable concrete, which plantations are inhabitable. However, river plants have the quality of water purification and absorb stinky smell from the river, and should not be removed due to maintenance problems. This problem is also combined with rethinking the general profile of Kali Semarang, where there is low river velocity and sedimentation. Since river flooding is no longer a problem in Semarang, a narrower and deeper concrete channel can increase the flow of river water, together with softened river banks that bring back a habitable condition for river plantations along the river.

[Fig 4.11] the speculative blue flow diagram

Flows Speculation - Green & Blue Flows

[Fig 4.12]

Filtration Strategies

Decentralised filtration points are arranged along Kali Semarang at the major drainage output nodes. A reed bed filtration is proposed here for low-cost and low-waste with minimal intervention, which can also benefit the general public by offering plantation area.

To rejuveniate Kali Semarang into a pleasant area for public use and street vending, the quality of riverwater and riversides have to be improved. Especially to alleviate the stinky smell that hinder human activities along the river.
The proposed reed bed filter will be a constructed wetland planted with sewage treatment plants. Wastewater from existing drainage pipes will be collected to the reed bed to be treated and recycled. The bacteria and algae in the reed bed digest the sewage and purify the water. However such water would not be clean enough for drinking purpose, but it is assumed that the strategy would be a good layer to eradicate the polluted wastewater before entering the river; and with a few of these reed bed filtration nodes, the river is less stinky and polluted.

The reed bed also provides greenery among the urban kampungs, as an extra green space for the urban dwellers to relax.

Common Sewage Treatment Plants in Indonesia

Typha latifolia
(Cat's tail)
- grow up to 2.5x3m at a fast rate; attract wildlife; cannot grow in shades; prefers wet soil and can grow in water

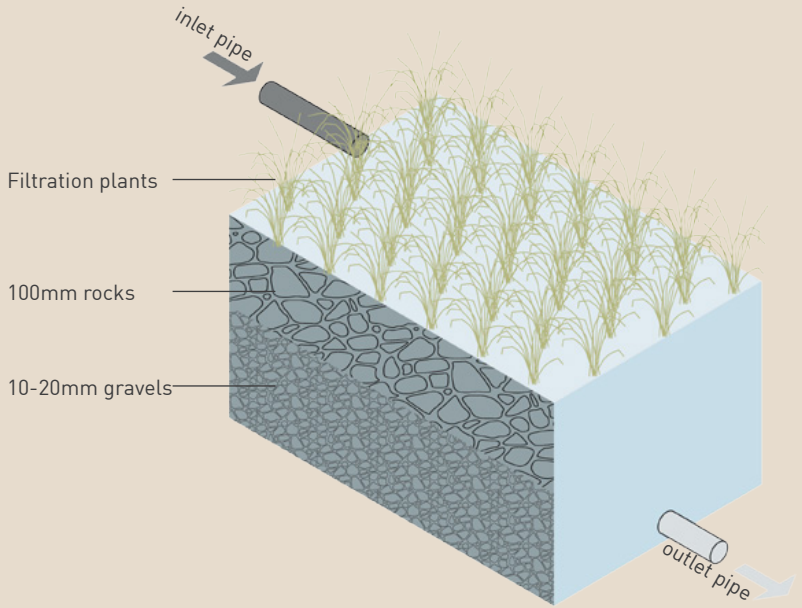
Eichhornia crassipes
(water hyacinth)
- can grow in semi-shade or no shade; contains nitrogen-fixing bacteria

Ipomoea aquatica
(swamp morning glory)
- cannot grow in shade; prefers wet soil and can grow in water; leaves and young shoots are edible

Pistia stratiotes
(water lettuce)
- prefers semi-shade or no shade; takes up nitrogen, phosphorous and heavy metal compounds in water

Echinodorus palaefolius
(water jasmine)
- grow up to 0.4x0.4m, prefers marshy conditions; removes organic matter in river water

Basic Reed Bed Design

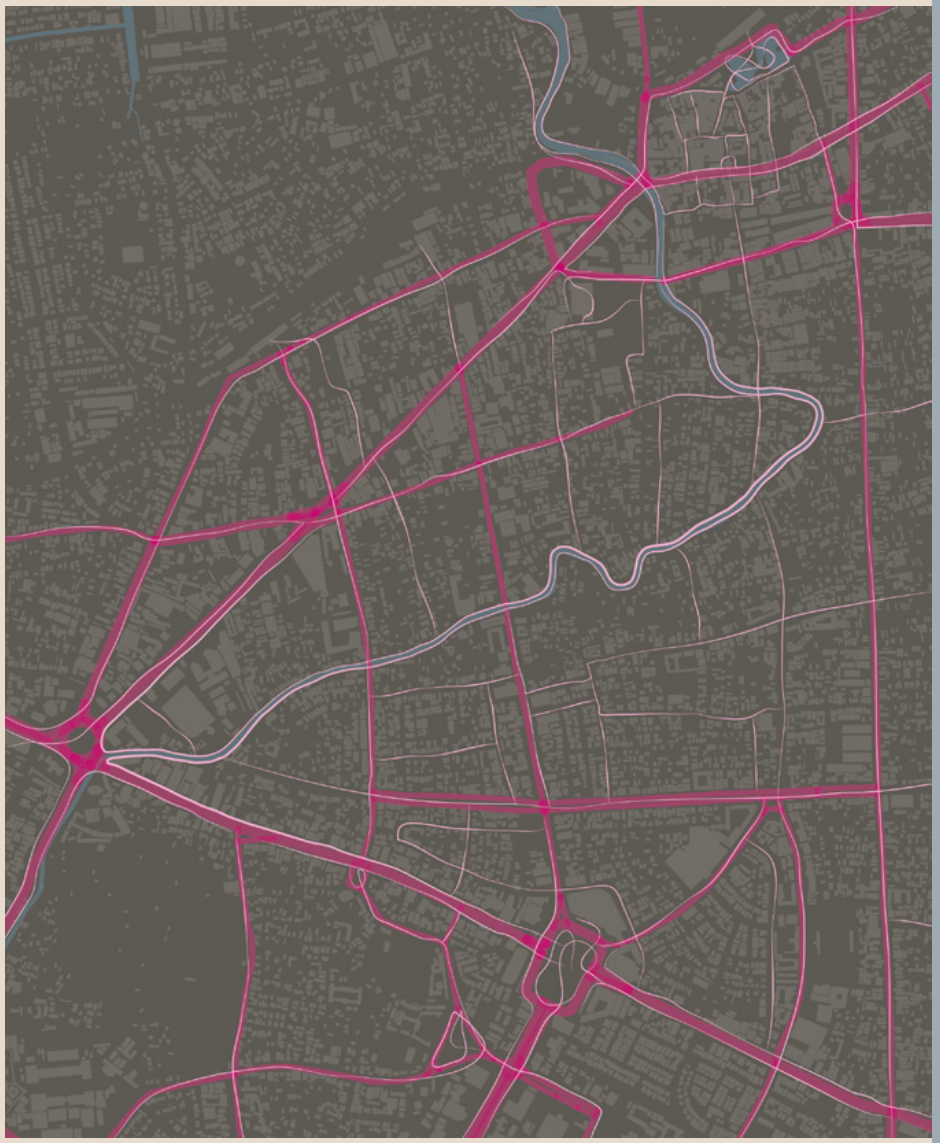


[Fig 4.13] basic reed bed design diagram (by author)

Mobility Flows

In addition the structural masterplan of street vendors would also be an improvement to the jalan-jalan quality of Semarang. Jalan-jalan is the act of strolling and wandering, usually a way to experience the city on foot, and Jalan also means “street” in the street names in Indonesia.
However Indonesians are in fact the population that walk the least. This is partly due to the hot climate and poor sidewalk pavement, and also partly because of their mobility lifestyle largely dependent on vehicular transport. It is very convenient and cheap to grab a car or motorcycle even for a short distance commute. Hence, the street vendor structure, together with the improved green and blue networks, can ideally catalyse the walkability of the city. The quality space for vending always welcomes flexibility for all urban dwellers to enjoy the space and shades. The structure will then also become a pleasant jalan-jalan network connecting different parts of the city. The reduction of motor transport can also further benefit the environmental quality of the city.

[Fig 4.14] the speculative mobility flow diagram



Flows Speculation - Mobility Flows

[Fig 4.15]

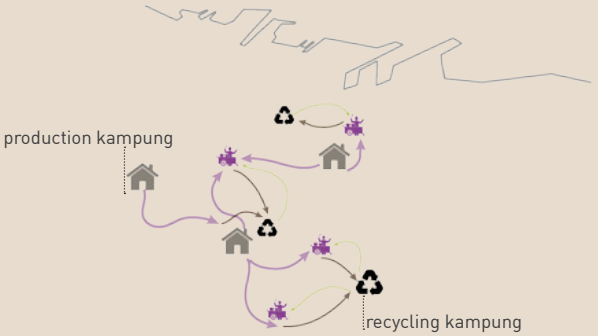
Material and Waste Flows

The waste produced by street vendors is one of the causes of nuisance to other stakeholders of the city. The existing linear waste management system has also put pressure on the only landfill in Semarang. Hence, a more circular material and waste flow is needed to ensure a sustainable future development. The local kampungs would be an important actor in this circular material flow. The thematic kampung scheme is utilised on one hand raises the community's socio-economic potential, and on the other hand serves a more sustainable development.

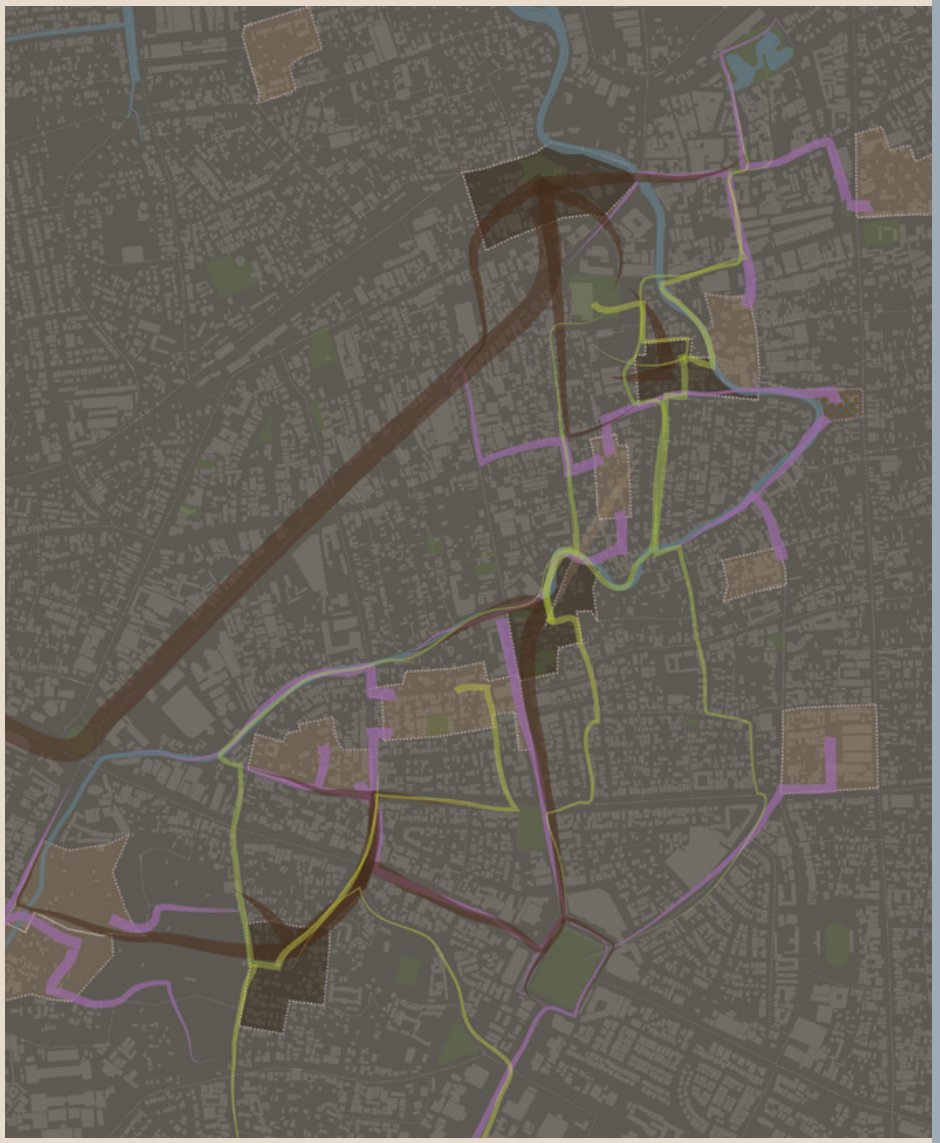
According to the research on the thematic kampung scheme on p.106, a theme is given to local villages that possess local traditions or are friendly to the environment. Two main themes are proposed for these kampungs, production (input) and recycling (output). Learning from existing examples of thematic kampungs, the kampungs can develop their unique community tradition, culture or local businesses such as traditional snacks and handicrafts. These products can then be sold to retail shops as well as vendors, as mobile actors to distribute these productions. Some kampungs can develop recycling industry for specific materials, and further to upcycle these materials into products for sale again, introducing the garbage bank initiative into thematic kampungs. For example, a plastic kampung can collect organic waste, with some villagers responsible for upcycling them into eco bricks and compost.

In addition to these, waste should also be reduced from source. Vendors are highly dependent on disposable cutleries and containers, which are often plastic that takes a long time to be dissolved. Hence, there are some kampungs working on providing, collecting and cleaning reusable cutleries and containers for these vendors. The location of such "cutlery kampungs" should be distributed along the vendors structure, such that they are easily reachable and vendors are more motivated to participate. Organic containers are also promoted to replace plastic containers, for instance growing banana trees and using the leaves as containers is also an environmental-friendly way to reduce waste from source.

Semarang is composed of kampungs in which they form a community. To decide the location of these new thematic kampungs, the site conditions are considered. For instance, the organic waste kampung locates at the hilly area where there is space for composting; and cutlery kampungs will be located around areas specified for culinary vendings. Together with the vending structure, they form a local circular economy of Semarang.



[Fig 4.16] the speculative mobility flow diagram



Flows Speculation - Material and Wastes Flows

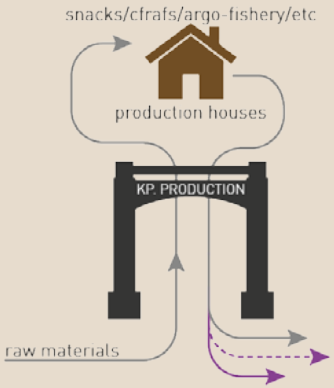
[Fig 4.17]

Production

Thematic Kampungs Proposal

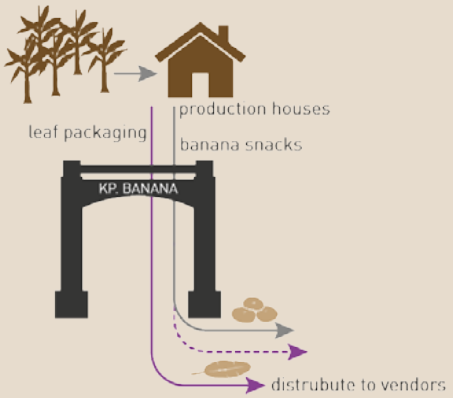
a

Production Kampung
(snacks/crafts/argo-fishery/etc)
- take in raw materials and produce products for sale



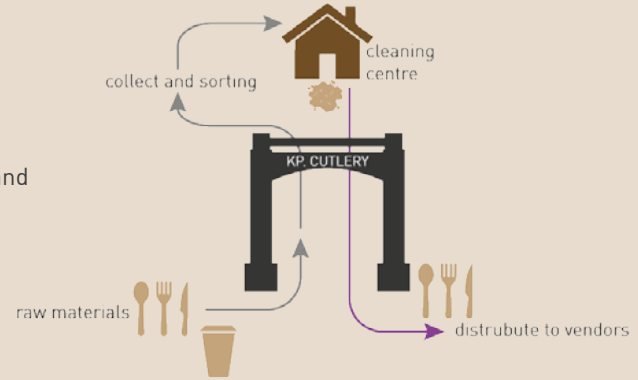
b

Banana Kampung
- produce traditional banana snacks
- produce eco-packaging with banana leaves



c

Cutlery Kampung
- provide, collect, wash and distribute reusable cutleries and containers for street vendors

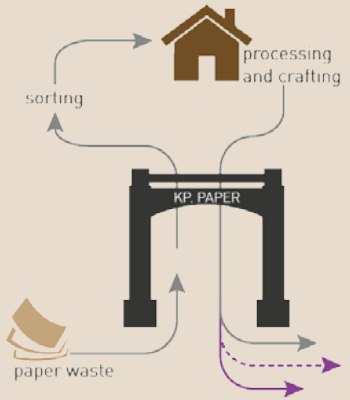


Recycling

Thematic Kampungs Proposal

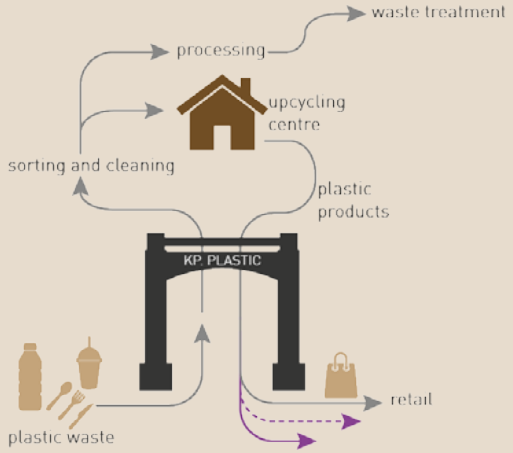
d

Paper Kampung
- collect and upcycle paper waste into profitable products like baskets and handicrafts



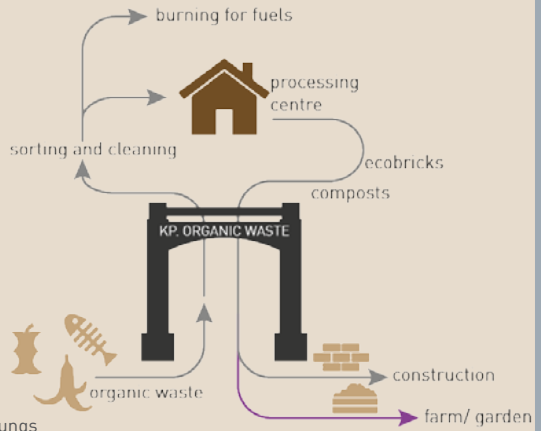
e

Plastic Kampung
- collect and upcycle plastic waste into useful and profitable products like handbags and containers



f

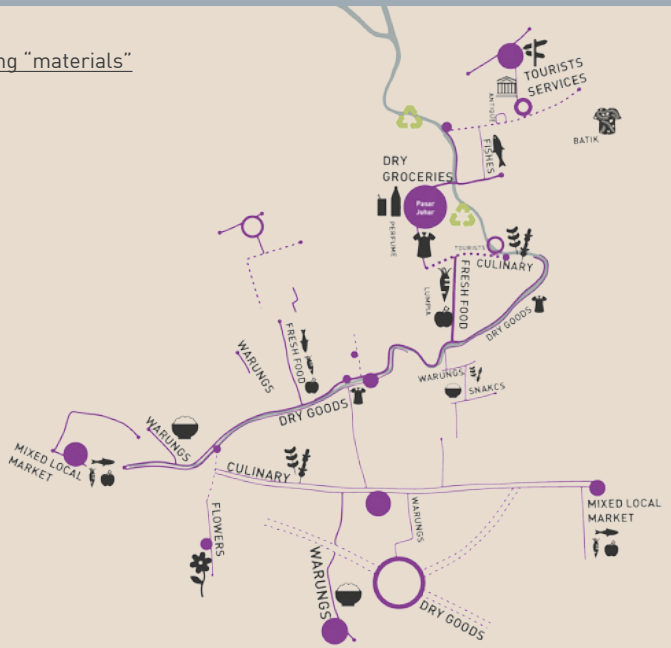
Organic Waste Kampung
- collect and upcycle organic waste and process them into useful products like composts and ecobricks



[Fig 4.18] diagrams of proposed thematic kampungs

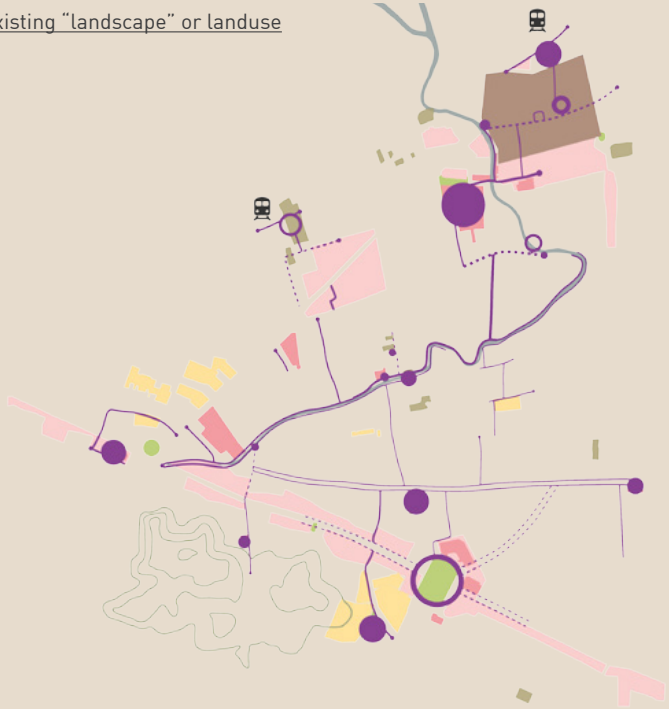
Based on existing "materials"

[Fig 4.19]



Based on existing "landscape" or landuse

[Fig 4.20]

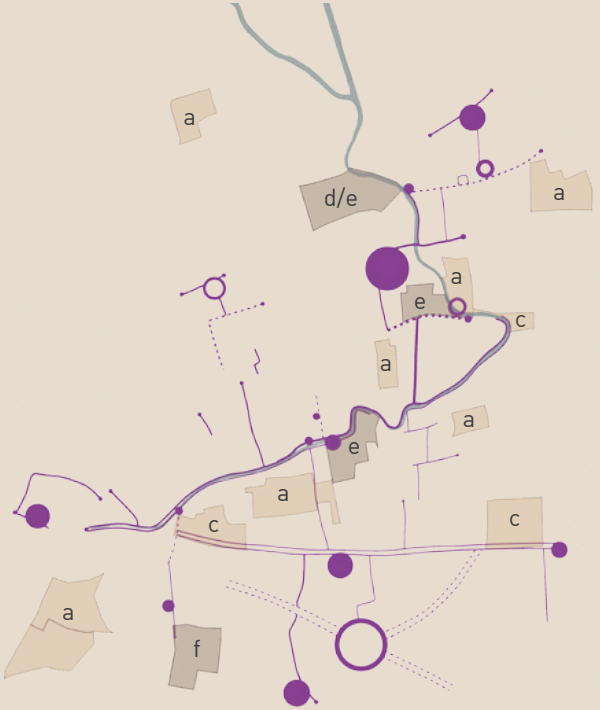


Logics of Kampungs Selection

Production kampungs and recycling kampungs are arranged in the city based on the existing material and landscape characteristics at the site. There are already existing programmes of production and recyle in the city, and the selection of kampungs would mainly be based of these programmes.

The kampungs is also related to the nearby vending features. For instance, cutlery kampungs and food production kampungs would locate more proximate to culinary and warungs vending areas. Some kampungs also need a certainlandscape conditions; for instance the organic waste kampungs need a larger ground for burning organic matter and compost-making, and banana kampung needs a piece of farmland.

a. Production Kampung
b. Banana Kampung
c. Cutlery Kampung
d. Paper Kampung
e. Plastic Kampung
f. Organic Waste Kampung



[Fig 4.21] locations of proposed thematic kampungs

Spatial Catalogue

Fixed, Floating, Fleeting

The vending structure is further defined into different typologies based on the different contextual landscape: riverside, street, roadside, a plot and buildings. The interventions are based on a micro scale, zooming into the spatial quality that favour street vendors, according to the spatial preference research done previously. As there is a great spectrum of vendors with different needs, the spatial interventions is developed in a form of matrix. The matrix showcases street vendors' place-making varying from a fixed mode to a flexible mode. With reference to American urbanist Dr. Vikas Mehta's vocabulary to describe urban phenomena, he suggested three dimensions to look at street activities: fixed, floating and fleeting.

The "fixed" is rather literal and refers to the physical design and elements that are stationary through time. There is somehow ambiguity in this dimension between conventional retail shops and the feature of street vending. "Floating" is a relatively obscure description of elements that are easily movable on demand, transforming the space from time to time, but the primary function still remains. The "fleeting" provides the greatest freedom of place-making, transforming the space completely by elements that come and go, expand and contract when different users come to destroy and redefine it. In the fleeting dimension, it often requires a broader network in which people move around. In an urban ecology as suggested by Dr. Mehta, these three dimensions overlap and form the complex street phenomena.

In the spatial catalogue for street vending interventions, these three dimensions, fixed, floating and fleeting will be viewed individually to see in each dimension how the space can be intervened. To summarise, the fixed dimension is composed of fixed urban elements like stalls and kiosks that are fixed to the position and are part of the built environment. In the floating dimension, there are movable furnitures that favour the activity of vending. As for the fleeting dimension, it is primarily an open ground, where vendors can define the space with different materials they bring in with great freedom.

The catalogue is a process to explore possible use of space or place making acts that can open up opportunities for street vendors. Although the matrix remains a generic toolbox, it is still derived with specificity to local culture and behaviour. The matrix set as a basis for the later detail site design specific to locations picked in Semarang, but the process could also be an example to other developing cities with similar street vendor booming phenomenon.

FIXED

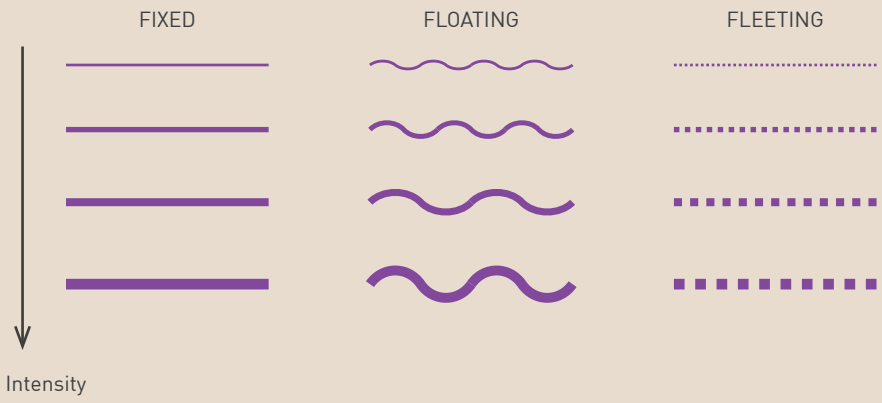
FLOATING

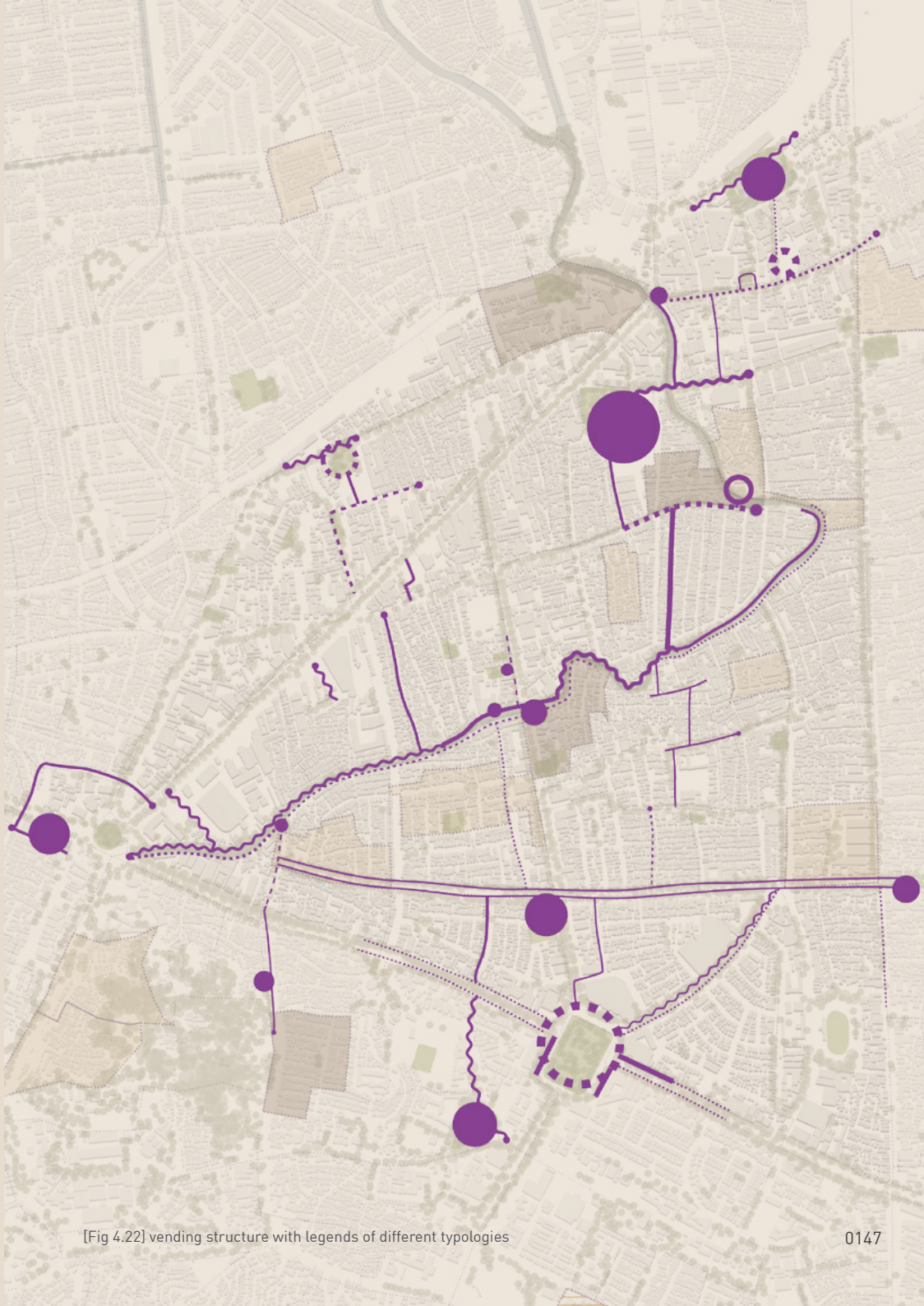
FLEETING

Defining Typologies

The street vending structure is formed by lines and nodes to indicate the areas for vendors-inclusive development. The lines represent streets, roadsides, riversides, etc. in the city, while the nodes represent the markets (as in building or outdoor bazaar) and parks. The interventions of these different type of landscapes are furthered defined by the "fixed, floating and fleeting" dimension to form a set of catalogue with different vending typologies.

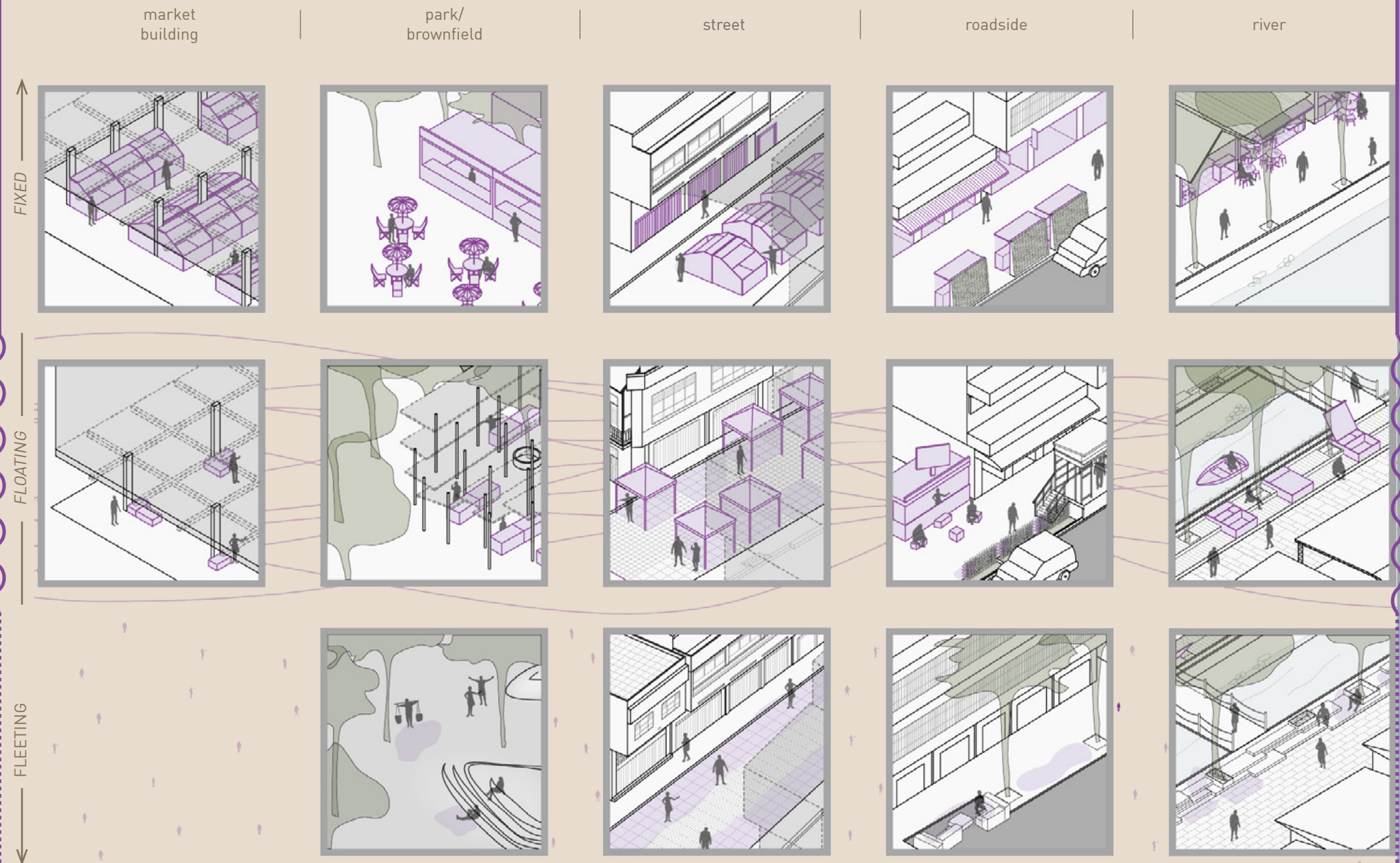
These different modes of vending are based on the existing characters around the vending structure, and is summarised with the symbol of straight line, wavy line and dotted line respectively as follows.



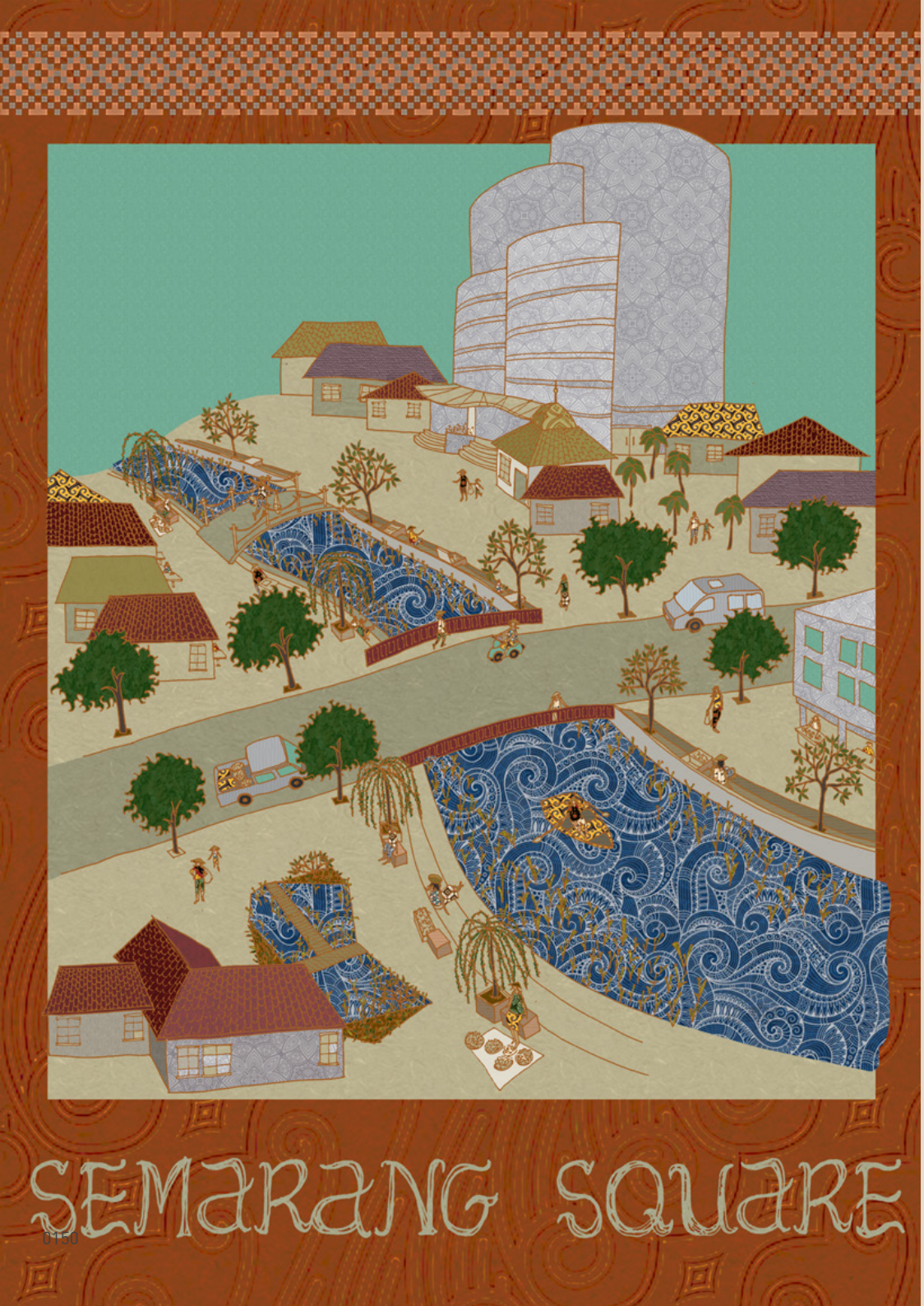


[Fig 4.22] vending structure with legends of different typologies

Vending Spatial Matrix



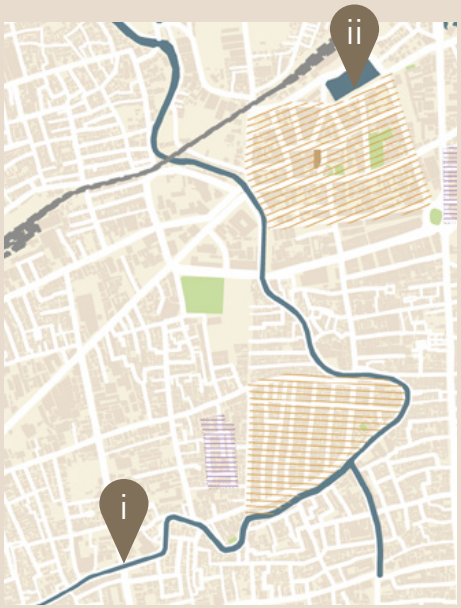
[Fig 4.23] vending typologies catalogue



[Fig 4.24] Semarang Town Square

Integration as Site Design

To test the spatial catalogue, several locations in Semarang are picked as intervention sites, investigating the proposal with human scale perspective. These are locations with high urban inequality and high potential to be intervened, where different flows come across, and preferably with different environmental context in order to test the matrix. The site design will integrate the vendors structural masterplan, the speculative flows and the spatial catalogue to generate a site specific design that facilitate and empower street vending activities. Considerations will be made from the vendors' perspective, their spatial and utility needs, but also from the consumers' perspective, like their daily routine and consumption habits.

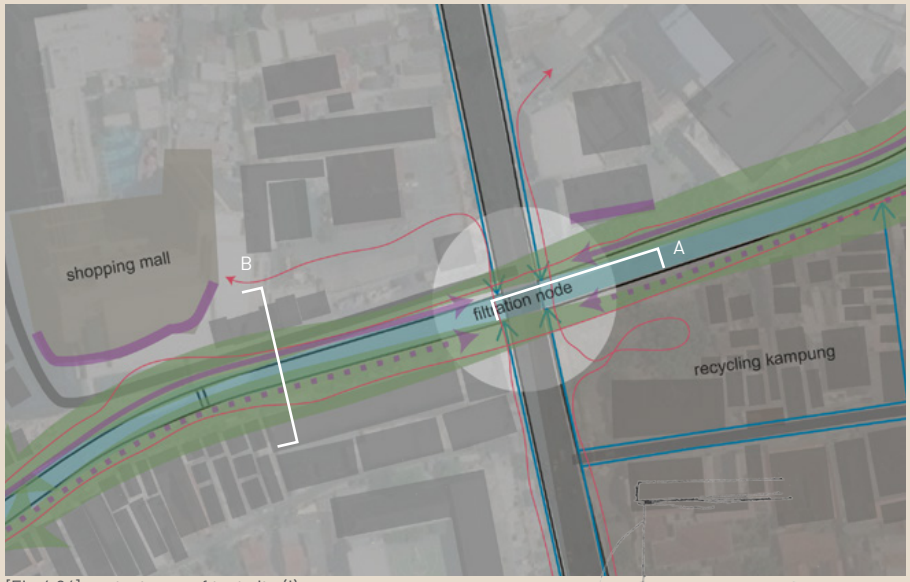


[Fig 4.25] key map of test sites

Test Site (i)- Kali Semarang & Semarang Town Square

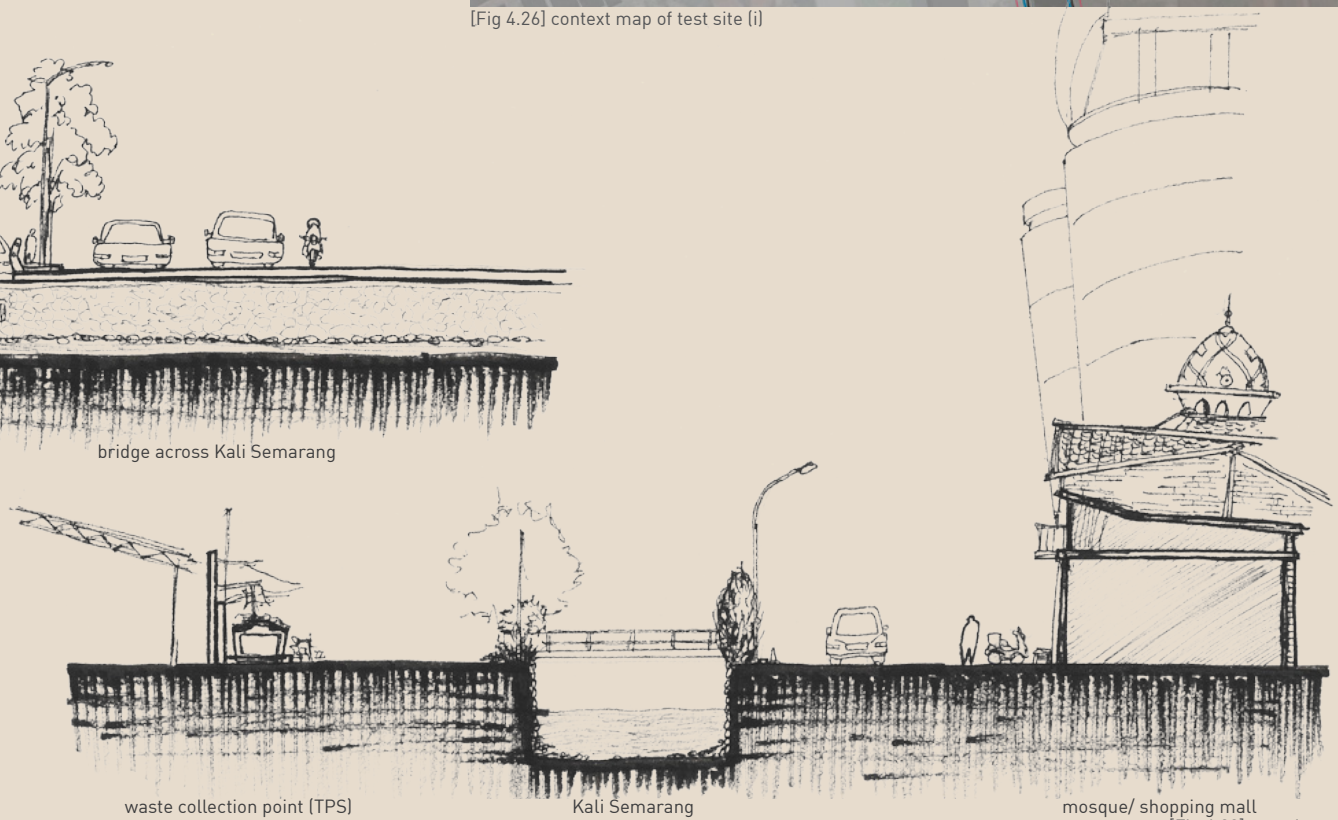
Observations and Potentials

There are a few potential interesting spots to be intervened, but two are chosen to be developed into detail. The first location is at a road junction right next to Kali Semarang and a modern shopping mall Semarang Town Square. The junction is also a node where drainage pipes discharge runoff water to the river, thus an important filtration point. Although the shopping mall is located right in front of the river, it is blocking the river view with a green wall. The river here is seen as unpleasant scenery and is left unvalued. However it has a lot of potential to open up the mall entrance to the river, and include the river as part of the retail activities.



[Fig 4.26] context map of test site (i)

[Fig 4.27] test site section A



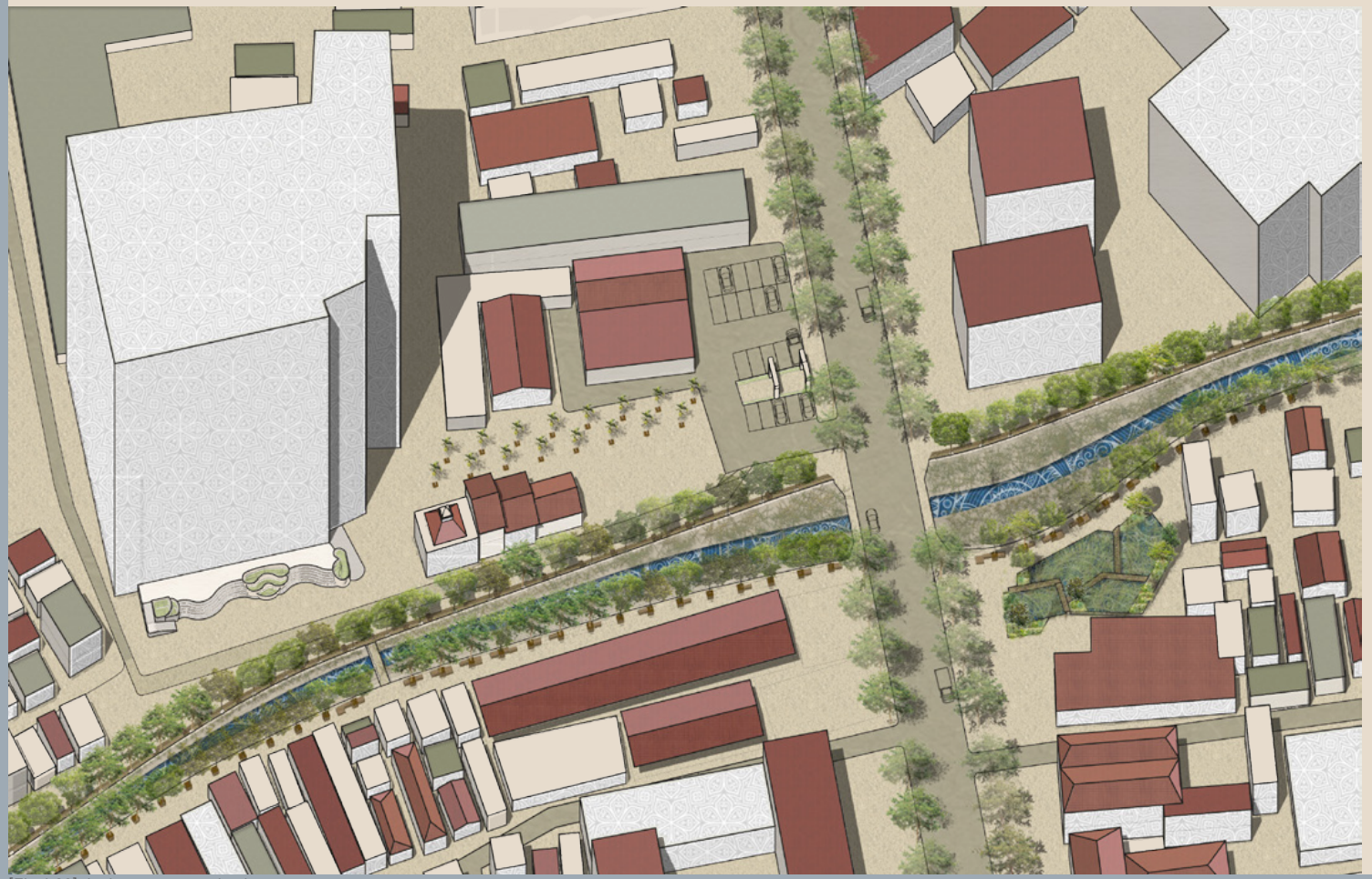
[Fig 4.28] test site section B

Test Site (i)- Kali Semarang & Semarang Town Square

Design Concept

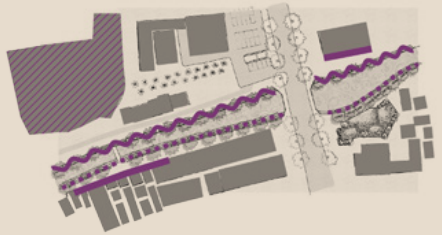
As being a part of the vending structure, a few vending interventions are realised at this site area. The two sides of the river will adopt the floating and fleeting interventions catering street vendors. The floating structure corresponds to the nature of the shopping mall and extends the function towards the riverfront. On the opposite side of the river are mostly residential areas, thus the fleeting strategy would be more applicable. Trees are planted along the river to give shades and a nice environment for the people and the ecology.

The filtration point lies in front of the plastic kampung where it is now an empty lot. Drainage pipes in this area will be directed to a reed bed filter to filter water before entering to Kali Semarang. The filtration pond also adds recreational and aesthetic value to the riverfront as well as the kampung, and marks the entrance of the thematic kampung where people are welcomed to bring in their recyclables.

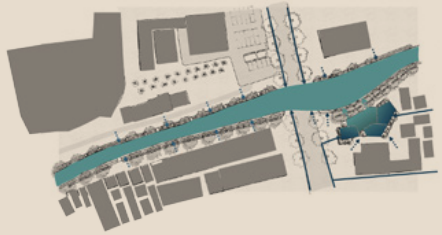


[Fig 4.29] design axonometric plan

vending spots



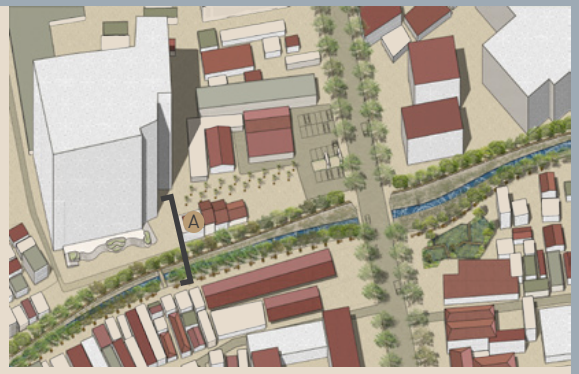
water system

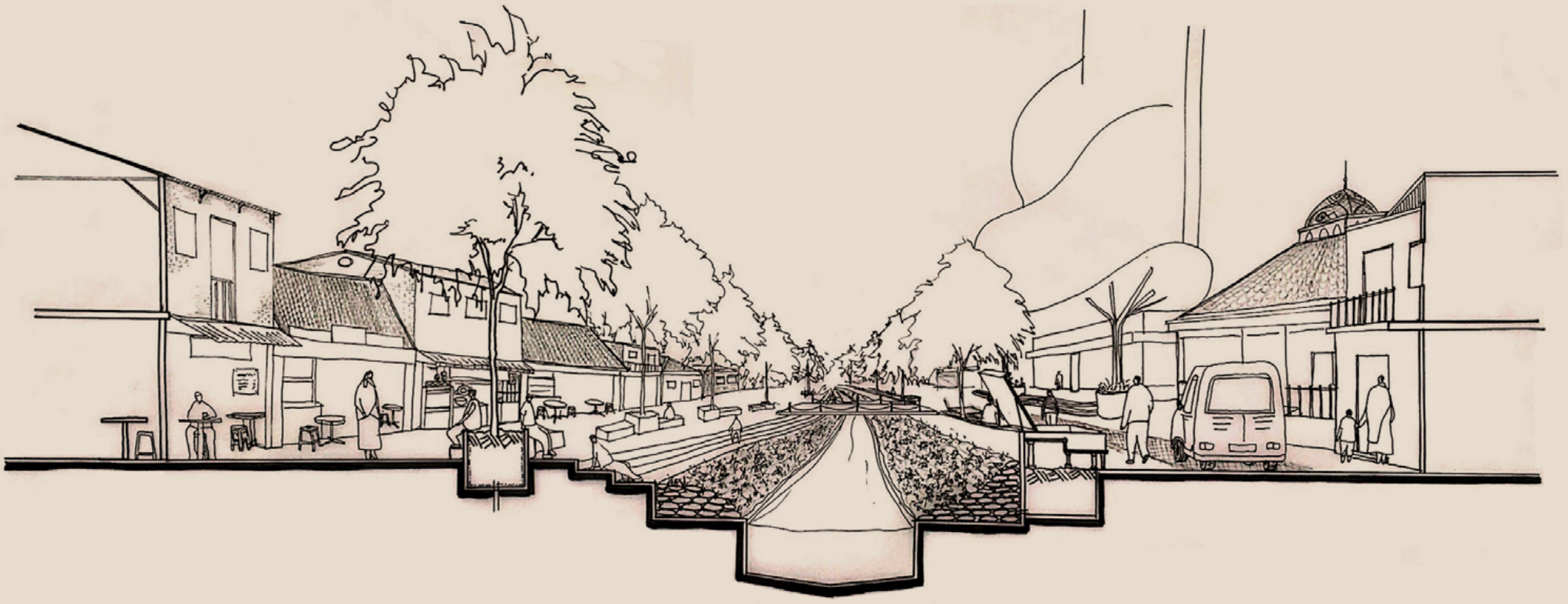


greenery

mobility flow

[Fig 4.30] flow diagrams



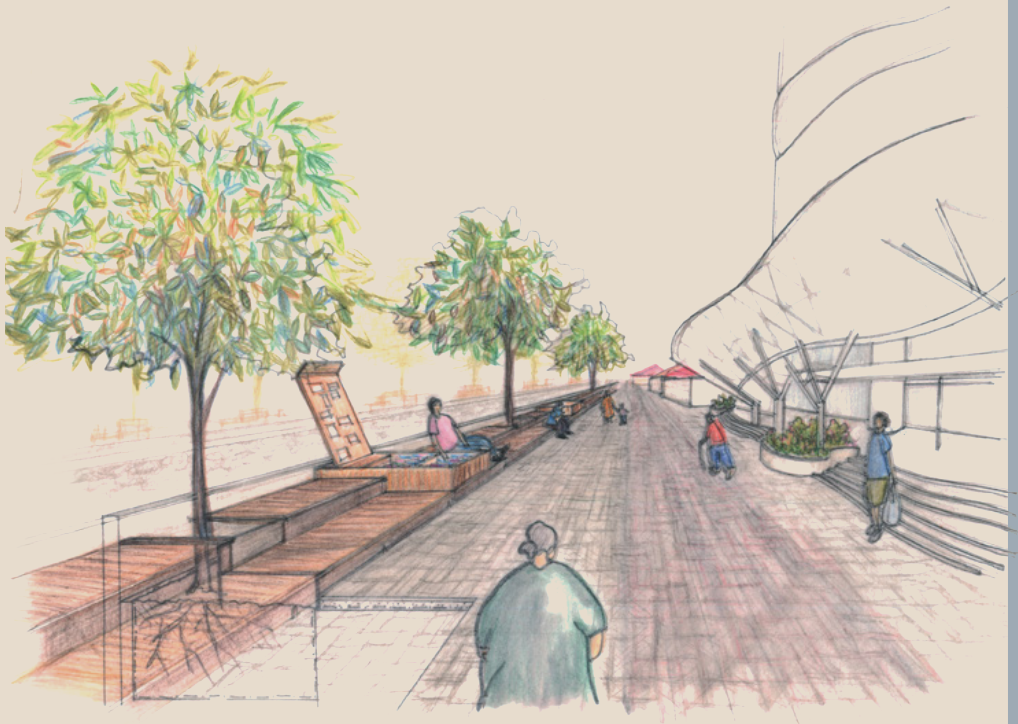


Section A 1m

[Fig 4.31]

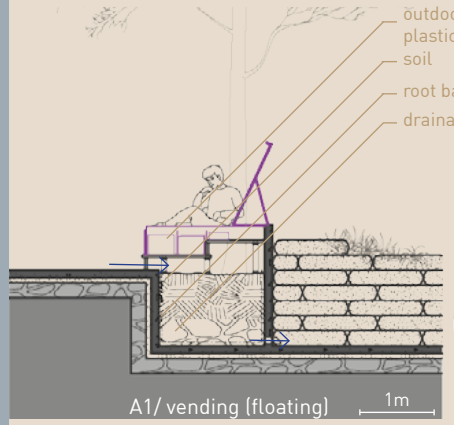
[Fig 4.32] View a/ Filtration pond and Kampung Plastic

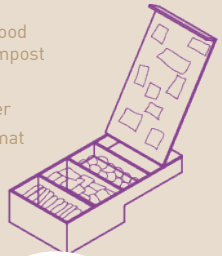
[Fig 4.33] View b/ Filtration pond and Kali Semarang; riverside "fleeting" vendors



[Fig 4.34] View c/ the entrance of Semarang Town Plaza; riverside "floating" vendors"

drainage flow





Samanea saman
(rain tree)

Barringtonia acutangula
(Indian oak)

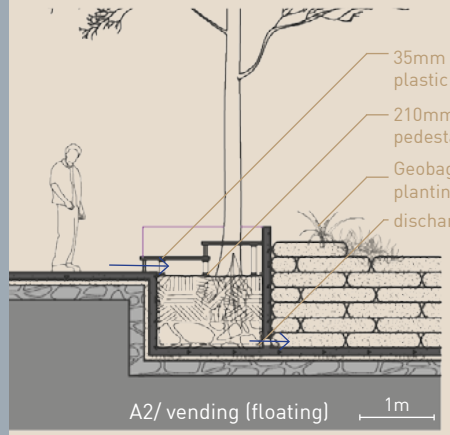
Leptospermum madidum
(weeping tea tree)

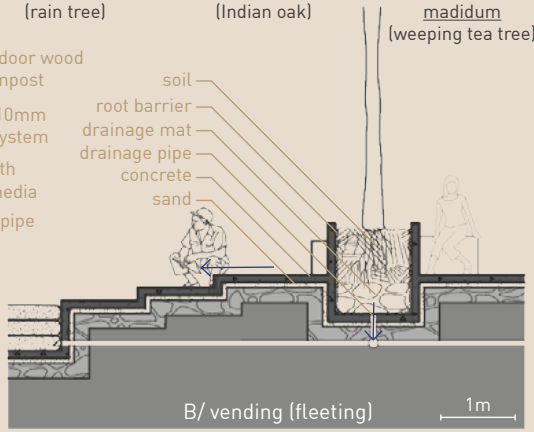
Eichhornia crassipes
(water hyacinth)

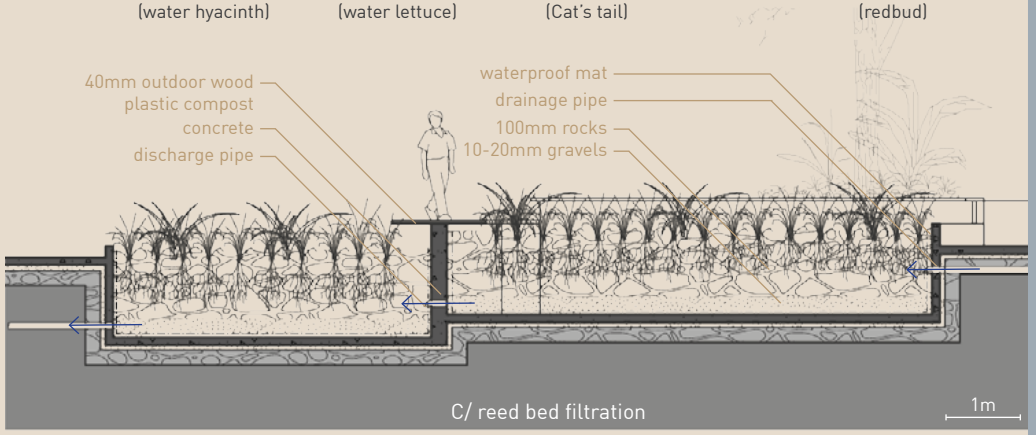
Pistia stratiotes
(water lettuce)

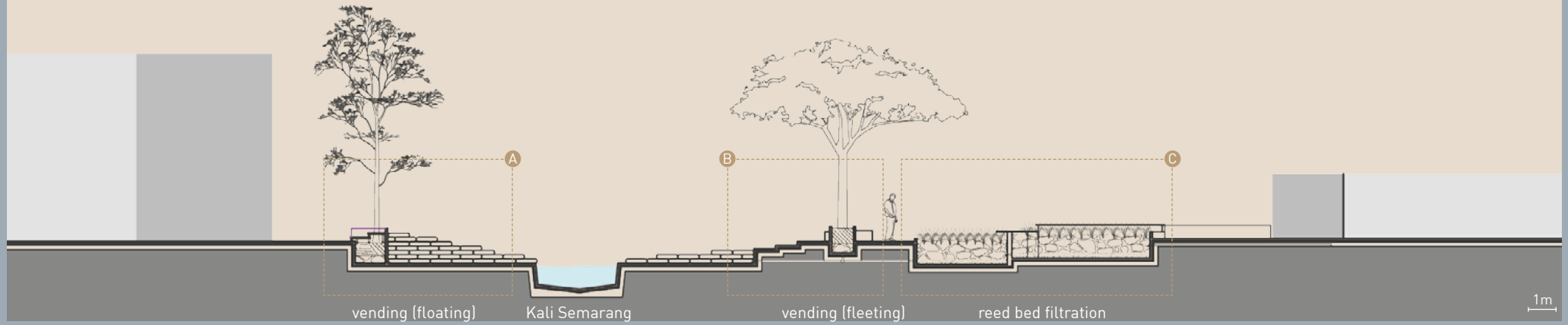
Typha latifolia
(Cat's tail)

Syzygium myrtifolium
(redbud)





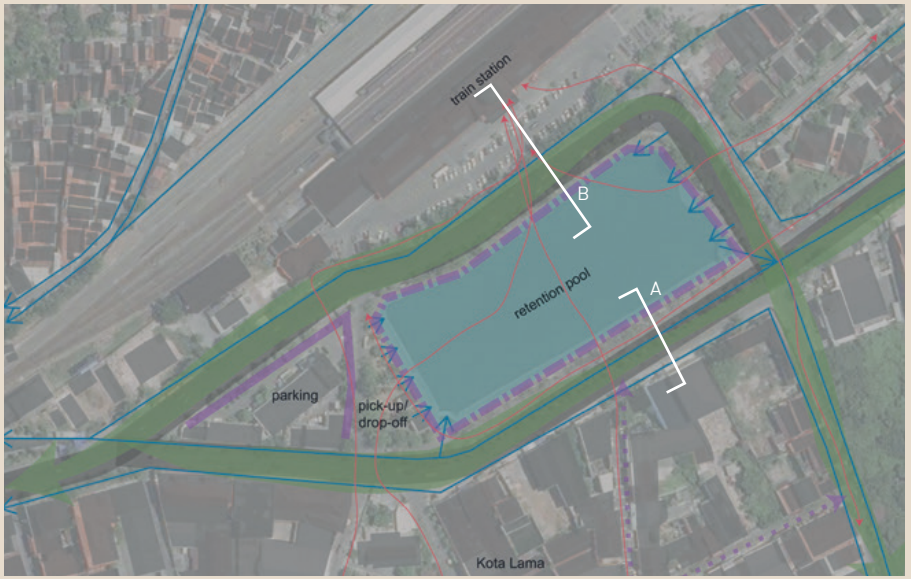




Test Site (ii)- Tawang Station & Polder

Observations and Potentials

Tawang station is the biggest train station in Semarang and is one of the oldest railway stations in Indonesia. Since there have been flooding issues affecting the railway heritage and the old town of Semarang, a retention pond, Tawang Polder was built right in front of the station in 1998. The function of the polder is to provide a capacity of around 20,000m^3 to store excessive water to prevent the area from flooding (Wicaksono, 2016). On the other side of the polder is Kota Lama, the old town of Semarang, where it is undergoing revitalisation to become a new tourist spot. Hence, the polder is in fact an important gateway of Semarang that welcomes its tourists towards the old town. The design of the existing polder also shows reference to the Dutch colonial style, as observed from the detail of lampposts and pumping house. However, the polder serves its function for water retention but failed in terms of being a welcoming gateway. Since the preferred mode of commute in Indonesia is by vehicle transport, many visitors would just grab a car from the station to their destinations. However since the polder was built, it is not really being used and the polder is full of water all the time, becoming a fishing area for a few people. Therefore, the polder area has huge potential to be developed into a public open space that is vendors inclusive, a gateway of Semarang that serves the function of water storage.



[Fig 4.35] context map of test site (ii)

[Fig 4.36] test site section A

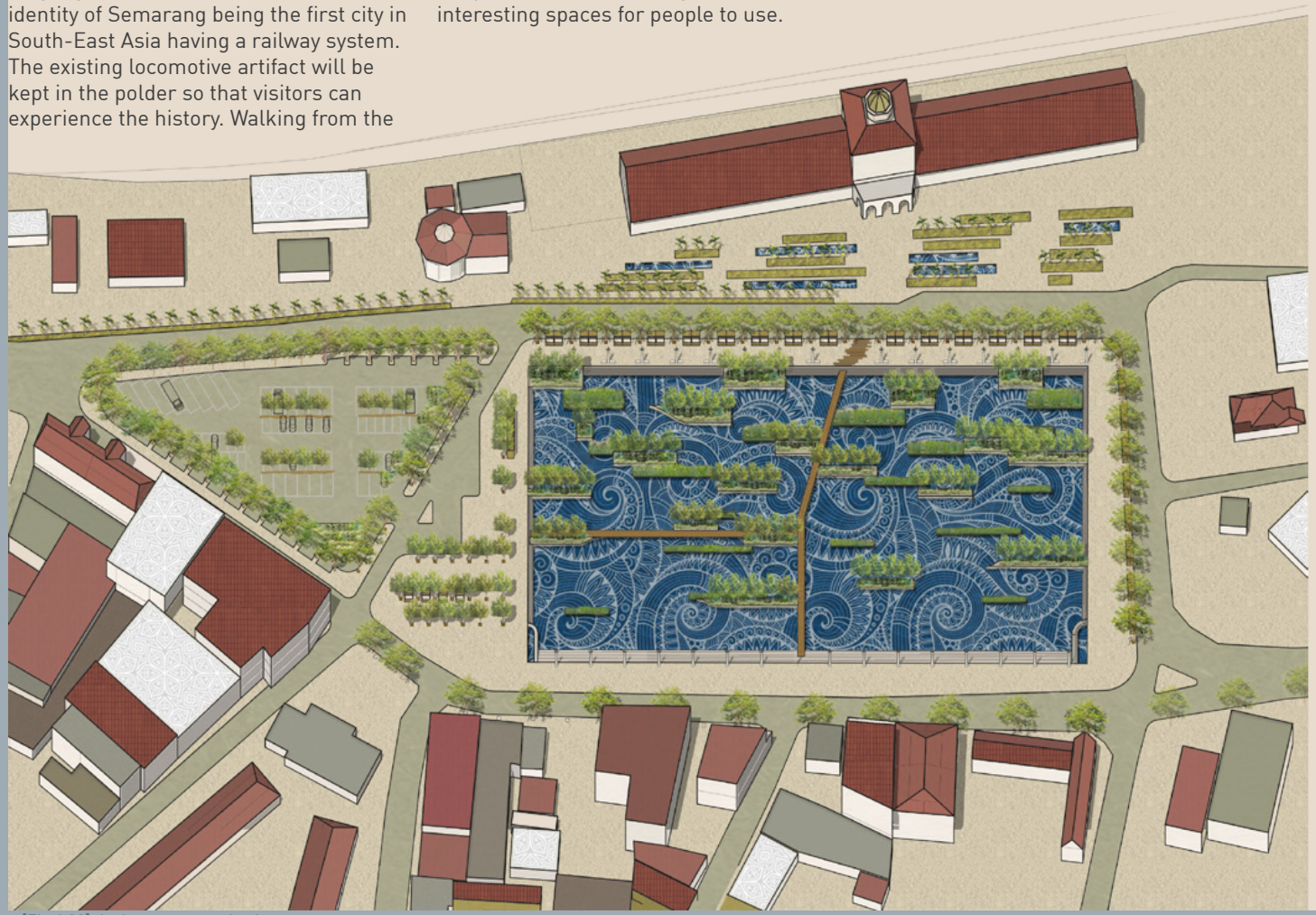
[Fig 4.37] test site section B

Test Site (ii)- Tawang Station and Polder

Design Concept

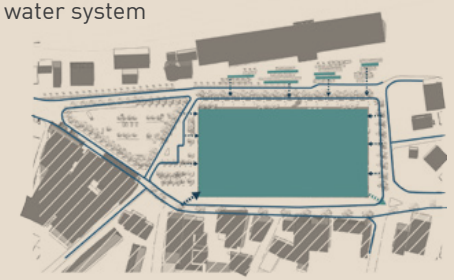
The goal of the design is to turn Tawang Polder into a water-retaining urban park that welcomes visitors and tourists. To design this area in between a heritage train station and the heritage old town, it is important to be site specific and coherence to its context. The pattern of train tracks is applied as the main visual language that reflects the symbolic identity of Semarang being the first city in South-East Asia having a railway system. The existing locomotive artifact will be kept in the polder so that visitors can experience the history. Walking from the station to Kota Lama is an experience of progressiveness, through the layers of trees along the railway pattern, towards the old town. Platforms of different levels are installed on top of the polder as a footpath, so as to improve the connection and walkability at the area, and provide spots for vendors. As the levels of platforms vary, the dry area differs when there is a different amount of water inside the polder. This is creating more variety of interesting spaces for people to use.

The primary mode of vending here will be fixed, as the government is developing Kota Lama into a neat and presentable tourist attraction. Stalls will be distributed around the polder, where there will be people wandering around. The transportation network will be altered slightly such that the polder area is mostly pedestrianised and only public transportation can reach the train station.

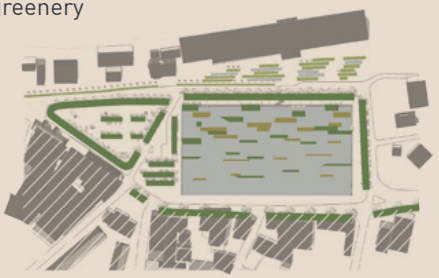


vending spots

water system



greenery

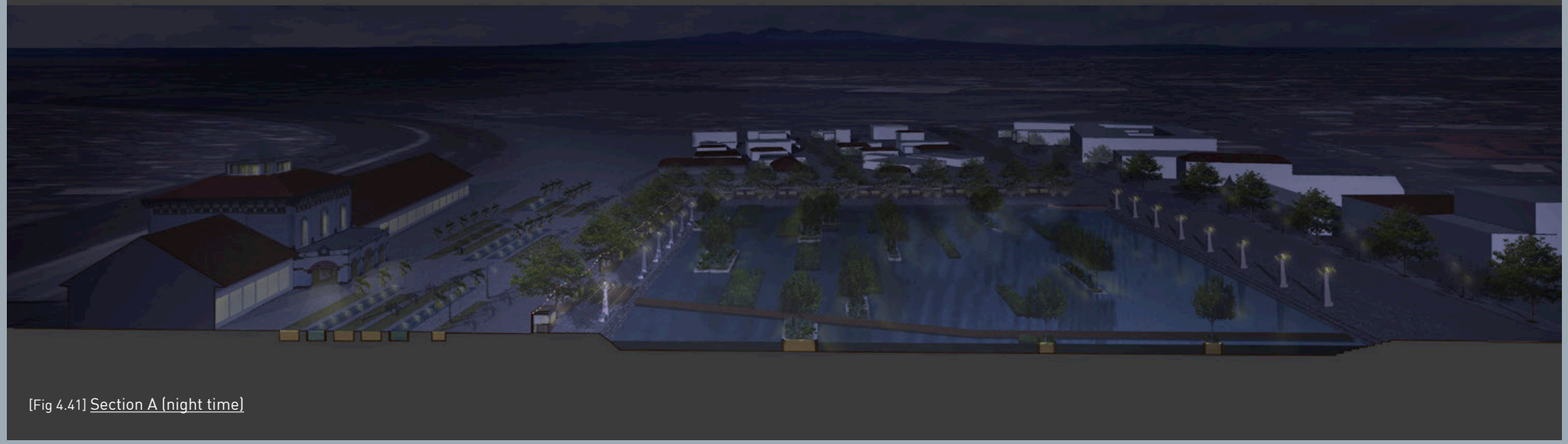


mobility flow

[Fig 4.38] design axonometric plan

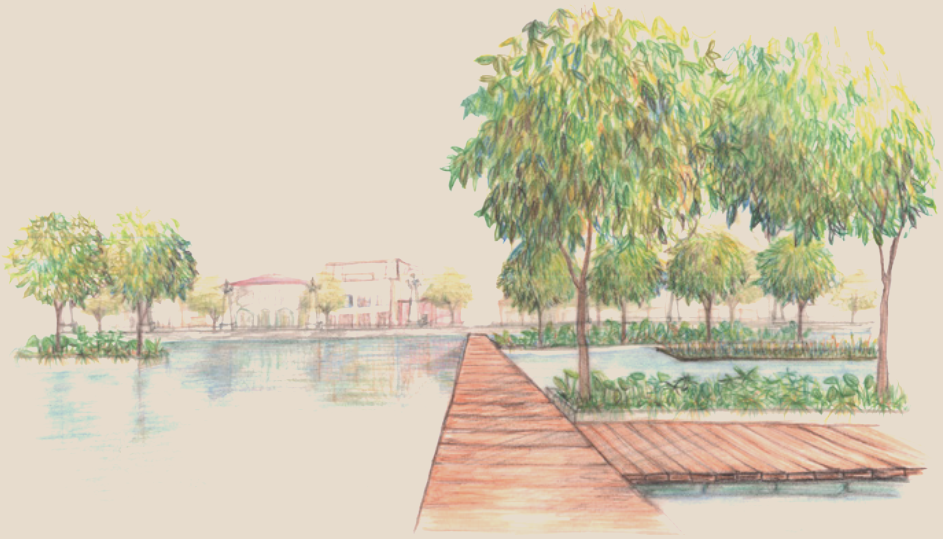
[Fig 4.39] flow diagrams

[Fig 4.40] Section A (day time)

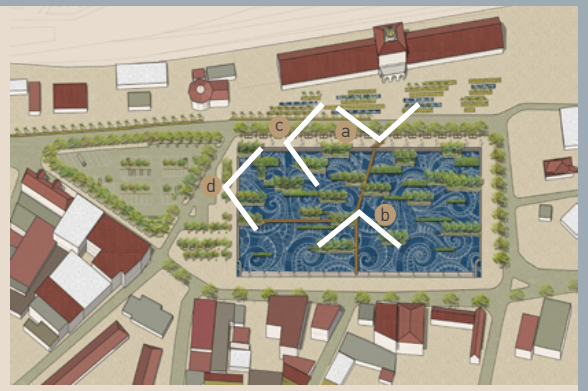


[Fig 4.41] Section A (night time)

[Fig 4.42] View a/ outside of Tawang Station

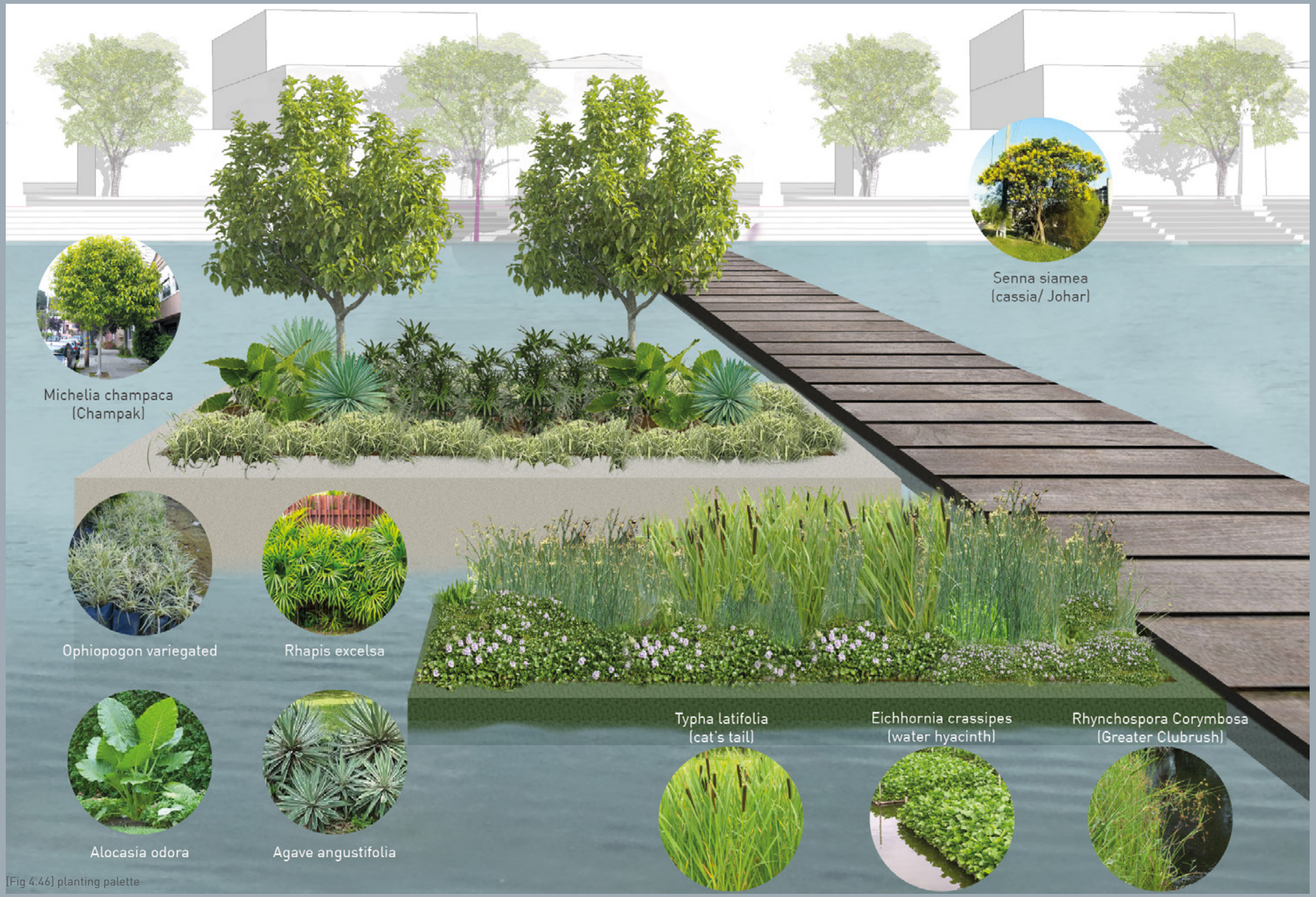


[Fig 4.43] View b/ from Tawang Station to Kota Lama

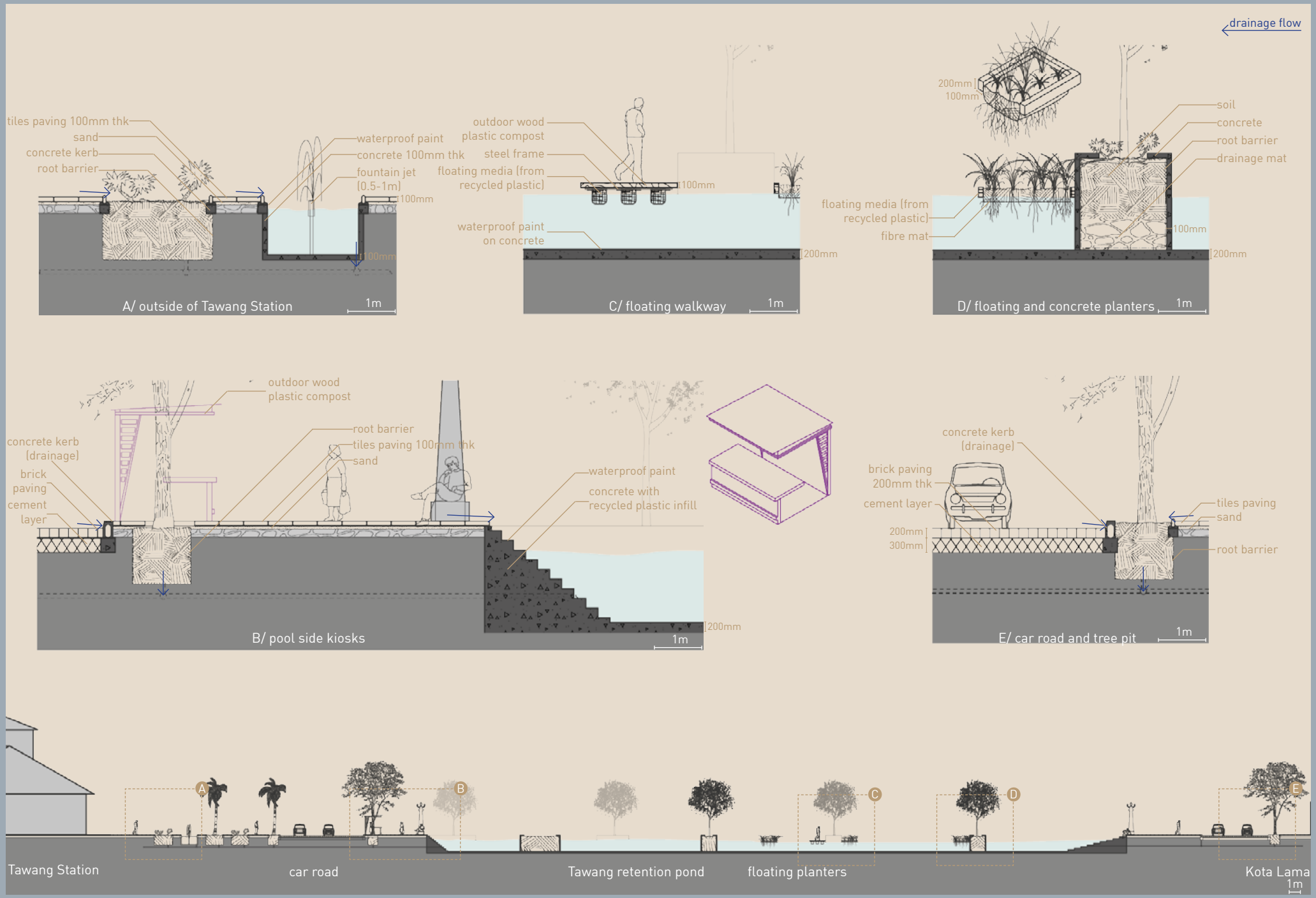


[Fig 4.44] View c/ the view of Tawang retention pond

[Fig 4.45] View d/ the view of Tawang retention pond

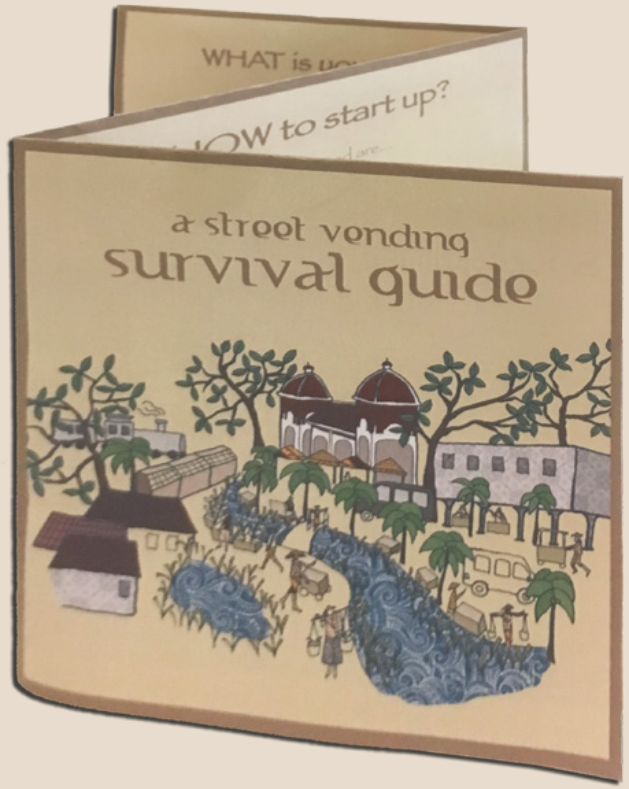


[Fig 4.46] planting palette


drainage flow
tiles paving 100mm thk
sand
concrete kerb
root barrier
waterproof paint
concrete 100mm thk
fountain jet
(0.5-1m)
100mm
100mm
A/ outside of Tawang Station
1m
outdoor wood
plastic compost
steel frame
floating media (from
recycled plastic)
100mm
waterproof paint
on concrete
200mm
C/ floating walkway
1m
200mm
100mm
soil
concrete
root barrier
drainage mat
floating media (from
recycled plastic)
fibre mat
100mm
200mm
D/ floating and concrete planters
1m
outdoor wood
plastic compost
concrete kerb
(drainage)
root barrier
tiles paving 100mm thk
sand
brick
paving
cement
layer
waterproof paint
concrete with
recycled plastic infill
200mm
B/ pool side kiosks
1m
concrete kerb
(drainage)
brick paving
200mm thk
cement layer
200mm
300mm
tiles paving
sand
root barrier
E/ car road and tree pit
1m
A
B
C
D
E
Tawang Station
car road
Tawang retention pond
floating planters
Kota Lama
1m

The Vendors' Guidebook

The results of the vending structure masterplan, the spatial catalogue and the vending spots in the city of Semarang are collected and presented through a survival guidebook for street vendors. The book will be designed to visually communicate with the laymen group about the design proposal of this thesis. It will be a handy guideline for the vendors to flow in the city and how they can access to the utilities and services at their immediate surroundings.



[Fig 4.47] Semarang Tawang

[Fig 4.48] Street vendors' survival guide

a street vending survival guide

Types of vendors

a
market vendor

b
kiosk

c
floor vendor

d
pushcart vendor

e
vehicular vendor

f
events/bazaar

(common items sold for each type)

WHAT is your type?

Why are you starting up street vending?

I have to make a living by selling...

I want to sell my products!

f

do you prefer...

INDOOR?

a

OUTDOOR?

STATIONARY?

MOBILE?

FIXED?

b

DISMENTABLE?

c

LIGHT-LOADED?

d

HEAVY-LOADED?

e

A Living Heritage

Street vending is a living cultural heritage in Indonesia. In the Sultan days people vend at the north of alun-alun at the harbour where sailors arrived at the city. In Semarang, vendors built huts and tents in the prison next to the alun-alun, becoming the nowadays Pasar Johar. Street vending is an important part of the lives of us Indonesians. When we were kids we always looked forward to the pushcart vendor right outside of school selling snacks and ice lolly. Growing up we are fed by the warungs serving the best dishes with affordable price and friendly atmosphere. No matter you want to or you have to, you can be part of this living heritage.

HOW to start up?

All you need are...

Product(s)
of your own or any source!

Carrier
depending on the size of products

IUMK License
If you reach Rp 20 million turnover per year
(Apply with your ID and photo, IUMK form and referral letter from your RT or RW)

AND
Space and customersss!

Saya seorang PKL
I am a street vendor

of semarang

Vending MAP

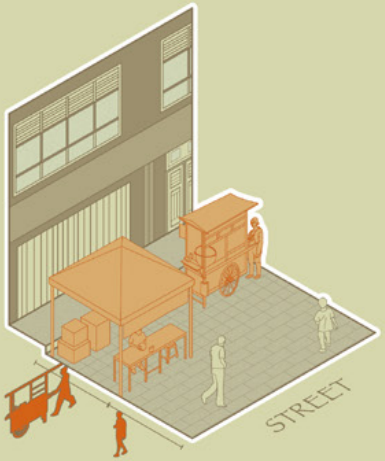
7am-10pm everyday
only on weekends

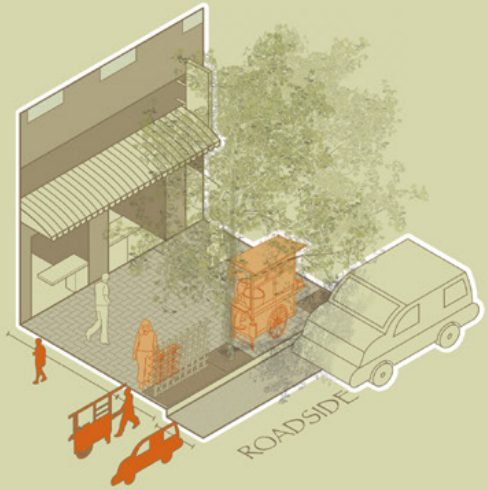
Products & Recycling

Public space, your Workspace!

You have the right to work in this structure of street vending.
Defend your right to public space by actively making use of the space.
Public space is also for everyone including your customers,
so you should also be considerate to other users!

When you see this sign on street,
you know this is your workspace!





[Fig 5.1] a street vendor with carrying pole selling tahu

Chapter 5
Conclusion and Reflection

Conclusion and Reflection

Everything in our environment can be regarded as "landscape", whether urban or natural, is part of the domain of landscape architects. Landscape architecture is a people oriented design industry that suits societal needs and context, and is especially meaningful yet challenging in the complex urban situation involving overlapping and ever-changing flows with many different stakeholders. Landscape design in this case is a mediator between these stakeholders and provides a better living environment to people. It is thus very challenging to work in the urban context with all these complexities and informalities, but if successful landscape architecture is able to create an even greater influence and catalyst in the urban setting.

Working with urban informality is always interesting and fascinating, as it challenges the conventional bureaucracy design approach of the discipline. It is yet challenging since individuals are intellectual micro-powers that display any possibilities which can never be easily mapped and understood into details. It is still a very difficult issue in the planning and design discipline to genuinely welcome and include the informal groups. An anthropological approach is applied for the theoretical stance in order to observe and analyse the habits of street vendors; however the practicality of the exercise is very limited to time constraints and language barrier. Anthropologists usually spend a relatively long time span observing or being a part of the community in order to fully understand their mindset and behaviour, and to erase possible personal assumptions. Hence extra tools have to be relied on, namely reports and literature by other researchers, news articles and google street view to give a wider spectrum on top of the observations done on site. It is also challenging to organise and visualise the observations of urban informalities as the process of categorisation can easily be generalisation and elimination of the diversity of the informal activities. It is also not easy to distill and translate research into design. Somewhat the spatial interventions design are based on the existing creative use of space conducted by the street vendors, as we as designers still do not possess their intellect and experience of street vending. Even though it is a product of research and design, it remains a catalogue of organisation for informal behavior and giving limited new insight.

Landscape as palimpsest

The layered history and the cultural heritage valuation approach of the Shared Heritage Lab corresponds to the idea of landscape as palimpsest, that consists of continual development and interpretations. This perspective is essential in the thesis in order to understand the context through historical events of different attributes as well as evaluating the core values of the city. Being unfamiliar to the context, Semarang seems to be a place of a lot of mysteries. A lot of informal and out-of-place activities are happening, but it is often possible to trace back the story behind. Hence, there is never ending research into understanding the context, the people and the social-economical dynamics. Even though the research mainly focuses on the phenomenon of street vending, there are always more to discover especially during the design process. Therefore, it is a process of continual condensation of research, with valuation and selection of what are of importance, from the broad evolutionary mapping in the beginning towards a more focused research on the palimpsest.

Landscape as scale-continuum
Landscape as spatial-visual perception

Researching and designing across scale is a very important pillar of landscape architects, because the systems work in different scales as well. The cultural landscape system has greatly shaped the urban phenomena in the city of Semarang. Therefore as landscape architects it is important to zoom in and out from time to time during research to understand these phenomena. For instance the relationship between the watershed and the unfavourable condition of the Kali Semarang, and in the case of street vendors, it is also crucial to understand them from a macro scale of network, but also from a micro scale of spatial vending qualities. Conventional solution to informal vending activities is to build market buildings and confine street vendors within. However such a solution does not consider the signature mobile nature of street vendors. Street vendors are individual micro-powers but they should at the same time be considered as a network, since they largely depend on the strategic vending locations, varying from different time of the day. It is indeed difficult to control human behaviour especially when street vendors are considered as individuals. Although there are preferences in common, they have individual values and habits after all. However when they are considered as a network, it is to understand street vendors are actors, that are actually also a physical flow in the city, shaped by the environment. The source of products, the spots to store vending assets, where the customers are, where the space and trees are, etc are few of the analyses done in the research that shape where do the vendors go. Hence, it is necessary to tackle the issue of street vendors from a network and masterplan level, which current practice often neglects. Nonetheless the eye-level interventions are also important as they have the direct influence towards the users, and that is designing from the visual-spatial perception of street vendors and their consumers. Hence, it is essential to research and design on varying scales in order to manage the street vending activities.

Landscape as ecologic, economic and social process.

Last but not least, the project has strong professional and social relevance. On the professional scope, it is always a reflection on how to include the "less decent: group into the design process and allow flexibility for informalities. The informal sector and the street vendors exactly challenge the design practice, with their high versatility and mobility. As quoted for the spatial catalogue design, the streetscape is composed of three dimensions of activities, fixed, floating and fleeting. While conventional design

and the market building solution falls in the fixed dimension, street vendors are actually fleeting actors in the city. In fact in this fleeting dimension, the importance is put on the space and the freedom of movement, instead of the physical and formal design. Perhaps minimal interventions are needed to cater for the fleeting dimension, but it is also the most challenging one to create conditions for freedom instead of constraints. Design is a process of formalisation but it is also about creating conditions for certain valuable cultures to thrive.

On the societal level, there are a lot of problems in the developing city of Semarang that with mere landscape interventions would not help solving all. However, if street vending is something that is highly valued by the people and the government, it can be a catalyst for Semarang to be developed into a livable city. Especially on the issues of lack of open spaces and trees, as well as the poor sidewalk conditions and low walkability, are factors that should be concerned if Semarang has to be developed into a street-vendor-inclusive city. Furthermore, Urban informalities and street vendors booming are concurrent in other developing countries. The thesis could be a proposal to the Semarang government on where and how to develop a more inclusive city, as a test case to research on how the informal group can be organised with a more humane approach through landscape planning and design, and further to the empowerment of such grass-root entrepreneurship in different contexts of the world. There are still a lot of urban dilemmas and conflicts towards such socialist approach, but I believe that landscape architecture should never be a defensive tool for urban governance.

Street vendors booming is a phenomenon shown in the process of capitalist development, who are never potent enough to compete with big corporations. Street vendors empowerment is not just about local culture and tastiness; it is an opportunity for grassroot entrepreneurship, it is a battle against gentrification, it is a safeguard to a liberal and dynamic economy. While cities are developing towards a more organised and civilised way, these vulnerable values should not be compromised.

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